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AN EXPLORATION OF GHETTO YOUTH UNEMPLOYMENT IN NEW YORK CITY

By

Frank P. Braconi

A dissertation submitted to the Graduate Faculty in Economics
in partial fulfillment of the requirements for the degree of Doctor of Philosphy,
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Abstract

AN EXPLORATION OF GHETTO YOUTH UNEMPLOYMENT IN NEW YORK CITY

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Frank P. Braconi

Advisor: Professor Cordelia Reimers

This study investigates the causes of underemployment in New York City's ghettos, using microdata from the city's Housing and Vacancy Survey (HVS). It is argued that any theory of urban poverty must adequately account for the spatial concentration of joblessness. Chapter I defines the term "ghetto" and demonstrates that American poverty has become more concentrated into them during the past several decades. It is demonstrated that residential sorting by income is, at best, a gradual process, and that much of ghetto joblessness is endogenous. Chapter II analyzes the effects of ghetto neighborhoods on the educational attainment of city youths. An econometric model of educational attainment is proposed and tested, with the conclusion that there are no significant neighborhood effects on the educational outcomes of New York City's youth. Chapter III evaluates directly the employment outcomes of young men and women in New York City. The analysis concludes that there is no evidence of spatial mismatch but that social isolation and poverty concentration may exacerbate ghetto unemployment.

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Chapter I:

The Urban Ghetto as an Economic Entity

The persistence of concentrated unemployment and poverty among racial minorities in central cities has been one of the principal deficits of America's economic performance during the past half-century. Despite a doubling of the country's real gross domestic product since 1970, there has been only a small reduction in the overall poverty rate and by many measures urban poverty has intensified.

Particularly disturbing has been the increasing concentration of poverty into urban ghettos that are characterized by both racial and economic segregation. Although urban poverty has been an intermittent concern of national policy and a fairly consistent concern of social scientists, there has been relatively little study of urban ghettos as economic entities that may exogenously generate poverty. Most discussions of urban poverty continue to treat central cities as homogenous places that are contrasted to the surrounding suburbs. The substantial heterogeneity of central cities is often neglected, as is the existence of both prosperous and impoverished areas within them. Such treatments fail to recognize that ghetto poverty is usually much more severe than would be predicted from the characteristics of the individuals who live there. That suggests either that many people with adverse, but unobservable, labor force characteristics are migrating to the ghetto or that the ghetto itself has spatial or social characteristics that contribute to its residents' poverty.

The growth of ghetto poverty raises important equity issues. Given the historical subjugation of America's black population through slavery, segregation and

discrimination, the urban ghetto may be an institution through which past injustices continue to reverberate through the American economy. While the passage of time and various civil rights statutes may have opened up economic opportunities for many blacks, the persistence of ghetto poverty perhaps warrants greater public attention than it has received in recent years. Moreover, the swelling of the Hispanic ghetto population may indicate that, even today, processes that may produce a new "urban underclass" are operating.

The growth of black and Hispanic ghetto poverty may have serious implications for the efficiency of the country's economy. Most obviously, if there are barriers to certain groups' economic mobility, the full potential of their economic contribution will not be realized (Wright 1999). In addition, the concentration of poor minority populations into large central-city ghettos may deflect the geographic and spatial evolution of the country's economy from its optimal path. A growing body of research demonstrates that total factor productivity increases with the density of economic activity (Ciccone and Hall 1996). Other research indicates that the concentration of poor minorities in central cities intensifies the dispersal of households and businesses from them (Meiszkowski and Mills 1993). Thus, the fiscal and social diseconomies of poverty concentration may encourage agents to forego agglomeration economies that are available, lowering overall productivity, and the resulting sprawl may impose additional infrastructure and environmental costs on the society as a whole. Furthermore, higher poverty rates impose a variety of costs on government and individuals through, for example, greater spending on law-enforcement and social welfare services.

Economists and other social scientists have devoted a great deal of attention to urban joblessness and poverty during the past quarter-century. Yet, the causes of its persistence remain a subject of intense controversy among academics, policy makers and the general public. A number of theories, each of which has some evidence to support it, have gained adherents. The intensity of the debate, however, derives more from the political implications of the different perspectives than from a fundamental incompatibility of the analysis. Most social scientists would probably agree that each of the leading theories identifies an aspect of the problem and disagree only on the relative weight to assign to each.

Despite the substantial body of research on urban poverty, economists have devoted little attention to the ghetto as a an economic mechanism. Sociologists and other social scientists have been somewhat more willing to recognize the urban ghetto as a social institution that may have economic significance (Clark 1965; Rainwater 1970; Wilson 1987). The purpose of this study is to document the distinctiveness of the ghetto as a factor in urban labor markets and to test and evaluate the two leading theories of ghetto poverty.

New York City will be used as a case study and the city's triennial Housing and Vacancy Survey (HVS) as the basic source of statistical information. New York City has the dubious distinction of having the nation's largest population residing in racially and economically segregated ghettos. The city's spatial configuration is particularly well-suited for the study of intra-metropolitan labor market patterns because it has no fewer than three distinct ghettos with varying geographical and transportation characteristics.

The HVS is well-suited as a data source because it provides an unusual amount of geographic detail.

The remainder of this chapter will review the principal theories of urban poverty, document the extent of the ghettoization of poverty in the country and in New York City, and evaluate the degree to which poverty is generated by the ghetto.

Contemporary Theories of Urban Poverty

The traditional explanation for black urban joblessness and poverty is discrimination; its historical role in creating economic inequality is essentially beyond dispute (Myrdal 1944). But with the civil rights legislation of the 1960's and the apparent long-term decline in overtly racist attitudes held by the majority population, the importance of contemporary discrimination is debated. The ambiguity surrounding the effects of contemporary discrimination arises, in large part, from the difficulty of quantifying it. Most of the evidence is indirect, with discrimination inferred from the residuals of regression equations that include explicitly more easily observed labor market variables. Counter evidence includes studies that show a long-term closing of the racial wage gap among similarly qualified individuals or racial groups (Freeman, 1973; Jaynes, 1990) and opinion and social surveys that display a long-term decline in prejudicial racial attitudes.

Some of the recent economic debate regarding the effects of discrimination is cast in historical terms. Some analysts, for example, find that black economic progress has been fairly uniform during the past 50 years and attribute it to the gradual lessening of racial prejudice and greater black access to education since Brown (Smith and Welch, 1989). By implication, discrimination is a monotonically diminishing factor that cannot

alone explain the persistence of urban poverty. Others characterize black economic progress as episodic, with gains occurring during periods of active governmental efforts to counter discrimination. By implication, continued governmental enforcement of equal opportunity statutes is necessary to suppress discriminatory tendencies (Donohue and Heckman, 1991).

The research focus has recently shifted to the more subtle aspects of employer attitudes toward racial minorities, which indicate that employers may use race as a signaling device that proxies for a variety of undesirable worker attributes. A number of recent studies based on qualitative survey data (Kirschenman and Neckerman, 1991; Holzer, 1996; Moss and Tilly, 2001) indicate that employers may engage in "statistical discrimination" when evaluating job applicants. Negative employer characterizations are found to relate most commonly to black males. The research underscores the importance to employers of "soft skills," such as reliability, cooperativeness, friendliness and language. Since many soft skills are transmitted socially, racial or demographic variation in them cannot be rejected out of hand. The distribution of soft kills among job applicants may reflect the social or ethnic milieus from which they come. Employers may be accurately assessing group differences or exaggerating relatively small group variations into sweeping, prejudicial stereotypes. Interestingly, the literature provides some evidence that employers distinguish job applicants not only by gender, race and ethnicity but also by place of residence, generally viewing most unfavorably applicants who reside in "inner city" areas or even particular neighborhoods (Kirschenman and Neckerman, 1991).

Employer preferences for job applicants with particular racial or ethnic characteristics can produce a particular pattern of cyclical employment. According to the "queue" theory of minority joblessness, employers rank racial and demographic groups according to a preference schedule of desirable work attitudes and abilities, and extend job offers to those lower down the preference schedule only when there is a shortage of the more preferred applicants (Thurow, 1975). Demographic groups subject to employer discrimination should then display a greater cyclicality in their employment patterns than more favored groups. A greater cyclicality in black employment rates has been well documented (Reimers 2000). Although consistent with employer discrimination, the pattern does not conclusively prove it since it could also result from a true variation in labor productivity among groups.

Structuralist arguments that do not invoke discrimination have recently gained favored among economists. Those explanations of increasing income inequality and persistent poverty among disadvantaged groups focus on the factors that have shifted relative labor demand away from less skilled workers (Cutler and Katz, 1991). Those factors include a general shift in the composition of national output away from goods and towards services and information. Some researchers also believe that the decline of unionization, increased immigration and changes in production technologies have contributed to a relative decline in wages at the lower ends of the educational spectrum (Bound and Johnson 1992). The basic argument explains increased income inequality rather than urban poverty and joblessness per se. Cutler and Katz, for example, conclude that the "dominant source of change in family income inequality has come from the shifts in the distribution of primary earner income." It can be easily embellished, however, to

account for declining labor force participation rates among the educationally disadvantaged. Welch (1997) argues that the long-term decline in black male labor force participation is a function of the declining wages. As the market wages of unskilled workers decline below their reservation wages, they leave the labor force for non-market or illegal activities.

A more specific version of the returns to skills argument focuses on the deindustrialization of America's large Northern cities and their transformation from "goods processing centers" to "information processing centers," a transformation that lowers relative demand for less skilled labor (Kasarda 1989). Often referred to as the "skills mismatch hypothesis," this version helps to explain the concentration of poverty in central cities, and in fact, in precisely those cities that have experienced the most complete deindustrialization. It also has a good deal of empirical support. For example, Holzer and Vroman (1992) used CPS data on 24 cities to compare changes in manufacturing employment and black male unemployment rates. They concluded that there is a strong correlation between manufacturing decline and black unemployment, with each percentage point loss in the manufacturing share of metropolitan employment associated with a 1.2 to .5 percentage point increase in the black male unemployment rate. They also found that although blacks are not more concentrated in manufacturing occupations, manufacturing job loss impacts them more severely and surmised that blacks have greater difficulty adjusting to urban deindustrialization.

Although the industrial restructuring argument helps to explain inter-regional and inter-racial differences in joblessness, it does not address why black joblessness is increasingly concentrated in inner-city ghettos rather than spread more evenly throughout

metropolitan areas. Indeed, all of the demand-side theories discussed above require some sorting mechanism to explain why joblessness is so much more severe in urban ghettos than in the black urban population at large. It is not difficult to speculate on the nature of such a sorting mechanism; if housing costs in urban ghettos are significantly lower than in the metropolitan area as a whole, the "losers" in the labor market will tend to concentrate in them while those who have had labor market success will disperse to a greater variety of residential locations. There is, however, relatively little empirical research on mobility into and out of urban ghettos.

Another variation of the restructuring argument is known as the "spatial mismatch hypothesis." The hypothesis derives from John Kain's seminal paper (Kain 1968) and has three basic components. First, Kain argued that racial discrimination in the housing market affects the geographic distribution of African Americans' employment. Racial discrimination segregates blacks and, to a lesser extent, other minority groups into central cities or into racial ghettos within them, skewing their physical access to job opportunities from what it would be under pure market equilibrium. Research documenting racial discrimination in housing markets is abundant and unambiguous (Massey and Denton, 1993; Yinger, 1995).

The second component is that residential segregation increases racial minorities' unemployment. Because the housing choices of non-whites are constrained by discrimination, their employment choices are also constrained. That constraint probably reduces aggregate non-white employment because the imposition of any constraint on a optimization problem will result in an optimum no higher than, and usually less than, the same solution obtained free of constraint.

The third component of the hypothesis is that the decentralization of metropolitan job markets since the end of the Second World War has exacerbated the employment effects of residential discrimination. The suburbanization of the job base has been especially detrimental to African Americans because suburban housing markets are particularly inaccessible to them. To the degree that blacks and other minorities have lower educational and skill levels than white workers, the decentralization of blue-collar manufacturing and industrial jobs, which have suburbanized to the greatest extent, affects them particularly severely (Kasarda, 1989).

By adding a spatial dimension to the industrial restructuring argument the spatial mismatch hypothesis offers a plausible explanation for why poverty has deepened in urban ghettos at the very time employment discrimination appears to have abated and blacks are narrowing the economic gap with whites. Urban ghettos are not simply low-rent neighborhoods to which the least employable members of the urban population migrate in order to live more cheaply; they are places which, because of their geographic isolation from job markets, directly contribute to joblessness among their residents.

The empirical evidence for spatial mismatch, which will be reviewed in Chapter III, is mixed. In general, it does appear that the suburbanization of jobs has contributed to higher jobless rates among inner city blacks. However, the research focus has been on explaining the black/white employment differential rather than differences in labor market outcomes between ghetto and non-ghetto residents. Studies which have attempted to test the theory with regard to specific black neighborhoods have not been especially supportive of the spatial mismatch hypothesis.

The spatial mismatch hypothesis was significantly extended by sociologist William Julius Wilson (Wilson 1987). Wilson argued that industrial restructuring, possibly intensified by intra-metropolitan geographic considerations, raised the level of black joblessness in the inner city. Facilitated by growing incomes and fair housing laws, an emerging black middle class was able to migrate to higher quality housing in non-ghetto central city or suburban areas, leaving behind a more concentrated poverty population in the traditional ghetto neighborhoods. With joblessness increasingly concentrated, ghetto residents became more isolated from the labor market. Information networks deteriorated and social conventions that promote labor market success weakened. The weak labor force attachment of ghetto residents became a self-perpetuating condition.

Wilson's emphasis on the concentration of inner-city poverty stimulated a great deal of research on "neighborhood effects." The most persuasive results have been obtained in studies of child and adolescent educational achievement. Less work has been done on the labor market impacts of neighborhoods, although what has been done has been promising (O'Regan and Quigley 1996a; Case and Katz 1991). Somewhat surprisingly, only a few studies have evaluated both concentration effects and spatial mismatch within the same model. The primary objective of this study is to explore simultaneously the spatial and social aspects of ghetto poverty in order to evaluate whether they interact or one or the other predominates.

Trends in Ghetto Poverty and Racial Segregation

There has been little change in the overall poverty rate since 1970. In 1970 12.6 percent of the American population was in poverty and in 1995, 13.8 percent. There has been a slight growth in the proportion of white persons in poverty, a slight decrease in the proportion of blacks, and a fairly large increase in the proportion of Hispanics who are poor. (Hispanics can be of any race). The total number of persons who are poor, however, increased substantially, from 17.5 million in 1970 to 25.4 million in 1995.

There have also been significant changes in the geographic incidence of poverty. Table I.1 shows trends in the number of poor persons by place of residence. Between 1970 and 1990 the population of poor persons within metropolitan areas grew at a much faster rate than did the overall population of poor persons. For whites and blacks, the increase in the number of metropolitan area poor was nearly three times the overall rate of increase. Consequently, the proportion of the country's poor who live within metropolitan areas increased from 56.6 percent in 1970 to 65.9 percent by 1990.

The term "ghetto" has been used in several different ways by social scientists. Some define it as any neighborhood that has a poverty rate above a certain threshold (Jargowsky 1997). Others, as a neighborhood that meets a certain criteria of minority concentration (Cutler, Glaeser and Vigdor 1999). Still others have identified neighborhoods in which a certain proportion of the population exhibits particular behavioral tendencies. Ricketts and Sawhill (1988) identify "underclass neighborhoods" as census tracts that are one standard deviation above the national mean on four characteristics: families with a female head, households on public assistance, adult males working less than 26 weeks per year, and high-school dropouts under age 19. In this

Table I.1

Changes in the Geographic Dispersion of Poverty, 1970-1990

	Poverty Population			Percent Change
Place of Residence	**1970**	**1980**	**1990**	**1970-1990**
All Places		(000s)		
All Persons	26,911	27,393	31,743	17.9
White	17,157	16,353	17,898	4.3
Black	7,596	7,649	8,441	11.1
Hispanic	2,178	3,391	5,403	148.1
Metropolitan Areas				
All Persons	15,240	17,453	20,915	37.2
White	8,826	9,207	10,084	14.3
Black	4,785	5,485	6,320	32.1
Hispanic	1,628	2,761	4,511	177.1
High-Poverty Areas				
All Persons	1,891	2,381	3,745	98.0
White	258	302	631	144.6
Black	1,247	1,548	2,120	70.0
Hispanic	385	531	995	158.4

Source: Jargowsky, "Poverty and Place"

study I use ghetto to refer to neighborhoods (not necessarily census tracts) that have both poverty and racial concentrations; a meaning fairly close to that in contemporary common usage.

Using first Jargowsky's criterion, which is any census tract in which 40 percent or more of the population is in poverty, we see that there has been a substantial rise in ghetto poverty. The number of poor persons in ghetto census tracts far outpaced the growth in the overall poverty population and in the metropolitan area poverty population between 1970 and 1990. Although the rate of increase was lower for blacks than for whites and Hispanics, African Americans are by far the most ghettoized group, with 33.5 percent of the black poor living in high-poverty census tracts in 1990. Moreover, that represents an increase from 26.1 percent in 1970. Although nearly half of the metropolitan area poverty population is white, only 6 percent of the white poor live in high-poverty tracts. Almost half (49.7 percent) of the residents of Jargowsky's high-poverty neighborhoods are black, 27.8 percent are Hispanic and 22.5 percent are white.

Since this study will focus on New York City, it is instructive to look at high-poverty census tracts within the nation's largest cities. Table I.2 shows the 10 cities with the greatest number of people living in high-poverty tracts in 1990. They contain one-third of all high-poverty census tracts and about 37 percent of the population living in such tracts. Whites living in high-poverty tracts are seen to be much more dispersed than blacks or Hispanics. New York City has nearly one million people living in high-poverty tracts, and over 90 percent of them are black or Hispanic. Almost 10 percent of all blacks who live in high-poverty areas live in New York, as do over 22 percent of all Hispanics.

Racial segregation is the other salient feature of urban ghettos. Researchers have devised a number of statistical measures of segregation, of which two are most widely used. The first is the "index of dissimilarity," which measures whether blacks or other groups disproportionately reside in some areas of a city relative to whites (Duncan and

Table I.2

The Concentration of Ghetto Census Tracts in Large Cities

(population in high-poverty tracts)

City	Tracts	Total	White	Black	Hispanic
New York	279	960,292	69,044	411,155	459,525
Detroit	149	418,947	69,838	332,118	12,202
Chicago	184	396,200	20,768	325,446	43,732
Los Angeles	56	267,666	26,321	75,976	149,110
Philadelphia	70	241,863	32,827	143,185	59,706
McAllen, Tx	37	234,467	17,526	186	216,231
New Orleans	67	165,751	12,791	144,581	2,926
Houston	51	162,487	10,915	92,608	56,847
San Antonio	31	152,936	9,071	13,364	129,356
Miami	33	148,083	12,824	88,097	46,284
Total Above Cities	957	3,148,692	281,925	1,626,716	1,175,919
All Cities	2,866	8,446,000	1,900,000	4,198,000	2,052,000
10 Cities as %	33.4	37.3	14.8	38.7	57.3

Source: Jargowsky, "Poverty and Place"

Duncan 1955: see Appendix A). The second is the "index of isolation," which measures the extent to which blacks live only among other blacks; it is often interpreted as the extent to which interracial contact can occur at the neighborhood level (Bell 1954; see Appendix A).

Cutler, Glaeser and Vigdor characterize a city as having a ghetto if the index of dissimilarity is greater than .6 and the index of isolation is greater than .3, and looked at

the change in the number and character of ghettos in American cities between 1890 and 1990. During that century, the total number of cities increased from 60 to 313. In 1890, they found that only one city had a ghetto according to their criteria, but the number rose to 127 by 1970. By 1990, the figure dropped to 98. The mean index of dissimilarity, weighted by the black population, rose consistently from .455 in 1890 to .790 in 1970, and fell to .559 by 1990. The index of isolation likewise rose from .227 in 1890 to .612 in 1970, before falling back to .467 in 1990. Despite those apparent improvements, they conclude that "segregation across cities is very persistent and strongly related to city size." They also point out that the decline in their statistical measures of segregation since 1970 was due primarily to the elimination of areas that were once exclusively or nearly exclusively white. For example, the number of central city census tracts that were no more than 1 percent black decreased from 55.8 to 17.5 between 1970 and 1990, while the percentage of suburban census tracts that were no more than 1 percent black went from 72.3 to 39.7. Such integration of previously white enclaves was offset by a growing number of census tracts that were predominantly or exclusively black. For example, the percentage of central city census tracts that were 75 percent or more black increased from 8.8 in 1970 to 16.3 in 1990, while the percentage of suburban tracts that were at least 75 percent black rose from 1.1 to 2.4.

Similar calculations were published by Massey and Denton (1993) for the 30 largest U.S. metropolitan areas and cities for 1980. The mean dissimilarity index for the 30 central cities was 70.1 and the mean isolation index was 72.9 for that year. New York's indexes were 82.6 and 64.5, respectively. New York's dissimilarity index makes it the seventh most segregated of the large cities by that measure, although its isolation

index is well below the mean. The calculations indicate that blacks in New York are less residentially dispersed than in most large cities but live in neighborhoods that are somewhat more racially diverse. The below average isolation index is due in part to the presence of a large Hispanic population in New York, of which a substantial portion also resides in high-poverty neighborhoods. Massey and Denton also present dissimilarity indexes for Hispanics in 10 cities for 1980, broken down according to whether the Hispanics identify themselves as white, black or mixed. Not surprisingly, the dissimilarity index for black Hispanics is highest and approaches that for African Americans. For each Hispanic racial group, New York's index is slightly above the average for the cities in the sample.

The picture that emerges from the above citations is that, since the 1970s, American poverty has become more concentrated in large metropolitan areas and while segregation has declined somewhat in the suburbs, racial isolation in large cities persists. Moreover, New York City contains a substantial portion of the country's residents of high-poverty census tracts and the city remains quite segregated racially.

Unfortunately, the calculations provided by Jargowsky and by Cutler, Glaeser and Vigdor do not fully characterize the ghettos of New York City. There are two reasons why each set of calculations fall short. First, each uses either economic or racial segregation as a criteria, but not both. Second, by using census tracts as the unit of measure, the scale of New York's ghettos are not revealed. In neither study is there a measure of the proximity of the high-poverty or segregated tracts to one another; they may be widely dispersed among all tracts within the city or concentrated into super-ghettos.

The census tract has been a widely used unit of measurement in urban poverty research. Census tracts have many advantages data-wise and analytically, but their use is often further justified by their approximation to popularly recognized neighborhoods. While that may be true in many urban areas, it is of doubtful validity in New York City, where there are virtually no individual census tracts that are individually recognized as distinct neighborhoods. Census tracts tend to have between 2,000 and 10,000 residents; New York's population of nearly 8 million is divided into more than 1,000 tracts. Most identifiable neighborhoods in the city contain dozens of tracts.

In a city the size of New York, larger geographic units of measure may have as much, or more, analytical validity. For purposes of local government and administration, the city is in fact divided into 59 Community Board Districts (CBDs). These geographic areas are designed to correspond to functional neighborhoods with identifiable social, administrative and land-use characteristics and are used by the Census Bureau for the geocoding of its Public Use Microdata Samples (PUMS). Similarly, the city's Housing and Vacancy Survey, the basic source of statistical data for this study, uses a geographic division known as a "sub-borough area", which is identical in contour to the corresponding PUMS area. Sub-borough areas (SBAs) and PUMS areas differ from Community Board Districts only in that several are combined for sample-size reasons, leaving 55 of each.

Using Community Board Districts as the unit of measure for the moment, the extent of economic and racial segregation in New York comes into sharper focus. I establish as criteria for inclusion as a ghetto any CBD in which 25 percent of its population lives below the federal poverty line and 75 percent of its population is black

or Hispanic. Fifteen of the city's 59 CBDs met those criteria in 1990. More significantly, however, those CBDs fall into three larger agglomerations. In the South Bronx, six contiguous CBDs containing 480,277 persons meet the criteria (1990 Census count). In northern Manhattan, four contiguous CBDs containing 515,197 persons meet the criteria, and in central Brooklyn, five contiguous CBDs containing 584,437 persons meet the criteria. In fact, the poverty ratios in 13 of the 15 CBDs exceed 30 and most also easily exceed the 75 percent racial concentration cutoff. Those three super-ghettos collectively contain nearly 1.6 million persons, of whom over 90 percent are black or Hispanic and more than 37 percent live in households below the federal poverty line. Table I.3 shows the basic population for each of the areas.

Throughout the remainder of this study "ghetto neighborhood" will refer to one of the 15 CBDs defined above or to one of the 13 SBAs that correspond to them. It is important, however, to first distinguish between those neighborhoods and other areas of minority settlement that do not meet the ghetto criteria. There are several CBDs which are predominantly black or black and Hispanic but do not have large poverty concentrations. Such areas exist in the Bronx, Brooklyn and Queens. Queens CBD#13, for example, was 51.5 percent black in 1990 but the poverty rate was only 5.5 percent--extraordinarily low by any urban standard.

The areas that are defined as ghetto neighborhoods have many characteristics of social distress, and would generally meet the definition of underclass neighborhood established by Ricketts and Sawhill. For example, in the ghetto CBDs collectively, 59 percent of the families with related minor children are female headed, compared to 27 percent in non-ghetto neighborhoods of the city. Since the primary focus of this study is

Table I.3

Population, Race and Poverty Status of New York's Ghetto Neighborhoods, 1990

Community Board	Population	Black	Hispanic	In Poverty
Bronx:				
CB1	77,214	23,563	51,627	39,051
CB2	39,443	7,463	31,115	20,693
CB3	58,345	31,998	25,332	27,738
CB4	118,779	48,400	64,357	47,883
CB5	118,435	45,379	67,312	52,030
CB6	68,061	17,142	40,025	29,017
Total Bronx	480,277	173,945	279,768	216,412
Brooklyn:				
CB3	138,696	113,544	22,589	47,697
CB4	102,572	25,580	66,634	41,186
CB5	161,350	77,341	61,941	48,859
CB8	96,896	80,380	9,868	26,364
CB16	84,923	68,747	14,648	34,759
Total Brooklyn	584,437	365,592	175,680	198,865
Manhattan:				
CB9	106,978	41,849	38,666	30,628
CB10	99,519	87,149	10,055	38,567
CB11	110,508	43,022	57,386	42,629
CB12	198,192	22,562	132,722	58,235
Total Manhattan	515,197	194,582	238,829	170,059

employment, however, it is illuminating to present the labor force participation characteristics of the city's ghetto neighborhoods.

Table I.4 shows the labor force status of black and Hispanic men between the ages of 19 and 40 for ghetto areas and non-ghetto areas of New York City. The data are tabulated from the HVS for 1991, 1993 and 1996 and exclude individuals who report that they are out of the labor force because they are in school. Table I.5 shows the same information for black and Hispanic women.

The tabulations show dramatic differences in the employment rates, unemployment rates and labor force non-participation rates between black and Hispanic residents of ghetto and non-ghetto areas. The employment rate for black men not residing in a ghetto, for example, was 80.2 percent in 1996 compared to 57.9 percent for those within ghettos. The unemployment rate among non-ghetto black men is only half that of ghetto black men, and the labor force non-participation rate is also less than half as high. A similar pattern is evident for Hispanic men, although the absolute differences are not as large. The patterns are also fairly stable over time, but some notable trends are discernable. The employment rate of black men outside ghetto areas and of Hispanic men regardless of residence dropped in 1993, reflecting a regional recession which bottomed out in December of that year, but recovered to its former level by 1996. The same was not true for black ghetto males, whose employment rates continued to fall and labor force non-participation rates continued to increase.

The labor force status of black and Hispanic women also differ dramatically by place of residence. Among women, however, the differences in employment rates reflect greater variation in labor force participation between ghetto and non-ghetto residents than

Table I.4

Labor Force Status of Black and Hispanic Men in HVS Sample

	1991		1993		1996	
Black Men, 19-40, Not In Ghetto:						
LF Status	Freq.	Percent	Freq.	Percent	Freq.	Percent
employed	521	76.6	564	73.8	583	80.2
unemploy	82	12.1	118	15.5	69	9.5
NILF	77	11.3	82	10.7	75	10.3
Total	680	100.0	764	100.0	727	100.0
Black Men, 19-40 in Ghetto:						
LF Status	Freq.	Percent	Freq.	Percent	Freq.	Percent
employ	215	63.1	238	59.4	201	57.9
unemploy	71	20.8	89	22.2	66	19.0
NILF	55	16.1	74	18.5	80	23.1
Total	341	100.0	401	100.0	347	100.0
Hispanic Men, 19-40, Not in Ghetto:						
LF Status	Freq.	Percent	Freq.	Percent	Freq.	Percent
employ	722	83.1	738	82.1	829	82.8
unemploy	83	9.6	90	10.0	76	7.6
NILF	64	7.4	71	7.9	96	9.6
Total	869	100.0	899	100.0	1001	100.0
Hispanic Men, 19-40, In Ghetto:						
LF Status	Freq.	Percent	Freq.	Percent	Freq.	Percent
employ	254	70.8	229	60.1	251	69.7
unemploy	48	13.4	83	21.8	47	13.1
NILF	57	15.9	69	18.1	62	17.2
Total	359	100.0	381	100.0	360	100.0

Table I.5

Labor Force Status of Black and Hispanic Women in HVS Sample

	1991		1993		1996	
Black Women, 19-40, Not in Ghetto:						
LF Status	Freq.	Percent	Freq.	Percent	Freq.	Percent
employ	648.0	61.5	710	61.2	729	61.0
unemploy	99.0	9.4	119	10.3	99	8.3
NILF	306.0	29.1	332	28.6	367	30.7
Total	1053.0	100.0	1161	100.0	1195	100.0
Black Women, 19-40, In Ghetto:						
LF Status	Freq.	Percent	Freq.	Percent	Freq.	Percent
employ	270	41.6	284	41.2	242	38.2
unemploy	74	11.4	113	16.4	88	13.9
NILF	305	47.0	292	42.4	303	47.9
Total	649	100.0	689	100.0	633	100.0
Hispanic Women, 19-40, Not in Ghetto:						
LF Status	Freq.	Percent	Freq.	Percent	Freq.	Percent
employ	539	49.8	522	45.6	614	50.0
unemploy	88	8.1	121	10.6	77	6.3
NILF	455	42.1	501	43.8	538	43.8
Total	1082	100.0	1144	100.0	1229	100.0
Hispanic Women, 19-40, In Ghetto:						
LF Status	Freq.	Percent	Freq.	Percent	Freq.	Percent
employ	193	30.9	176	27.1	204	32.4
unemploy	56	9.0	79	12.2	74	11.8
NILF	376	60.2	395	60.8	351	55.8
Total	625	100.0	650	100.0	629	100.0

in unemployment rates. Whether the woman is black or Hispanic, she is approximately 20 percentage points less likely to be employed if she lives in a ghetto neighborhood.

An overriding issue in understanding ghetto poverty is whether the large differences in labor market outcomes observed above are caused in some way by the ghetto environment or result from the gradual sorting of low-income persons into the least desirable residential locations. It is intuitively plausible that sorting plays a large role in concentrating urban poverty, as rent levels typically are lower in ghettos than in other parts of the metropolitan area. Moreover, public and other subsidized housing, which admits only lower income households, may encourage poor families to migrate from other areas into ghettos (Schill and Wachter 1995).

A tentative answer to the sorting question can be gleaned from the regressions presented in Table I.6. Using HVS data for all New York City men aged 19-40, three linear probability models were estimated with employment status as the dependent variable. The independent variables include basic demographic characteristics such as age, ethnicity, U.S. citizenship, and educational attainment. In addition, a binary variable indicating residence in a ghetto neighborhood was included. The demographic variables carry plausible and stable coefficients across the three time periods. The only exception is the US citizenship variable, which becomes increasingly negative over time, possibly indicating growing labor market competition between native born and immigrant men. The ghetto variable is highly significant, indicating that ghetto residence suppresses the probability of a male's employment by about 11 percentage points. For the three regressions, the 95 percent confidence intervals for the ghetto variable fall between –7.8

Table I.6

Employment Regressions for New York City Men, 19 to 40 Years Old

	1991		1993		1996	
R-Squared:	0.0611		0.1076		0.0997	
Number of Observations:	5249		5430		5095	
atwork	**Coef.**	**t-stat**	**Coef.**	**t-stat**	**Coef.**	**t-stat**
age	0.00506	5.606	0.00736	7.908	0.00404	4.416
black	-0.11115	-7.414	-0.09563	-6.211	-0.09985	-6.666
hispanic	-0.02803	-1.879	-0.01479	-0.943	-0.00054	-0.036
us citz	-0.01259	-1.086	-0.03856	-3.210	-0.04072	-3.530
hsgrad	0.09669	6.004	0.15401	9.249	0.16631	10.190
somecol	0.07246	4.659	0.07005	4.462	0.04832	3.170
bamore	-0.05131	-3.299	0.04756	2.898	0.06006	3.761
ghetto	-0.10858	-6.999	-0.12538	-7.711	-0.11174	-7.005
_cons	0.60135	19.214	0.41765	13.064	0.54733	17.101

at the lower bound and -13.9 at the upper bound. Thus, differences in basic demographic characteristics account for about half of the observed difference in the employment rates of ghetto and non-ghetto black and Hispanic males.

While the regressions suggest that the differences in employment rates cannot be explained solely by differences in easily-observed demographic characteristics, they do not necessarily imply that residential sorting cannot explain the entire difference. Residents of the ghetto may have some unobserved characteristics that cause them to fare poorly in the labor market and hence migrate to the ghetto. Those unobserved characteristics may, in fact, be correlated with other characteristics that make them more

disposed to move to ghetto neighborhoods. Or, there may be an aspect of randomness in employment outcomes with the least fortunate sorting into low-rent housing. None of those possibilities preclude, however, the further possibility that once neighborhood sorting has occurred, adverse neighborhood environments reinforce the initially unfavorable employment outcomes. The basic hypothesis of this study is that adverse neighborhood effects do exist, but before delving into them it would be useful to explore the sorting mechanism more fully.

Sorting Into and Out Of the Ghetto

Several recent studies have investigated the degree to which residential sorting has contributed to urban poverty concentration. In *Poverty and Place*, Jargowsky uses a macro approach that draws upon broad parameters of the metropolitan income distribution and segregation measures. Massey, Gross and Shimbuya (1994) and Gramlich, Laren and Sealand (1992) each use individual household level microdata to gauge the extent to which income groups migrate into and out of high-poverty neighborhoods.

While not precluding the possibility of neighborhood-level effects, Jargowsky hypothesizes that ghetto poverty is "largely the result of metropolitan-wide processes of income generation and neighborhood sorting." His objective is to predict the frequency of neighborhood poverty in a cross-section of 116 metropolitan areas using census-tract level data. His dependent variable, which he calls the neighborhood poverty rate, is defined as:

NPR = Ø ((T-MSAMEAN)/(MSAMEAN*INEQUALITY*NSI)).

T is the mean household level of income below which a tract is considered poor ($17,092 for 1990). MSAMEAN is the metropolitan area mean household income and INEQUALITY is the coefficient of variation of household income. NSI is a neighborhood sorting index obtained by dividing the neighborhood income standard deviation by the household income standard deviation. It is a measure of economic segregation that approaches 1 as economic segregation becomes complete. The NPR for black neighborhoods is then regressed on MSAMEAN, INEQUALITY, NSI, regional dummies, the metropolitan share of manufacturing and professional jobs, and several other measures of income inequality and racial segregation. He finds that his three primary parameters, MSAMEAN, INEQUALITY and NSI are all strongly significant in predicting a log-odds transformed NPR.

I do not find Jargowsky's analysis convincing for several reasons. First, although he does compare his predicted neighborhood poverty rates to the actual rates graphically, it is not clear why he uses a constructed measure as his dependent variable in the regressions. The presence of right hand side variables in his constructed variable ensures that they will be significant by definition. Second, if neighborhood effects are present they may affect the household and neighborhood distributions of income, making INEQUALITY and NSI endogenous variables. Third, the NSI is not really a measure of neighborhood sorting; it describes the existing level of inter-tract economic segregation but not whether the differences arose endogenously or because of residential migration.

Massey, Gross and Shibuya take a more straightforward approach. Using the Panel Study of Income Dynamics (PSID), they evaluate the probability of households moving from poor black, nonpoor black, poor white and nonpoor white census tracts between times t and t+1, which are adjacent years. Conditional on their moving, they then estimate their probability of moving into one of those tract types. They estimate those migration probabilities for two time periods, 1970-1973 and 1979-1984. Their control variables are race, poverty status at time t and type of neighborhood at time t.

Their analysis produced some surprising results. For the earlier period, they found that the migration probabilities support the hypothesis that poverty concentration intensified because middle-income blacks left the ghetto. But for the 1979 to 1984 period, they found that the migration probabilities reversed, and that the probability of leaving a poor black neighborhood was lower among nonpoor blacks than among poor blacks. The probability of out-movement for poor blacks, within any time period, was .24, compared to .14 for nonpoor blacks. Those results do not alone indicate that migration patterns would cause poverty to deconcentrate; in-movement must also be considered. Evaluating the probability of moving into each of the four neighborhood types conditional on having made a move, however, they still did not find a strong economic sorting process. Nonpoor blacks leaving poor black neighborhoods had only an 11 percent chance of going to a nonpoor white area and a 20 percent chance of going to a nonpoor black area. They found that only nonpoor blacks who were already living in nonpoor areas were relatively likely to move into a nonpoor area. However, they also found that poor blacks tended to gravitate to poor black areas; a poor black household who moved had nearly a 70 percent chance of moving into a poor black neighborhood.

Massey, Gross and Shibuya test the implications of their findings by performing simulations of how neighborhoods evolve under various assumptions. The baseline case applies the average transition probabilities for each group to a hypothetical city comprised of 16 neighborhoods. Unfortunately, they do not present the initial conditions so it is impossible to interpret directly the impact of their findings. They suggest that their simulations demonstrate that the migration of nonpoor black households from poverty tracts works in the expected direction (i.e., to raise the concentration of poverty), but "it does not appear to be a powerful source of neighborhood change." They also perform a simulation which eliminates inter-neighborhood moves but allows for transitions into and out of poverty, the probabilities of which were also determined from their PSID sample. This scenario also tends to concentrate poverty, but again, it is not a quantitatively large effect. Finally, they apply the transition probabilities observed among white poor families to black poor families and find that there is a significant tendency for poverty to deconcentrate. They conclude that "geographically concentrated poverty ultimately stems from racially segregated U.S. housing markets."

The conclusion Massey and colleagues reach is both profound and obvious. If poor black households had the freedom of residential choice enjoyed by their white counterparts, poverty would become much more dispersed throughout a metropolitan area and the urban ghetto would gradually disappear. However, their conclusion does not explain the differences in observed employment outcomes within and without the ghetto; their transition probabilities generally indicate a rather slow sorting process that would not account for the wide variation in employment outcomes that are apparent even at young ages.

Gramlich, Laren and Sealand reach similar conclusions, which is not surprising since they also use the PSID to study transition probabilities. Although their simulations imply some sorting by neighborhood, the probability differences are too small to attribute much of the labor market disparity between ghetto and non-ghetto areas to the sorting process. The authors find that during the 1979-1985 period, a "persistently poor" black family residing in a poor neighborhood at time t had an 8.4 percent chance of residing in a middle-income tract at time t+1 and a 1 percent chance of residing in a high-income tract. Conversely, a poor black family residing in a middle-income tract at time t had a 7.8 percent chance of residing in a poor neighborhood one year later. Thus, a poor black family actually had a higher one-year probability of moving from a poor tract to a middle-income tract than of moving from a middle-income tract to a poor tract. That would produce a gradual *deconcentration* of poverty. However, when the movement of poor black families who lived in high-income tracts are also taken into account, the net sorting effect is tipped slightly in the direction of concentration.

While the foregoing studies indicate that the neighborhood sorting process works very slowly toward the concentration of poor households into poor urban neighborhoods, it is difficult to extend those results to New York City. The two studies that estimate migration probabilities use the PSID, which is a national sample with a relatively few black households in each metropolitan area. The broad tendencies they estimate could easily be overwhelmed by the particular effects of ethnicity, geography and housing market conditions in a particular city. I will consequently use the New York City Housing and Vacancy Survey to evaluate neighborhood sorting patterns that are particular to the city.

The HVS differs from the PSID in respects other than sampling area. It is also longitudinal in nature, but individual housing units, rather than households, are followed from period to period. Consequently, we cannot track individual households from place to place. However, if urban ghettos are sustained by the continual migration of the metropolitan area jobless to them, this should be directly observable by analyzing intra-metropolitan migration patterns. Specifically, ghetto neighborhoods should display a net loss of employed residents and non-ghetto areas a net gain within any time period. Underlying this conjecture is the assumption that neighborhoods will "regress toward the mean" if migration balances do not continually offset that effect and if joblessness is not generated by the ghetto itself. A regression towards the mean would be expected for several reasons. If at time t residents of the ghetto are disproportionately unemployed due to random shocks, over time those shocks should dissipate and equalize among neighborhoods. On the other hand, if they are disproportionately unemployed because of unobservable characteristics that are adverse to labor market success, over time their offspring should gravitate toward the mean with respect to those characteristics, and neighborhood differences would similarly dissipate. In a more historical sense, if the ghetto was initially produced by housing, employment and other forms of racial discrimination, the gradual removal of those constraints on minority mobility should also cause the ghetto to gradually dissolve.

In order to evaluate the migration balance, all apartment turnovers between the 1993 and 1996 Housing and Vacancy Surveys were identified and the employment status of the new residents compared to that of the old. To avoid ambiguity in the timing of the turnover only moves occurring in 1994, 1995 and 1996 were included and to avoid

possible biases introduced by a differing age distribution, only movers between the ages of 23 and 50 were included.

Table I.7 shows the migration balance for ghetto and non-ghetto neighborhoods between 1994 and 1996. The data indicate that new arrivals in both ghetto and non-ghetto dwelling units were more likely to be employed than the residents they replaced. In ghetto dwellings, 48.4 percent of new occupants were employed as of April 1996, compared to 42.8 percent of the dwellings' former occupants as of April 1993. For dwelling units outside of ghetto neighborhoods, the proportions were 70.7 and 62.9 percent, respectively. Although the employment rates of in-movers was higher than that of out-movers in both types of neighborhoods, the difference was slightly larger in non-ghetto neighborhoods (7.86 vs. 5.58 percentage points). To some extent the figures reflect an improving economy during the period, as employment rates for all adults between 23 and 50 years of age increased from 58.6 percent to 59.1 percent. The data also demonstrate that persons newly occupying an apartment or home are more likely to be employed than those vacating it, regardless of the type of neighborhood they move to.

Since changes in the regional economic environment between 1993 and 1996 could disguise the economic sorting of individuals among neighborhoods, it is instructive to look at the migration balance by educational level as well. Education is correlated with employment but does not vary with the business cycle; once an individual has attained an educational credential they retain it regardless of employment status. The bottom panel of Table I.7 shows the migration balance of persons between the ages of 23 and 50 years old possessing at least a high school diploma. About 65 percent of those living in ghetto housing units and subsequently leaving had at least a high school

Table I.7

Migration Balance Between Ghetto & Non-Ghetto Neighborhoods

1993 Leavers vs 1996 Arrivers, HVS Sample

Leavers			**Arrivers**		
Employment Status:					
Ghetto, 23-50 Years Old			**Ghetto, 23-50 Years Old**		
Employe	Freq.	Percent	Employe	Freq.	Percent
No	422	57.2	No	386	51.6
Yes	316	42.8	Yes	362	48.4
Total	738	100.0	Total	748	100
Non-Ghetto, 23-50 Years Old			**Non-Ghetto, 23-50 Years Ol**		
Employe	Freq.	Percent	Employe	Freq.	Percent
No	1192	37.2	No	1209	29.3
Yes	2017	62.9	Yes	2918	70.7
Total	3209	100.0	Total	4127	100.0
Education:					
Ghetto, 23-50 Years Old			**Ghetto, 23-50 Years Old**		
HS Dipl	Freq.	Percent	HS Dipl	Freq.	Percent
No	244	34.6	No	264	35.5
Yes	462	65.4	Yes	480	64.5
Total	706	100.0	Total	744	100.0
Non-Ghetto, 23-50 Years Ol			**Non-Ghetto, 23-50 Years Old**		
HS Dipl	Freq.	Percent	HS Dipl	Freq.	Percent
No	450	14.6	No	596	14.8
Yes	2626	85.4	Yes	3446	85.3
Total	3076	100.0	Total	4042	100.0

diploma, approximately the same percentage as those moving into ghetto dwellings between 1994 and 1996. The figure for "leavers" was approximately .9 percent greater than for "arrivers," which could indicate either a gradual sorting process or sampling error. The balance for non-ghetto migration was even closer, with the percentage of leavers not possessing a high school diploma differing from the percentage of arrivals by only .12 percentage point.

The educational balances provide some additional insight into the sorting process. The basic similarity in educational status of ghetto leavers and arrivers indicates that there is an underlying stability to the employment differentials between ghetto and non-ghetto areas that is not being altered by intrametropolitan migration. In effect, during the mid-1990s New York City's ghettos appeared to be in a rough equilibrium wherein their relative educational endowments were not being altered by residential movement. The analysis also provides some circumstantial evidence that the endowment-adjusted employment differentials between neighborhoods are not fundamentally altered by residential sorting. If unobservable personal characteristics favorable to employment—intelligence, diligence, responsibility, ability to follow instructions——are correlated with educational outcomes, the analysis does not support the hypothesis that ghettos are subject to adverse sorting.

Another way of viewing the sorting process is to follow a particular age cohort through time, watching for discontinuities in the distribution of individual traits. Educational attainment is a useful variable to use because, once "tagged" with a level of educational attainment, the individual retains that characteristic. The top panels of Table I.8 shows the educational attainment of males and females who were 19, 20 or 21 years

Table I.8

Educational Attainment of Ghetto Men Through the 1990s

Men who were 19, 20, or 21 in 1991				**21, 22 or 23 in 1993**		
Education	Freq.	Percent	Cum.	Freq.	Percent	Cum.
Up to 8th Grade	4	2.5	2.5	6	6.7	6.7
Some HS	55	34.6	37.1	44	26.8	33.5
HS Dipl	52	32.7	69.8	58	35.4	68.9
Some College	43	27.0	96.9	34	20.7	89.6
Assoc Degree	4	2.5	99.4	4	2.4	92.1
College Degree	1	0.6	100.0	8	4.9	97.0
Some Grad	0	0.0	0.0	3	1.8	98.8
Grad Degree	0	0.0	0.0	2	1.2	100.0
24, 25, or 26 in 1996				**27, 28 or 29 in 1999**		
Up to 8th Grade	10	7.1	7.1	11	7.4	7.4
Some HS	33	23.4	30.5	26	17.6	25.0
HS Dipl	56	39.7	70.2	57	38.5	63.5
Some College	18	12.8	83.0	19	12.8	76.4
Assoc Degree	3	2.1	85.1	5	3.4	79.7
College Degree	9	6.4	91.5	14	9.5	89.2
Some Grad	4	2.8	94.3	5	3.4	92.6
Grad Degree	8	5.7	100.0	11	7.4	100.0

Table I.8, continued

Educational Attainment of Ghetto Females Through the 1990s

Women who were 19, 20, or 21 in 1991				**21, 22 or 23 in 1993**		
Education	Freq.	Percent	Cum.	Freq.	Percent	Cum.
Up to 8th Grade	7	3.9	3.9	10	4.7	4.7
Some HS	56	31.5	35.4	63	29.9	34.6
HS Dipl	54	30.3	65.7	64	30.3	64.9
Some College	56	31.5	97.2	51	24.2	89.1
Assoc Degree	3	1.7	98.9	7	3.3	92.4
College Degree	2	1.1	100.0	10	4.7	97.2
Some Grad	0	0.0	0.0	5	2.4	99.5
Grad Degree	0	0.0	0.0	1	0.5	100.0
24, 25 or 26 in 1996				**27, 28 or 29 in 1999**		
Up to 8th Grade	6	3.7	3.7	7	4.3	4.3
Some HS	48	25.1	28.8	31	18.9	23.2
HS Dipl	50	26.2	55.0	42	25.6	48.8
Some College	47	24.6	79.6	38	23.2	72.0
Assoc Degree	13	6.8	86.4	17	10.4	82.3
College Degree	10	5.2	91.6	14	8.5	90.9
Some Grad	10	5.2	96.9	3	1.8	92.7
Grad Degree	6	3.1	100.0	12	7.3	100.0

old in 1991 and who lived in ghetto neighborhoods of New York City. The bottom panels show the educational profile of that same age/neighborhood cohort as it ages through the 1990s.

The percentage of males and females who do not have a high school diploma falls continuously as the cohorts age through their twenties. For example, 33.5 percent of ghetto males aged 21, 22 or 23 in 1993 did not have a high school degree, but that percentage fell to 25.0 percent among 27, 28 or 29 year-olds in 1999. Those figures are not affected by long-term changes in graduation rates because we are following the same age cohort through time. Either high school graduates are migrating *into* the ghetto, or substantial portions of the young high school dropouts are gradually fulfilling the requirements of their diplomas. A similar pattern is evident among females. Indeed, the cohorts are seen to continue to gain educational credentials throughout their twenties; by 1999, the majority of females who were 27, 28 or 29 years old and lived in ghetto neighborhoods had some college experience.

Neither the migration analysis nor the cohort analysis indicates that residential sorting plays an important role in sustaining ghetto underemployment. However, it is possible that the sorting occurs by characteristics that, unlike educational attainment, are unobservable to the researcher but are nevertheless adverse to an individual's employment prospects. Those unobservable characteristics may be detected indirectly. If sorting according to unobservable characteristics occurs, individuals with the most adverse characteristics would gradually migrate into low-rent ghetto neighborhoods and individuals with favorable characteristics out of them. That would imply that the coefficient on ghetto residence (as in Table 6) should gradually grow larger when

employment regression equations for different age cohorts are estimated. If the coefficient on ghetto residence converges to zero, it would imply reverse sorting.

Table I.9 shows six different linear probability employment regressions, run separately by gender and for age cohorts 21-30, 31-40 and 41-50 years old. The regressions were all estimated using 1996 data to avoid differences possibly arising from changing labor market conditions. The regressions for each gender are remarkably consistent across age groups. For males, the coefficient on ghetto residence is -0.085 for the younger group, -.127 for the middle group, and -.087 for the oldest group. The jump in the coefficient for the middle group could indicate some adverse sorting, but the return of the coefficient to its former magnitude in the oldest cohort regression argues against that interpretation. The blip could merely reflect sampling variance insofar as the point estimate for the middle cohort is well within the 95 percent confidence interval of the other two estimates, or it could indicate a more complex interaction between age, place of residence, occupation and labor market environment.

The regressions for female employment likewise show no consistent pattern of convergence or divergence. The coefficient on ghetto residence is –.149 for the youngest group, -.112 for the middle group, and -.123 for the oldest group. In fact, the pattern of the coefficients is the opposite of that for males. Once again, simple sampling variance could be causing the movements or, there might be an interplay between male and female employment patterns as cohorts age within a neighborhood. In neither case, however, do the regressions suggest any process of neighborhood sorting according to unobservable employment attributes.

Table I.9

Regressions of Employment Status by Age Cohort

Males:

	21 to 30 Years Old		31 to 40 Years Old		41 to 50 Years Old	
R-Squared:	0.0901		0.0893		0.0959	
Observations:	2228		2549		2050	
Atwork	coef.	t-stat	coef.	t-stat	coef.	t-stat
age	0.00701	2.313	-0.00651	-2.547	-0.00506	-1.716
black	-0.08279	-3.535	-0.10165	-5.153	-0.09484	-4.162
hispanic	0.01051	0.470	-0.01026	-0.510	-0.07628	-3.134
us citz	-0.04087	-2.303	-0.03312	-2.151	-0.08596	-4.759
hsgrad	0.17814	7.145	0.13777	5.962	0.19307	7.620
somecol	0.07928	3.463	0.03236	1.550	0.00034	0.013
bamore	0.03047	1.237	0.06457	3.067	0.06790	2.705
ghetto	-0.08461	-3.587	-0.12744	-5.623	-0.08733	-3.416
_cons	0.45938	5.583	0.95216	10.083	0.94353	6.925

Table I.9, Continued

Regressions of Employment Status by Age Cohort

Females

	21 to 30 Years Old		31 to 40 Years Old		41 to 50 Years Old	
R-Squared:		0.201		0.118		0.123
Observations:		2617		3004		2477
Atwork	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
age	-0.00493	-1.633	-0.00055	-0.186	0.00414	1.334
black	-0.00028	-0.012	0.07805	3.565	0.04536	1.940
hispanic	0.00282	0.121	-0.03103	-1.325	-0.05390	-2.127
us citz	0.02162	1.222	-0.03462	-1.932	-0.04033	-2.038
hsgrad	0.25728	9.485	0.15859	6.355	0.14658	5.642
somecol	0.19226	8.117	0.12722	5.255	0.17064	6.416
bamore	0.10124	4.235	0.12342	4.973	0.05260	1.926
ghetto	-0.14855	-6.421	-0.11189	-4.907	-0.12270	-4.865
_cons	0.40537	4.830	0.41148	3.779	0.29403	2.035

Conclusion

Evidence presented in this chapter demonstrates that poverty has been growing more concentrated into urban areas and, within them, into high-poverty census tracts. Moreover, while fewer urban and suburban census tracts were exclusively white by 1990, predominantly minority urban tracts had become more exclusively minority. The consequence of these trends is that poor black and Hispanic families were more likely to live in economically and racially segregated communities in 1990 than they were several decades previously.

New York City was shown to have nearly 10 percent of the nation's blacks and 22 percent of the nation's Hispanics who live in high-poverty census tracts. Most of those census tracts are located within 15 community board districts that were at least 75 percent minority and in which at least 25 percent of households were below the federal poverty line in 1989. Those community board districts are further concentrated into three super-ghettos, located in the Bronx, Manhattan and Brooklyn.

Employment rates of black men in ghetto neighborhoods of New York City were shown to be about 22 percentage points below those of black men in non-ghetto neighborhoods, and employment rates of Hispanic men in ghetto neighborhoods are about 13 percentage points below those in non-ghetto neighborhoods. For black and Hispanic women the employment gaps are 23 and 18 percentage points, respectively.

An important question is whether the employment gaps between ghetto and non-ghetto neighborhoods are generated by conditions within the neighborhoods themselves or are produced by the residential sorting of households. The research of Massey, Gross

and Shibuya and Gramlich, Laren and Sealand provide very weak support for the residential sorting hypothesis. My analysis of neighborhood sorting in New York City provides even less. The migration balances of employed movers and high school graduates show no significant movement of groups between ghetto and non-ghetto neighborhoods and the cohort analysis actually indicates a continual improvement in measures of educational attainment as cohorts of ghetto residents age. Furthermore, the employment regressions show no pattern of convergence or divergence in the employment prospects of ghetto residents as they age, controlling for observable characteristics.

The evidence regarding neighborhood sorting is circumstantial. The tests do not detect any evidence of dramatic movement of jobless or less-educated individuals into ghetto neighborhoods that would be sufficient to depress employment rates in those neighborhoods below the rates endogenous to them, or that would offset a tendency to "regress to the mean" in the absence of neighborhood-specific effects. The balance of migrants into and out of the ghetto according to education and employment status, the stability (and even improvement) of educational attainment as cohorts of ghetto residents age, and the stability of the negative regression coefficient on a "ghetto" variable across age groups all point to a very gradual, even negligible, sorting process. However, the tests cannot conclusively demonstrate that such sorting does not occur.

Because it cannot be conclusively established to what extent the large employment rate gap between ghetto and non-ghetto neighborhoods is produced by residential sorting, the remainder of the study focuses on youths less than 23 years old. In the educational attainment analysis of Chapter II, only youths still residing with their

parents are studied. This tends to minimize the sorting problem as their residential location is a function of their parents' choices, not their own. As will be discussed, however, it does not entirely eliminate the problem insofar as their parents may possess unobservable characteristics that both lead them to live in ghetto communities and also affect their children's educational outcomes. In the employment analysis of Chapter III, all youths between the ages of 16 and 22 are studied, whether or not they are still living at home. The sample selection trade-offs are discussed there at length. However, it can be assumed that possible sorting biases are minimized because most of the youths do still live with their parents, and those that do not have had a relatively short time to migrate from their neighborhoods of origin.

Chapter II:

The Ghetto's Influence on Educational Attainment

We saw in the previous chapter that the persistence of ghetto underemployment cannot be attributed primarily to residential sorting by incomes and rents. Sorting into and out of the ghetto is, at most, a gradual process and cannot explain the wide divergence in labor market outcomes among ghetto and non-ghetto youths. If urban ghettos are not simply a repository for individuals with low-rent paying ability, they must endogenously generate poor labor market results. Those outcomes can be a function of either observable or unobservable characteristics acquired by ghetto residents, or of labor market conditions in the ghetto itself. Of the observable characteristics possibly affecting employment status, educational attainment is the most obvious.

In this chapter we will assess whether the underemployment of young people residing in New York's ghettos arises, at least in part, from locational influences on educational attainment. If the educational outcomes of young people living in ghetto neighborhoods are affected by conditions in their communities, that will partially explain why ghetto poverty is so persistent and why a strong sorting mechanism is not needed to maintain the spatial distribution of urban joblessness. Of course, such an effect would still not explain any gap between ghetto and non-ghetto employment rates that remains after controlling for education.

Whereas theories explaining the employment gap between ghetto and non-ghetto residents have focused on the spatial availability of jobs, an analogous argument cannot

be used to explain differences in educational attainment. Elementary and secondary schools are more or less evenly distributed throughout the city and few students, unless they attend a special program school, must travel far. Consequently, we will follow the literature on neighborhood effects and concentrate on how the social context of neighborhoods affects educational attainment.

There are two key behavioral arguments underlying neighborhood effects models. First, it is hypothesized that the socioeconomic characteristics of neighborhood elders influence the goals and achievements of school-age youths living in a community. The influence can come through a variety of channels. By establishing a standard for linguistic and conceptual sophistication, neighbors may affect the verbal and other academic abilities of children, much as the children's own parents do. The effects are presumed to be dampened compared to direct family influence, however. Another channel may be by establishing role models of educational achievement to which children can aspire even though their own parents may differ from the neighborhood norm. The socioeconomic level of neighborhood adults may also influence the effectiveness of local schools and other local institutions in ways that are difficult to observe directly.

A related but distinctly different influence is hypothesized to derive from a child's peer group. A particular child's educational attainment may be affected by the standards set by the group average in a classroom or school, which is correlated with but not explicitly determined by the socioeconomic background of their parents. For example, academic tracking in a low SES school may concentrate the children with the greatest innate ability, or who have parents with unobservable characteristics favorable to educational achievement, into the same classroom. The group dynamics of that high-

potential class may then encourage all of them to achieve more academically than would be normally expected given their own family or neighborhood background variables.

Difficulties in Estimating Neighborhood Effects

Although the theory of neighborhood effects is conceptually straightforward, a number of statistical difficulties have plagued research on the issue. Some of the problems arise from common data limitations and others from the inherent statistical difficulty of separately identifying closely related variables.

Studies of the determinants of educational attainment generally, and of neighborhood effects specifically, have usually utilized the concept of the "educational production function" (Hanushek 1986). The production function approach hypothesizes that an educational outcome is a function of a series of inputs, in particular, of the student's family background, the neighborhood background, the school's resources, and the child's innate ability. This relationship is typically specified as:

$$(1) \quad Y = \alpha_0 + \alpha_1(Z) + \alpha_2(X) + \alpha_3(S) + \alpha_4(U) + e,$$

where Y is a measure of educational attainment, Z is a vector of family characteristics, X is a vector of neighborhood characteristics, S is a vector of school resources, and U is a measure of the child's innate ability.

The dependent variable, Y, has itself been a matter of controversy in the research literature. For example, the Coleman Report, the most important and controversial study of educational outcomes during the 1960s, was criticized for defining Y, for most of its

analysis, as the student's performance on a specially-administered verbal ability test. Subsequent researchers have often used test scores as a measure of children's attainment with all the usual concerns that the test results may be unreliable, unrepresentative of the student's overall capacities, unrelated to subsequent labor market success and so forth. Other measures such as years of education completed or receipt of a high school or college diploma have also been widely used. In practice, the choice of outcome variable has usually been dictated by the availability of data.

Nearly all of the most plausible right-hand side terms have been characterized by serious measurement or omitted variables problems. The most commonly omitted or suspectly measured variables relate to the child's innate abilities, which, aside from the inherent difficulty of definition and measurement, is surrounded by the still-controversial question of "nature versus nurture." From a physiological viewpoint, much less from an economic one, the subtle interplay of genetic endowment and environmental conditioning remains poorly understood. Consequently, studies that have attempted to estimate the impact of innate ability on educational and occupational outcomes have been subject to bitter dispute (Jencks, 1972; Hernstein and Murray, 1994; Goldberger and Manski, 1995). Several studies have used Armed Forces Qualifying Test results (AFQT) or early childhood IQ test scores to control for innate ability, but most data sets cannot be linked to such measures and the U variable is omitted entirely from the equation. That is one reason that cross-sectional studies of educational achievement usually explain relatively little of the variation between individuals and why longitudinal data sets, which enable fixed-effects models to be estimated, are preferred whenever possible.

The school resource variables have also proven difficult to measure and have generated their share of controversy. The two most commonly used variables are the ratio of teachers to pupils (class size) and the experience or educational credentials of teachers. Occasionally aggregate measures of school spending such as expenditures per pupil or teacher salaries are also used. A large body of empirical literature has been unable to establish that any of those variables are significantly related to student achievement. Longitudinal studies have suggested, however, that individual teachers vary widely in their effectiveness but the attributes of good teachers have proven stubbornly difficult to identify and measure with conventional data sets.

Research practices regarding the inclusion of family and neighborhood background variables have tended to evolve in tandem. In part, that is because they tend to mirror one another: the characteristics of neighbors that are believed to influence children's educational attainment are similar to the characteristics of their parents that are believed to have like influences. For example, it is common to include both the family's income level and the mean neighborhood income level as independent variables in an educational production function. Other common variables are the educational attainment of parents and neighborhood, occupational status, marital status, welfare receipt, poverty status, age, race or racial composition and immigrant status. In general, there has been a progressive tendency to include a more comprehensive set of family control variables into estimating equations, with a corresponding diminishing of the magnitude of estimated neighborhood effects.

Since many of the studies of educational attainment utilize data on children or young adults living with their parents, the problems of endogeneity of neighborhood

choice is minimized. The choice of neighborhood context is considered one made by their parents rather than themselves. In recent years concern among researchers has grown, however, that unobservable characteristics of parents that lead them to chose one neighborhood context over another may be correlated with other unobservable characteristics that may influence their children's educational outcomes.

This issue was brought to the forefront in an influential paper by Evans, Oates and Schwab (1992). Using data from the National Longitudinal Survey of Youth, they estimated the probability of a young woman having a child as a teen and of dropping out of high school as a function of family and school variables. Their peer group indicator was the proportion of disadvantaged youths (i.e., from families below the poverty level) in their high school. Single equation probit estimates produced statistically significant coefficients on the peer group variable, indicating that disadvantaged peers increased the likelihood of a teen pregnancy and of leaving high school. They argued that those estimates were potentially misleading because the parents had a range of choices for the schools their daughters attended, and that the peer group variable was an endogenous one. Using a maximum likelihood procedure to estimate a two-equation model with the peer group variable treated as endogenous, they then obtained nonsignificant coefficient estimates. In order to estimate peer group choice, they used as instruments metropolitan area unemployment rate, median family income, poverty rate, and the percentage of adults with a college education, reasoning that those variables characterized the range of choices available to parents in different metropolitan areas.

The Evans, Oates and Schwab critique made researchers extremely sensitive to the possibility of endogeneity of peer group choice—perhaps unduly so. By treating

neighborhood as an endogenous variable, they may exaggerate the range of residential choice available to poor urban minorities. In their two-stage model of teen pregnancy, the positive coefficient on "black" nearly doubles. In their high school drop out equation, the coefficient on "black" is initially negative and highly significant. In the two-stage model, its sign remains negative but its magnitude decreases substantially. In both instances, instrumenting for neighborhood has a dramatic effect on the coefficient of the race variable while the others remain essentially stable. However, in their analysis, as in many others, race is given no operational meaning. Either it represents skin color, which does not plausibly effect pregnancy or high school graduation rates, or it captures a set of socially shared values or attitudes. If the latter, it is inherently a "peer group" effect.

Whether the true endogenous variable is peer group or race, the article by Evans, Oates and Schwab underscored the difficulty of estimating neighborhood effects, especially when the concepts of peer group and race have become so closely intertwined through a history of racial ghettoization.

An even more fundamental obstacle to estimating neighborhood or peer group effects was illuminated by Charles Manski (Manksi 1993). In evaluating what he terms the "reflection problem," Manski identifies two different types of social effects: an "endogenous," effect, whereby an individual's behavior varies with the average behavior of a reference group, and an "exogenous" effect, whereby an individual's behavior varies with the exogenous characteristics of the group. Those "social effects" are further distinguished from "correlated effects," whereby individuals in the same group tend to behave similarly because they have similar background characteristics.

Manski specifies a regression equation which potentially incorporates all three effects:

$$(2) \quad E(y|x,z) = \alpha + \beta E(y|x) + E(z|x)'\gamma + x'\delta + z'\eta.$$

In this specification y is an outcome such as a youth's achievement in high school, x are attributes characterizing his reference group, and z and u are attributes that directly affect y, such as socioeconomic status and ability. A nonzero ß indicates the presence of an endogenous effect, while a nonzero γ or δ indicates an exogenous or correlated effect, respectively. Ability, u, is not observed.

Manski integrates both sides of (2) to obtain

$$(3) \quad E(y|x) = \alpha + \beta E(y|x) + E(z|x)'\gamma + x'\delta + E(z|x)'\eta,$$

Which he calls the "social equilibrium equation." Solving for E(y|x) gives

$$(4) \quad E(y|x) = \alpha/(1-\beta) + E(z|x)'(\gamma + \eta)/(1-\beta) + x'\delta/(1-\beta)$$

and substituting back into (2) gives a reduced form model

$$(5) E(y|x,z) = \alpha/(1-\beta) + E(z|x)'\{(\gamma + \beta\eta)/(1-\beta)\} + x'\delta/(1-\beta) + z'\eta.$$

The upshot of Manski's analysis is that the presence of the composite parameters does not allow the researcher to distinguish between the two types of social effects but does allow one to detect the presence of some social effects under certain circumstances. In particular, inference of social effects is possible only if E(z|x) varies non-linearly with x and var(z|x)>0.

A similar problem is discussed by Case and Katz (1991). In their model of teenage behavior, several different outcomes are related to a vector of family background characteristics and to the average outcome of other youths in the neighborhood. The peer influence variable is calculated using the same survey data from which the equations are estimated. In their basic probit model, they find a strong relationship between a teenager's propensity to engage in crime, to use illegal drugs or alcohol, to be idle, or to attend church and the behavior of his peers.

Case and Katz note that in their model, the error terms of observation *i* and observation *j* could be correlated with an unobserved variable common to both, such as lax policing in one neighborhood as opposed to another. By analogy to the "habit persistence" problem in panel data studies, they argue that a test for a true interdependence among the observations is whether the equation is improved by the addition of the peers' background variables. They then compare a model with only individual *i*'s background variables and the mean of *i*'s peer group outcome to a model in which the mean of the peers' background variables are added. Likelihood ratio tests demonstrate that the model is improved.

In essence, Case and Katz have added Manski's "exogenous" form of social effect to the model. As his argument suggests, that allows Case and Katz to distinguish social

effects from correlated effects, but not to separately identify the influence of peer group outcomes and exogenous peer group background variables.

There are also serious econometric problems that can arise if neighborhood effects are not recognized when they are present. There is the common problem of misspecification as a result of omitted variables, with the associated bias in parameter estimates. However, if neighborhood effects influence the outcome variable, there may be the additional danger of spatial autocorrelation. Spatial autocorrelation is analogous to the familiar serial autocorrelation, in which the off-diagonal elements of the variance-covariance matrix exhibit a non-zero mean. Suppose, for example, that the correct specification is

$$(6)\quad y_i = \alpha + \beta_1(x_i) + \beta_2(z_i) + u_i,$$

where x_i is a vector of individual background characteristics and z_i is a vector of neighborhood characteristics. If the equation is incorrectly specified as

$$(7)\quad y_i = \alpha + \beta_1(x_i) + v_i,$$

the disturbance term in (7) is actually

$$(8)\quad v_i = \beta_2(z_i) + u_i.$$

If the observations are clustered into neighborhood or peer groups, the error terms within those reference groups will then be correlated with one another. Such spatial

autocorrelation has the same implications for estimation and inference as does serial autocorrelation: parameter estimates will be unbiased, consistent, but inefficient.

Unfortunately, spatial autocorrelation is especially difficult to detect. Standard tests for serial autocorrelation, such as the Durbin-Watson test, assume sequential, evenly spaced observations for construction of the test statistic. Spatial autocorrelation, especially when microdata are utilized, may be clustered among subsets of the observations or decay with the distance of one observation from another and that distance may not be known to the researcher.

As the above discussion details, the analysis of neighborhood and peer group effects is rife with specification controversies and methodological unknowns. Next we will review some of the most notable studies of neighborhood effects to see how researchers have addressed those problems.

Previous Studies of The Effects of Neighborhoods and Peer Groups on Educational Attainment

The objective of this chapter is to determine whether there are neighborhood or peer group effects on the educational attainment of ghetto youths, which in turn may affect their employment prospects. The primary focus will be on identifying effects on the probability of completing high school, although we will also look at whether education beyond high school is affected by neighborhood conditions. Existing research on the issues provides no clear consensus.

There have been a number of studies that have explored the determinants of educational attainment in general. That literature has been surveyed by Haveman and Wolfe (1995) and will only be summarized briefly. The outcome of interest can be defined categorically (high school completion = 1) or continuously (years of schooling). The estimation method has sometimes been OLS but more typically probit or logit. The most consistent influence has been found to be the parents' human capital, usually measured by their educational attainment. The parents' completion of high school, and/or exposure to some college, have been found to have larger marginal effects than education beyond those levels. Parental income, according to Haveman and Wolfe, has been found to be statistically significant in about half the studies which found a positive effect, but the effect is usually relatively small, with elasticities in the range of .02 to 2 percent. The effect of growing up in a single-parent household is almost always found to be negative. Most studies have found that race is not associated significantly with educational attainment once family background characteristics are controlled for. There is also some evidence that the size of family and changes in residential location are negatively associated with educational attainment.

In the years between the Coleman Report controversy and the revival of the issue by William Julius Wilson, there were relatively few investigations of the role of peer groups or neighborhoods on educational attainment. One of the few during that period was by Linda Datcher (1982), who estimated education and earnings equations for male household heads ages 23-32 in 1978, using OLS. She did not exploit the longitudinal nature of her data set, the PSID, except to recover information on the individuals' family background as of 1968, which allowed her to avoid the selection biases possibly resulting

from use of only individuals still living with their parents. The family background variables included father's and mother's education, household income, number of siblings, and a series of qualitative variables representing parents' attitudes and behavior. The neighborhood variables included rural, town or metropolitan origin, southern origin, and the average household income and the percentage white of the family's neighborhood in 1968.

With respect to the neighborhood variables, Datcher found that the average household income had a statistically significant, positive effect on whites' years of schooling. The effect of both average household income and percentage white were positive and significant in the educational equations for blacks when entered separately, but did not meet the 5 percent confidence level when both were entered. She concluded that multi-collinearity prevented an accurate measure of which neighborhood characteristic was the dominant influence, but that at least one of them was significant.

Datcher did not control for endogeneity of neighborhood choice through structural equations but did find that certain parental characteristics, such as their educational aspirations for their children, affected attainment of both black and white males. However, she also found that adding parental attitudes to the equations had only a small impact on the estimated neighborhood effects, suggesting that neighborhood effects do not merely proxy for family unobservables.

Jeanne Brooks-Gunn, Greg J. Duncan, Pamela Klebanov and Naomi Sealand (GDKS 1993) did a multi-faceted study of neighborhood effects on the development of female children and adolescents. They evaluated the effects of family and neighborhood characteristics on child IQ using data from the Infant Health and Development Program,

and on teenage births and dropping out of high school, using the PSID. Family control variables included an income-to-needs ratio, mother's education, father's education, whether female headed, and race. A variety of neighborhood controls were tested; the researchers found that most were correlated with the percentage of neighborhood residents with incomes under $10,000 or with the percentage over $30,000 and used those two measures in their model estimation. They noted that their estimates could be biased if neighborhood composition is an endogenous variable but did not attempt to model that possibility.

GDKS concluded that the percentage of high-income families in the neighborhood has a significant and positive influence on girls' educational attainment, while the proportion of female-headed families has a negative one. The magnitude of the coefficients obtained on those variables was large, leading them to summarize that, with respect to adolescent outcomes, "neighborhood effects are generally quite powerful and often rival family effects." Interaction of the neighborhood and race variables, however, indicated that the benefit of affluent neighbors is restricted to whites, and that the effect might even be negative for blacks. That result could be interpreted as supporting a "relative deprivation" theory of social effects, or as casting doubt on the robustness of their findings.

One of the more widely-cited studies of neighborhood effects on educational attainment was conducted by Jonathan Crane (1991). Crane used a large sample of 1970 Census microdata to estimate the effects on teenage childbearing and dropping out of high school. Data for 1970 were used because it was the only time the Census Bureau released microdata on a "neighborhood" basis--a specially-constructed geographic unit of

about 5,000 individuals drawn to take into account physical features and other attributes of neighborhood identity. His sample was large enough to estimate separate equations for white, black and Hispanic males and females. Family control variables included income, parents' education, head's occupation, household structure, family size, and rural origin. The estimating method was a piecewise linear logit model.

The use of Census data had one major drawback in that family background variables could only be obtained for youths who still lived with their parents. Using data for youths ages 16 to 19 limited the potential of the bias, insofar as relatively few youths leave their parents' home before the age of 19. Nevertheless, about 20 percent of the sample was excluded for that reason, and Crane discusses the potential biases resulting from the exclusion at some length. He concluded that the coefficient estimates would likely be biased in a downward direction, because a much higher proportion of the not-with-parents teenagers were high school dropouts.

Crane's index of neighborhood quality was the percentage of workers in the neighborhood who held professional or managerial jobs. He reports that he tested fifteen other measures and found that it had a larger effect than all the others combined. Crane interprets the variable as a reflection of how local households evaluate neighborhood quality utilizing all of the easily observable characteristics, as well as the more subtle characteristics that may be perceived only by residents who live in the particular city.

Crane's most significant finding was that the relationship between neighborhood quality and educational attainment is highly non-linear. Although he obtained a slightly negative relationship at virtually all ranges of neighborhood quality, he found a sharp discontinuity once the percentage of high-status workers in a neighborhood fell below 10

percent. The discontinuity was especially dramatic for white and black males. Among black males in large cities, the dropout probability soared from 14.6 percent to 34.5 percent as the proportion of high-status workers fell from 5.6 percent to 3.4 percent. A similar effect was not found for black females, although the nature of his sample construction led Crane to believe that his estimate for females was biased downward. In his conclusion Crane speculated that the sharp discontinuities he detected might reflect a process of "social contagion," whereby an epidemic of social problems could arise when neighborhood conditions fall below some threshold measure of quality. It is interesting to note, however, that Crane did not estimate a peer group model in Manski's sense. He included no right-hand side variable intended to represent the effect of peers' outcomes; the sole measure of neighborhood quality was a measure of adults' occupational status. If a contagion of dropping out occurs in a neighborhood, one would expect it to be transmitted among members of a peer group defined by age, ethnicity or the like.

One widely-cited study that did explicitly model peer group effects was that by Case and Katz (1991). Using unique data from the National Bureau of Economic Research's survey of youths living in low-income Boston neighborhoods, Case and Katz entered the mean outcomes of observation *i*'s peers directly into the estimating equation. Since the survey included the precise address of each youth's residence, they were able to construct "peer group" means from 15 to 20 other observations clustered within two blocks of each individual's residence. Family controls included conventional measures such as whether the youth grew up in a single-parent household and the head's level of education, as well as unusual variables such as whether any family members had been incarcerated and whether any family members had drug or alcohol problems. Because

the total sample was relatively small (880 males and females), they could not estimate separate equations by gender or race.

Case and Katz estimated several probit equations corresponding to different measures of youths' outcomes. In general, they concluded that peer behaviors have substantial and significant effects on youth involvement in crime, drug use, church attendance, alcohol use and idleness. They appear to be less significant in affecting youths' propensity to have children out of wedlock. The outcome most closely corresponding to the subject of this chapter is idleness, meaning that the youth is neither in school nor employed. Evaluated at the mean of the independent variables, the peer group variable indicated a 2.4 percentage point increased chance of idleness with each 10 percentage point increase in neighbors' idleness. The t-statistic was significant at the 90 percent level. To test for the stability of their results, Case and Katz ran the regressions again including the mean of the peers' family variables. Generally, they were significant as well, and did not diminish the effects of the direct peer variable. The idleness equation, however, was one in which a log likelihood test of the additional neighborhood variables produced non-significant results.

Cautioning against acceptance of the studies finding significant neighborhood or peer group effects is the Evans, Oates and Schwab article discussed in the previous section. Although several possible weaknesses in their analysis have been pointed out, the article still serves as a reminder that neighborhood effects variables may be capturing unobservable characteristics of parents that are correlated with residential choice.

A similar argument was made in the recent paper by Ginther, Haveman and Wolfe (2000). They performed a sensitivity analysis for equations estimating the probability of

high school graduation, years of completed schooling and teen nonmarital childbearing, using the PSID. As a more extensive set of family background characteristics were added successively to each model, they found that the magnitude of neighborhood variables dissipated, leading them to conclude that findings of significant neighborhood effects "may be an artifact of the degree to which family background is characterized in model specification." For example, in moving from a sparse probit model of high school graduation to one with their full set of family controls, the estimated effect of a one standard deviation change in the percent of neighborhood youths who are dropouts fell from 4.3 percentage points to 2.7 percentage points. However, the estimated effects of percent female heads, percent of persons who are white, and the percent of households with high income all increased, and the log likelihood test statistic easily exceeded its 1 percent critical value. So with regard to high school completion specifically, there was not in fact a pattern of diminishing neighborhood effects. Their caution against putting too much credence in point estimates of neighborhood effects is prudent, however.

Summarizing the literature on neighborhood effects on education as of 1990, Jencks and Meyer (1990) concluded that the results "strongly suggest that growing up in a high-SES neighborhood raises a teenager's expected educational attainment, even when the teenager's own family characteristics are the same." They cautioned, however, that "social scientists need to be very cautious about estimates of neighborhood or social effects that control for only one or two family background characteristics. As a rule, the more aspects of family background we control, the smaller neighborhood and school effects look." After a decade of further research, the tentative conclusions they offered remain intact, but the caution they advised is even more warranted.

Data and Sample Issues

This study utilizes microdata from New York City's Housing and Vacancy Survey (HVS), a triennial survey of approximately 16,000 households conducted by the Census Bureau for the city's housing agency. The survey, which is longitudinal over housing units, provides data on demographic characteristics, family living arrangements, housing conditions, labor force participation and earnings.

Responses are geographically coded for 55 sub-borough areas corresponding roughly to the city's 59 community board districts. These sample areas are much larger than the census tracts used in some prior research—they may contain 50 or more tracts and average about 125,000 residents. They are, however, identical to the sub-county areas in which census public-use microdata (PUMS) are available. Furthermore, they correspond roughly to identifiable city neighborhoods such as "the Upper East Side," "Bensonhurst," or "Harlem."

For the following education analysis, a subsample of 3,612 males and females aged 19-22 was extracted from the 1991, 1993 and 1996 surveys. Ages from each survey were selected so as not to include any individual in the sample more than once. The subsample was further divided according to whether the individuals were still living with their parent(s), or had established their own household or were living with friends or relatives. Since the probability that a youth still lives with his or her parents declines rapidly as age increases beyond 20 years, there is an inherent trade-off in the sample selection decision. Including older age cohorts or individuals who are not living with

their parents increases the sample size and minimizes selection biases, but at the cost of certain information about their family backgrounds.

Because of the importance of family background characteristics demonstrated by the existing literature on educational attainment, only the at-home sample was used. The availability of family background information justifies the sample-selection bias that is introduced. A tabulation of the data shows that 64 percent of the at-home subsample graduated from high school compared to 57 percent of the not-at-home subsample, and that 36 percent and 33 percent, respectively, had attended college. The sample excludes 18 year-olds because most of them had not yet reached the age by which they would normally graduate.

Another source of potential bias is incarceration. Researchers often overlook this source, but to the degree that members of different communities or demographic groups experience different incarceration rates, it can bias regression results. Based on data obtained from the New York State Department of Corrections, I estimate that about 1.8 percent of the city's male population aged 16-24 is incarcerated in the state prison system. The proportion incarcerated ranges from about 0.7 percent in Staten Island to 3.5 percent in Manhattan. Based on inspection of arrest data by police precinct, it appears that the ratio could exceed 5 percent of the age/gender cohort in several sub-borough areas. Thus, the removal of the under-custody population from the sample introduces a significant source of bias into the analysis. It can be further assumed that the incarcerated population would have lower high school completion rates than the demographic cohort as a whole (Western and Beckett, 1998), so their exclusion from the sample probably causes differentials in educational attainment among neighborhoods to be understated.

Results of Model Estimation

The Housing and Vacancy Survey provides data on the highest level of education attained for each member of the respondent households. From such information it is possible to identify which youths in the survey have completed high school and subsequently progressed to college or other post-secondary education. Since respondents are asked to provide information on any household members who ordinarily live in the housing unit, even if they are away at school, there is no bias arising from that source.

Tables II.1 and II.2 present probit models of high school completion for males and females, respectively. In Model 1 only family background variables and the youths' age are used as regressors. In Model 2, a set of variables that characterize the individual's housing tenure and quality is added. In Model 3, a set of variables characterizing the individual's neighborhood environment is added. To facilitate interpretation the marginal effects of each independent variable estimated at the mean of the regressors, rather than their raw coefficients, are presented.

The estimates of Model 1 conform to the existing literature on family background effects. Having a parent who completed high school, or who obtained a college degree, has a huge and statistically significant effect on the high school graduation probability of New York City youths. For males, the effect is about 17 percentage points in either case, while for females it is about half that size. There is some indication that the attainment of females is more strongly related to their parents' college experience than to their high school completion.

Table II.1

Influences on the Probability of Completing High School

New York City Males, Ages 19-22

	Model 1		Model 2		Model 3	
Log likelihood:	-596.63		-579.09		-578.40	
observations:	1388		1374		1374	
High School Grad	dF/dx	t-stat	dF/dx	t-stat	dF/dx	t-stat
family variables:						
earndinc	0.0018	3.66	0.0014	2.82	0.0014	2.76
headhs	0.1729	7.17	0.1563	6.49	0.1581	6.48
headba	0.1772	5.98	0.1663	5.62	0.1676	5.61
headwel	-0.0745	-2.27	-0.0602	-1.86	-0.0617	-1.88
2parents	0.1233	4.43	0.1035	3.75	0.1047	3.76
famsize	-0.0364	-4.95	-0.0324	-3.55	-0.0330	-3.59
black	-0.1252	-3.70	-0.0875	-2.61	-0.0684	-1.75
prican	-0.1287	-3.04	-0.0965	-2.32	-0.0826	-1.87
othhsp	-0.0994	-2.59	-0.0569	-1.51	-0.0393	-0.96
asian	-0.0480	-0.98	-0.0279	-0.58	-0.0233	-0.49
age	0.0578	4.95	0.0592	5.10	0.0590	5.08
housing variables:						
owner	*	*	0.0940	3.32	0.0933	3.20
crowded	*	*	-0.0270	-0.77	-0.0248	-0.71
badhsg	*	*	-0.0342	-1.27	-0.0329	-1.21
hsmove	*	*	-0.0004	-0.02	0.0010	0.04
neighborhood variables:						
sbahs	*	*	*	*	-0.0007	-0.44
sbaba	*	*	*	*	-0.0022	-0.67
sbastatus	*	*	*	*	0.0027	0.62
sbawhite	*	*	*	*	0.0007	0.99

Table II.2

Influences on the Probability of Completing High School

New York City Females, Ages 19-22

	Model 1		Model 2		Model 3	
Log likelihood:	-492.27		-476.50		-470.49	
Observations:	1330		1322		1322	
High School Grad	dF/dx	t-stat	dF/dx	t-stat	dF/dx	t-stat
family variables:						
earndinc	0.0002	0.50	-0.0001	-0.23	-0.0002	-0.46
headhs	0.0777	3.71	0.0676	3.26	0.0642	3.13
headba	0.1037	3.81	0.0959	3.56	0.0839	3.05
headwel	-0.1324	-4.61	-0.1322	-4.59	-0.1206	-4.25
2parents	0.1119	4.82	0.0891	3.83	0.0856	3.73
famsize	-0.0144	-2.51	-0.0054	-0.76	-0.0034	-0.49
black	-0.0886	-2.94	-0.0612	-2.07	-0.0579	-1.67
prican	-0.0799	-2.09	-0.0527	-1.44	-0.0362	-0.96
othhsp	-0.1067	-2.82	-0.0573	-1.59	-0.0534	-1.39
asian	-0.1130	-2.43	-0.0651	-1.48	-0.0758	-1.66
age	0.0452	4.41	0.0384	3.79	0.0393	3.94
housing variables:						
owner	*	*	0.0430	1.71	0.0439	1.72
crowded	*	*	-0.0478	-1.71	-0.0523	-1.88
badhsg	*	*	-0.0406	-1.77	-0.0325	-1.44
hsmove	*	*	-0.0679	-3.07	-0.0693	-3.10
neighborhood variables:						
sbahs	*	*	*	*	0.0021	1.57
sbaba	*	*	*	*	0.0037	1.32
sbastatus	*	*	*	*	-0.0028	-0.76
sbawhite	*	*	*	*	-0.0006	-1.08

Other family variables also have large and statistically significant effects on the probability of completing high school. The estimated effect of living in a home with two parents is almost identical for both males and females and quite substantial. For females, it appears to have a larger influence than whether the household head completed high school. The negative effect of having a household head who receives public assistance income is significant for both genders, but as might be expected, has a larger influence on females' graduation rates. Total household earned income (wage and salary income plus business income) appears to have a significant effect on boys' graduation rates but not on girls'. That may indicate that young males feel greater pressure to contribute to family finances than females do when family income is low.

Model 1 indicates that there are very large and significant effects of race on high school completion. That is not necessarily inconsistent with previous research which has found negligible racial effects on educational attainment. Many previous studies were based on national samples such as the Panel Survey of Income Dynamics or the High School and Beyond survey. There is no analytical reason why those results must hold within a single city even if they are valid nationally. New York City, in particular, is unique among American cities in its size, density and ethnic composition, and it is plausible that racial and ethnic effects could be important in that context.

In Model 2 four housing variables are added to the basic model. OWNER indicates whether the household owns their dwelling unit and could represent conventional, condominium or cooperative ownership. CROWDED is a binary variable that indicates whether the housing unit accommodates more than one person per room,

and BADHSG indicates whether the unit has three or more of the seven major maintenance deficiencies reported by the HVS. HSMOVE indicates whether the family had changed residence within the previous five years. Likelihood ratio tests indicate that the housing variables are jointly significant for both males and females.

The strongest effect is associated with the OWNER variable, which is significant at the 10 percent level for females and at the 1 percent level for males. The estimated parameter indicates that if a young male's family owns their dwelling, his chances of completing high school are increased by over 9 percentage points. That could be because a family's homeownership affects the aspirations and expectations of a youth and perhaps make him feel more invested in his educational obligations. Or owned homes may simply be more spacious and comfortable, contributing to better study habits and greater academic achievement. The variable may, however, also be capturing otherwise unobserved characteristics of the parents. For example, parents who invest in homeownership may be more willing than renters to invest in the present for benefits in the future, a personality trait that is transmitted to their children's attitudes toward schooling. Green and White (1997) found homeowner effects on high school completion of a magnitude similar to those obtained here, which held up under instrumentation for choice of tenure.

It has often been claimed that crowding and poor housing quality adversely affect educational achievement but the relationship has not been subject to empirical testing (Myrdal, 1944). Crowding would presumably affect educational performance by contributing to a home environment less conducive to good study habits. There is some existing evidence that family size is negatively associated with educational attainment, an

effect usually associated with the level of parental attention devoted to children. However, the regressions presented here indicate that the family size effect may also be related in part to crowded housing conditions. Among males, the coefficient on FAMSIZE is not much affected by the addition of a crowding measure, but for females it is reduced substantially. For females the crowding variable is significant at the 10 percent level.

Housing quality can be hypothesized to affect educational achievement by affecting the study habits or the general psychological outlook of young people. Several of the housing deficiencies tracked by the HVS, such as rodent infestation, inadequate heat and inoperable plumbing could create suboptimal study environments, especially if they occur in combination. Also, they could impede educational attainment by impairing the health of the children, contributing to lost school days or other obstacles to learning. In extreme cases, lead poisoning can directly impair learning through neurological damage. For those reasons the housing quality measure is entered as a dummy variable which indicates a housing unit with three or more serious maintenance deficiencies. It is presumed that units that are characterized by such maintenance status may contain other quality deficiencies not enumerated by the survey. The coefficient on the BADHSG variable is of a non-trivial magnitude in all specifications but meets the 90 percent confidence level in only one of them.

Residential moves, especially in early grade school and adolescence, have been found by other researchers to adversely affect educational attainment (Haveman, Wolfe and Spaulding, 1991). Changes in schools can interrupt the continuity of a student's education and changes in neighborhood may subject them to social stresses. Model 2

indicates that a change of residence during adolescence has no effect on a boy's probability of completing high school but a fairly substantial negative impact on a girl's. That result could indicate that adolescent girls may have a more difficult time adjusting to new peer group environments that do their male counterparts.

Model 3 adds a set of neighborhood variables to the estimating equation. The neighborhood variables were selected because they have sometimes been found by other researchers to have significant effects. SBAHS and SBABA represent the percentage of adults (over 22 years old) in each sub-borough area who have a high school and four-year college degree, respectively. SBASTAT represents the percentage of sub-borough area adults who have high-status jobs. SBAWHITE is the percentage of residents who are white non-Hispanic. Other neighborhood variables were also tested but were discarded.

In the model for males the magnitude of the estimated effects is small and none of the coefficients meet conventional tests of statistical significance. In the female model there is some indication that the number of neighborhood residents who hold high school and college diplomas positively influence a young woman's chances of completing high school. Although the t-statistics on the individual variables do not meet the 90 percent confidence cutoff, a likelihood ratio test indicates the variables are jointly significant.

Several alternative specifications of Model 3 were implemented in order to test for non-linearities. Neither the addition of squared neighborhood measures nor dummy variables for neighborhoods with extremely poor social contexts indicated that more elaborate specifications aimed at capturing nonlinear effects were warranted.

Given the extreme deprivation of some of New York's neighborhoods it is somewhat surprising that such modest neighborhood effects were detected for females

and none for males. The findings are counter to other research studies that found substantial neighborhood effects, as well as to the widespread belief that the problems of disadvantaged neighborhoods in the city are amplified by unusually poor schools. If there was a systematic failure of public schools in ghetto neighborhoods the effect would likely be captured by one or all of the included neighborhood variables.

To check whether my geographic definition of a neighborhood is too broad to pick up neighborhood social effects, the models were also run using an indicator of public housing residence as the neighborhood variable. In New York City, public housing developments are generally of a large scale and many of them comprise entire Census tracts. Moreover, access to public housing is means tested and the mean socio-economic status of the "projects" is typically very low. About 10.0 percent of the males and 9.4 percent of the females in the sample reside in public housing, and about 60 percent of the combined total of public housing residents are located within ghetto neighborhoods. The PUBHSG variable was positive but not significantly different from zero in each case.

The pattern of coefficient changes as the model was embellished is of some note, however. The coefficients and t-statistics of the family variables are quite stable across models and decline very modestly when the housing and neighborhood variables are added. On the other hand, the coefficients of the racial variables decline dramatically as new variables are added. It appears that much of the effect that would otherwise be attributed to race can be more properly attributed to the housing, and to a lesser extent, to the neighborhood conditions in which some minorities live. The direction of the

coefficient changes also suggest that the inclusion of a still more inclusive set of variables would further reduce the measured effects of race and ethnicity on education.

The finding of negligible neighborhood effects was subject to several tests to insure that the estimation procedure was not masking spatially correlated residuals that would indicate omitted neighborhood variables. First, a series of 52 neighborhood dummy variables were created corresponding to all of the sub-borough areas in the Bronx, Brooklyn, Manhattan and Queens (the three Staten Island sub-borough areas were omitted to serve as a base). If peer group influences or omitted neighborhood factors cause the outcomes of youths within a sub-borough area to differ significantly from what are predicted by the full model, neighborhood dummies should pick them up and the patterns could be analyzed. However, only a handful of the sub-borough area indicators produced t-statistics that met conventional measures of statistical significance and among those, if anything, the pattern was for students in ghetto neighborhoods to "over achieve" given their background variables. Because the individual sub-borough area samples are relatively small, however, it would be prudent to accept a general hypothesis of "no sub-borough effects."

Another method of judging whether there is an interdependence among individual outcomes within a neighborhood is to enter the median outcome (percentage of youths graduating from high school) in each sub-borough area directly as a regressor into the estimating equation. However, if such a variable were to be created from the active sample, a youth's own outcome would affect the neighborhood mean and could produce a spurious correlation with her estimated probability in small sample cells. To avoid that problem, a neighborhood average of high school completion was constructed using

individuals aged 22 to 27 in each sub-borough area—essentially, the 5-year age cohort immediately older than the sample youths in each neighborhood. That mean was calculated for each sub-borough, year, and gender, producing 308 different values (53*3*2). This variable could be expected to capture any systematic neighborhood effects that were omitted from the model under the assumption that such omitted factors, if present, would have also affected the outcomes of the immediately preceding age group. It could also be interpreted as a peer group variable, insofar as peer group attitudes toward high school completion can be expected to be transmitted through older brothers, sisters and neighbors. When the variable was added to the full estimating equation, its coefficient did not differ significantly from zero for either males or females.

The analysis presented above appears to establish fairly firmly that there are no appreciable neighborhood effects on the probability of young men in New York City completing high school, and only slight effects on young women. However, ghetto neighborhoods may still affect adversely the labor force preparation of young people if they discourage them from continuing their education beyond high school. Tables II.3 and II.4 present models for college attendance for the same sample of young men and women used in the high school completion analysis. For each gender Model 1 represents the marginal effects of each variable on the gross probabilities of attending college, whereas Model 2 shows the effects on college attendance conditioned on graduating high school. Among males, 50.8 percent of the entire sample had attended some college as had 65.6 percent of the sample who had graduated high school. For women the proportions were 60.6 percent and 72.2 percent, respectively. Because of the age cut-offs of the sample, very few had yet graduated from college.

Table II.3

Influences on the Probability of Attending College

New York City Males, Ages 19-22

	Model 1 (unconditional)		Model 2 (conditional)	
Log likelihood:	-815.63		-622.38	
Number of observations:	1388		1054	
College Attendan	**dF/dx**	**t-stat**	**dF/dx**	**t-stat**
family variables:				
earndinc	-0.0001	-0.26	-0.0006	-1.35
headhs	0.1076	3.08	-0.0071	-0.19
headba	0.2826	6.15	0.1510	3.17
headwel	-0.1297	-2.82	-0.0870	-1.63
2parents	0.1276	3.50	0.0807	2.09
famsize	-0.0416	-3.25	-0.0227	-1.70
black	-0.1377	-2.96	-0.1148	-2.34
prican	-0.1260	-2.38	-0.0881	-1.53
othhsp	-0.0633	-1.25	-0.0389	-0.74
asian	0.1176	2.00	0.1475	2.53
age	0.0473	3.12	0.0155	0.98
housing variables:				
owner	0.1662	4.42	0.1286	3.37
crowded	-0.0290	-0.60	-0.0280	-0.54
badhsg	-0.0599	-1.54	-0.0367	-0.86
hsmove	-0.0294	-0.85	-0.0276	-0.75
neighborhood variables:				
sbahs	-0.0016	-0.75	-0.0013	-0.59
sbaba	0.0009	0.21	0.0019	0.45
sbastatus	0.0029	0.52	0.0021	0.37
sbawhite	-0.0006	-0.68	-0.0008	-0.89

Table II.4

Influences on the Probability of Attending College

New York City Females, Ages 19-22

	Model 1 (unconditional)		Model 2 (conditional)	
Log likelihood:		-785.33		-604.15
Number of observations:		1336		1101
Attend College	**dF/dx**	**t-stat**	**dF/dx**	**t-stat**
family variables:				
earndinc	0.0005	1.09	0.0008	1.61
headhs	0.0848	2.55	0.0426	1.31
headba	0.2383	5.32	0.1771	4.24
headwel	-0.1501	-3.52	-0.0440	-1.00
2parents	0.0485	1.40	-0.0176	-0.53
famsize	-0.0277	-2.37	-0.0253	-2.28
black	0.0039	0.08	0.0258	0.61
prican	-0.0146	-0.27	-0.0164	-0.32
othhsp	0.0464	0.92	0.0771	1.69
asian	0.1220	2.16	0.1543	3.07
age	0.0216	1.43	-0.0070	-0.47
housing variables:				
owner	0.1430	3.91	0.1219	3.53
crowded	0.0073	0.17	0.0459	1.11
badhsg	-0.0204	-0.55	0.0134	0.36
hsmove	-0.1088	-3.20	-0.0615	-1.80
neighborhood variables:				
sbahs	0.0007	0.33	-0.0006	-0.29
sbaba	0.0055	1.34	0.0028	0.73
sbastatus	-0.0020	-0.36	0.0004	0.07
sbawhite	-0.0010	-1.25	-0.0007	-0.95

The results of the college attendance probits are very consistent with the high school regressions. Family variables remain important, but as might be expected, college attendance of the household head is much more important than high school completion as an influence on the college attendance of their offspring. Racial variables generally are weaker, with the exception of black and Puerto Rican males. The OWNER variable remains surprisingly strong in both the conditional and unconditional models for both males and females. For females, HSMOVE, indicating a change of residential address as an adolescent, remains strongly negative even in the conditional model.

None of the neighborhood variables are significantly different from zero for either sex. There is no more evidence that neighborhood conditions affect a youth's decision to attend college than they do their decision to complete high school.

An Instrumental Variables Test of Neighborhood Endogeneity

As has been discussed previously, an underlying concern of research on neighborhood and peer group effects is that neighborhood character is actually a choice variable. In that view individuals, or in a study such as this the parents of the individuals, have chosen their neighborhood from a range of communities in which they could live. That choice may reflect attitudes toward child rearing and education that could be correlated with the error terms in an educational production function. Parameter estimates could be biased and erroneously attribute an effect to neighborhood conditions when, in fact, the effect is due to the parental characteristics with which both the neighborhood character and child outcomes are correlated.

Concern about the endogeneity of neighborhood or peer group choice is greatest when studies find large social effects. In our case, the findings were that neighborhood effects are slight to non-existent. That does not mean, however, that the findings could not be misleading if neighborhood context is indeed endogenous. The neighborhood effects could be understated if, for example, parents locate within "bad" neighborhoods in order to gain access to particularly good parochial or magnet schools for their children. In that case, the unobservable parental characteristic might be positively correlated with the child's educational outcome and mask the independently adverse effect of the neighborhood variable.

The usual technique for dealing with such cases is to specify a structural model in which neighborhood choice is modeled as an auxiliary regression equation and the predicted values from it are used as regressors in the outcome equation. Thus,

$$(9) \quad nh_i = \delta_0 + \delta_1(x_i) + \delta_2(z_i) + v_i$$

$$(10) \quad y_i = \alpha_1 + \alpha_2(x_i) + \alpha_3(nh_i) + e_i$$

where x_i is a vector of exogenous family background variables, z_i is a variable that is correlated with neighborhood choice nh_i, and y_i is the outcome variable of interest.

In practice it is difficult to find a variable z_i that is correlated with nh_i but not with the disturbance term e_i. In order to test a structural model I will utilize as an instrument whether the family lives in public housing. About 10 percent of the males in the sample and 9.4 percent of the females live in public housing. Families seek public housing in order to obtain better, larger and less expensive housing accommodations than they can

on the private market. Often, however, public housing is located in the older, ghettoized areas of the city. About 47 percent of New York's public housing is located in ghetto neighborhoods compared to only 17 percent of the private housing. Thus, families may face a trade-off between the better housing accommodations they can obtain for their expenditure in public housing and the quality of the neighborhood they can achieve elsewhere. However, given their incomes and race, they might not be able to afford a higher neighborhood quality on the private market in any case. Consequently, there is no *a priori* reason to expect residence in public housing to be correlated with educational outcomes of the children, independent of the other background variables in the regression. This is reinforced by data on the waiting list for public housing apartments in the city, which presently numbers over 330,000 households. Added to the 175,000 who already live in public housing, nearly half of the city's income eligible population has obtained or is seeking publicly-owned apartments. That tends to support the premise that there is no unobservable characteristic that distinguishes public housing families from others with similar observable characteristics that might be correlated with the educational outcomes of their children.

Statistical tests of a public housing variable, PUBHSG, support the analytical argument. When the variable is inserted as a regressor in a high school completion probit in lieu of the four neighborhood variables, its coefficient is small and the t-statistic on it is non-significant (.93 for males and .10 for females, respectively). Other researchers have found public housing residence to be unrelated to educational outcomes as well (Newman and Harkness, 2000). It is, however, a highly significant predictor of residence in a ghetto neighborhood.

Using the PUBHSG variable as an instrument in a linear probability equation, residence in a ghetto neighborhood was predicted for the males and females in the sample. Observations with probabilities of ghetto residence greater than .5 were assigned to the ghetto, which produced a proportion approximately equal to the observed proportion. The ghetto indicator was then used as a regressor in high school completion probits along with the other family and housing variables. The neighborhood characteristic variables were not used since the GHETTO variable proxies for them.

Table II.5 compares the estimated marginal effects in models with and without instrumentation. Standard errors or t-statistics are not presented since we are not interested in drawing inferences about their significance. Rather, we are interested primarily in seeing whether the magnitudes of the coefficients change radically when neighborhood is treated as an endogenous variable. As an be easily seen, the estimated marginal effects are remarkably similar in the two cases, for both males and females. Moreover, the marginal effect of ghetto residence is estimated to be relatively modest in all four models.

If the unobservable characteristics of ghetto parents are less favorable to their children's chances of completing high school than the characteristics of other parents, we would expect structural estimation to diminish (or to turn positive) the coefficients on the GHETTO variable. If they are more favorable, we would expect to see the coefficient on the neighborhood variable to become more negative. In fact, neither happened. For males, the negligible and positive coefficient on GHETTO reversed sign but remained trivial in magnitude when a structural model was estimated, while for females the negative coefficient became smaller and not statistically significant from zero. The

Table II.5

Comparison of Marginal Effects

Probit Models With and Without IV Estimation

	Males		Females	
	Without	With	Without	With
High School Completion	IV	IV	IV	IV
ghetto	0.0120	-0.0167	-0.0359	-0.0062
earndinc	0.0014	0.0014	-0.0001	-0.0001
headhs	0.1565	0.1560	0.0672	0.0672
headba	0.1666	0.1658	0.0943	0.0957
headwel	-0.0623	-0.0524	-0.1263	-0.1295
2parents	0.1044	0.1004	0.0860	0.0880
npers	-0.0325	-0.0321	-0.0047	-0.0052
black	-0.0912	-0.0834	-0.0515	-0.0601
prican	-0.0988	-0.0957	-0.0424	-0.0512
othhsp	-0.0592	-0.0567	-0.0471	-0.0573
asian	-0.0281	-0.0269	-0.0671	-0.0650
age	0.0592	0.0595	0.0381	0.0383
owner	0.0956	0.0926	0.0385	0.0425
badhsg	-0.0361	-0.0293	-0.0366	-0.0387
crowded	-0.0260	-0.0288	-0.0501	-0.0485
hsmove	0.0006	-0.0032	-0.0711	-0.0691

results reinforce the previous conclusion of no neighborhood effects on high school completion.

There is one obvious economic interpretation of the instrumental variables results: poor black and Hispanic families do not live in the city's ghettos by choice. In 1999 the mean apartment rent in ghetto neighborhoods was $518 compared to $783 in non-ghetto areas of the city. Since 62 percent of ghetto households earned less than $25,000 in 1998, compared to 35 percent of non-ghetto households, the $165 differential in apartment rents provides a strong economic incentive to live within the ghetto. Racial discrimination in housing may also limit their residential choices, especially if they are poor. On a larger scale, moreover, they cannot escape the ghetto collectively because, as they do, it is recreated in new areas. As poor minorities move into "better" neighborhoods, there is a tendency for higher-income whites and, increasingly, higher-income minorities to move out. Falling rents and deteriorating housing conditions then allow additional poor families to enter. That is the process of "ghetto expansion" that has been repeated many times in New York and elsewhere.

Conclusion

The analysis presented in this chapter indicates that little of ghetto underemployment results from neighborhood effects on educational attainment. The only neighborhood characteristics that appear to affect the educational attainment of youths are the proportion of neighborhood adults who have graduated high school and who have graduated college. Even then, the effect is slight and limited to females.

The analysis indicates, however, a surprisingly strong association between living conditions and educational attainment. The homeownership status of parents is associated with significantly higher rates of high school graduation and college attendance among young people of either gender. Substandard housing appears to affect the educational attainment of both boys and girls, while overcrowding effects girls more than boys. Young women also seem to be more adversely affected by a residence change during adolescence.

It might be suspected that while high school completion, conditional on family background, appears unaffected by ghetto conditions, the quality of the education received is lower than that obtained in non-ghetto areas. That unobservable aspect of educational attainment may, in turn, affect the employment prospects of ghetto youths. The preceding analysis, however, provides some indirect evidence in answer to that argument. High school graduates who live in ghetto neighborhoods appear to be no less likely to attend college, given their family backgrounds, than their counterparts elsewhere. That suggests that their high school diplomas do not represent fundamentally different academic achievements.

Chapter III:

The Employment Effects of The Ghetto:

Spatial Distance or Social Distance?

In the previous two chapters evidence was presented that residential sorting into the ghetto is very gradual and that there are no substantial neighborhood effects on educational outcomes. Those findings suggest that the persistence of an employment gap in ghetto neighborhoods—a degree of underemployment disproportionate to the residents' background characteristics—is generated by processes that work directly through the labor market. Ascertaining whether such labor market disadvantages exist and what they are is the objective of this chapter.

There are two inter-related theories that bear directly on the question of ghetto underemployment. The dominant theory of urban poverty today is the spatial mismatch hypothesis (SMH), which argues that job decentralization combined with racial discrimination in housing markets has constrained the job prospects of inner-city minorities. As was noted in Chapter I, the geographic underpinnings of the theory enable it to address the spatial concentration of underemployment in a manner that more general theories of urban poverty cannot. The spatial mismatch hypothesis emphasizes the obstacle of physical distance between inner city populations and job opportunities.

Two economic arguments have been advanced to explain how spatial constraints might affect black employment levels (or those of other low-income groups). One is that the longer commutes required if near-to-work residential options are closed affect the

value of the wage net of commuting costs, thereby raising the nominal reservation wage for groups experiencing housing discrimination. That effect implies that the marginal black worker will have higher reservation wages and longer commute times or expenses that the marginal white worker. The second argument is based on the assumption that information about employment opportunities decays with distance. In its most obvious sense, it observes that local residents are first to see a "help wanted" sign in an establishment's window. A more sophisticated version argues that job information passes through complex networks of family, friends and neighbors that are likely to be spatially correlated with the point of the information's origin (Ihlanfeldt, 1997).

The theory of ghetto unemployment was substantially extended by William Julius Wilson in *The Truly Disadvantaged* (Wilson 1987). Wilson accepted the general premise of the SMH but emphasized the social conditions that have come to characterize urban ghettos in the wake of deindustrialization. In his model, the social isolation of ghetto residents from labor markets and other mainstream institutions is a greater barrier to their economic success than is physical distance. Because ghetto youths are not embedded in a social milieu where parents, neighbors and relatives are stably employed, they fail to develop the disciplined habits required for steady employment. In Wilson's view, work is not simply a means of economic support, but a framework for daily behavior because of the disciplines and responsibilities it imposes. Sporadic employment impairs the ability to organize daily life around concrete expectations and reduces the belief that specific economic goals can be achieved through purposeful action (Wilson, 1991). The "weak labor force attachment" that characterizes ghetto youths also makes them more

disposed to seek opportunities in the illegal economy, which further weakens their attachment to legitimate labor market activities.

The major difference between the two theories is that the spatial mismatch hypothesis emphasizes the geographic distance between ghetto residents and job opportunities while Wilson's theory of social isolation emphasizes the social distance between them. They share an important common component in that both maintain that ghetto residents receive sparse information about job opportunities. But in the former case that is because information must travel a longer physical distance through social networks and in the latter because the networks for sharing such information are not sufficiently dense. The distinction provides an opportunity to test for the relative importance of geographic and social isolation in sustaining ghetto poverty.

Previous Research on Spatial Mismatch

In recent years there has been an extraordinary amount of research on the spatial mismatch hypothesis. In fact, the volume has increased so dramatically that there is a growing number of published surveys of the literature (Jencks and Meyer, 1990; Kain, 1992; Holzer, 1994; Ihlanfeldt and Sjoquist, 1998). Rather than repeat the full chronology of research findings, only the most significant will be discussed with an eye toward how particular research issues were addressed.

One of the earliest and widely cited empirical studies of the SMH was conducted by Daniel Ellwood as part of the NBER's study of the black youth employment dilemma (Ellwood, 1986). Ellwood studied differences in white and black youth employment rates in Chicago using three different strategies. In one test, he regressed the census tract

employment rates of 16- to 21-year-old white and black youths on the mean characteristics of white and black families in the tract, on the racial composition of the tract, and on measures of job access. He tested several different measures of job access, including the per capita number of jobs in the planning zone (Chicago is divided into 116 planning zones for administrative purposes), the number of jobs within a 30-minute commute of the zone, and the average journey-to-work time for people residing in the zone. The job access measures were found to have only trivial impacts on employment rates and their addition to estimating equations did not substantially alter the coefficient on the racial composition of the zone. He then substituted zone dummy variables for the job access measures and found that the coefficient on "percent black" increased, which he interpreted to mean that intrazonal racial differences in employment are larger than interzonal differences.

Ellwood's third test was to compare the employment rates of black youths in Chicago's South Side ghetto with those living on the West Side, where there is a second large concentration of black households that is more favorably situated to job opportunities. He found little difference in the employment rates of black males in the two ghetto neighborhoods and a black-white employment gap that was as large as for the city as a whole. His findings led Ellwood to conclude that spatial mismatch is not the cause of the employment rate gap between black and white youths.

Leonard (1986) conducted a similar study of Los Angeles and Orange Counties, also using census tract data. His dependent variable was the employment rate of the tract and his measure of job access was the number of jobs within a 15-minute commute of the

tract divided by the number of workers. He concluded that job access has only a small positive effect on the employment rate of teenagers and none on adults.

Using census microdata for Philadelphia, Ihlanfeldt and Sjoquist (1990) produced one of the earliest studies directly supporting spatial mismatch. Dividing the Philadelphia metropolitan area into 26 PUMS zones, they estimated equations for four different groups: 16-19-year-olds living at home and enrolled in school; 16-19-year-olds living at home, not enrolled in school; 20-24-year-olds living at home, not enrolled or graduated from college; and 20-24-year-olds not living at home. Using individuals who still lived with their parents allowed them to include in their model various family background characteristics and minimized the endogeneity of residential choice problem. Individuals who form their own households base their housing choices in part on where they work, so estimated relationships between residential location and employment probability may be biased.

Ihlanfeldt and Sjoquist tested several measures of job access based on mean travel times, presenting results for equations using the mean travel time of youth in low-wage jobs and of all low-wage workers in the zone. They found that a one standard deviation change in mean travel times for whites (2.2 minutes) reduced job probability by 3.8 to 5.1 percent. For blacks, a one standard deviation change (3.7 minutes) was associated with a 4.0 to 6.3 percentage point decrease in employment probability. Using an Oaxaca decomposition, they estimated that from 29 to 54 percent of the employment gap between black and white youths was attributable to unequal job access. When they repeated their analysis for Los Angeles and Chicago, they obtained similar results for blacks but much weaker coefficients for whites.

Stephan Raphael conducted one of the more thorough and interesting of the city-specific mismatch studies (1998). Using census PUMS microdata for 1990, he compared the employment probabilities of white, black, Hispanic and Asian youths in two areas of Oakland, California. An important innovation was that he used net job growth between 1980 and 1990 as his job access measure, rather than total employment. Raphael argued that job growth more accurately captures the labor market opportunities young workers face. During the relevant period, his downtown study area was characterized by a high geographic concentration of jobs but by negative employment growth. The Route 680 corridor, in contrast, is a suburban area that saw the number of jobs nearly double in the ten years.

Raphael based his analysis solely on at-home youths ages 16 to 21 who had no post-secondary degrees. His decision to use only youths still living with their parents was taken to avoid the issue of residential choice. He did not, however, provide an analysis of the youths not living at home to facilitate judgments about the biases inherent in his sample selection. Also, he did not run separate regressions for males and females, opting for a dummy variable indicating gender, but did present separate probit results for whites, blacks and Hispanics.

Controlling for family background and race, he found the marginal effect of residence in the 680 corridor to be 11 percentage points. The locational variable explained a large portion of the overall white-black and white-Hispanic employment gap in his sample. However, the race-specific regressions showed that white youths benefited much more than the others from suburban residence; the marginal effect of a "680" location for blacks was about 6 percentage points. To explore that result further, he

constructed more detailed job access measures from regional traffic analysis zones, finding that even within the suburban area, white youths had much better proximity to job growth opportunities than did black youths. He concluded that job access, as implied by the SMH, is an important cause of racial disparities in youth employment, but that the suburbanization of minority populations would not automatically equalize the differences.

The conclusions of Raphael's study were supported by a similar analysis of the Washington D.C. area by Michael Stoll (1999). Stoll used PUMS data for the Capitol and for two neighboring suburban counties, Prince Georges and Montgomery, Maryland. The extensive suburbanization of African Americans in that metropolitan area, he argued, made it a good subject for a natural experiment. As did several previous studies, Stoll's used data on at-home youths only, ages 16 to 21. Using an Oaxaca decomposition, which involves estimating the employment equation parameters and then simulating the outcome that would result if blacks had the same spatial access to job growth as whites, he estimated that blacks' employment rate would rise by 9 percentage points. White youths' locational advantage accounted for about 69 percent of the black-white employment gap. He also found, however, that suburban blacks did not benefit as much as whites from job growth and attributed the differential to employment discrimination.

Not all of the recent research is so supportive of the SMH. Cohen and Fossett (1996) used special Census Urban Transportation Planning Packages (UTPP) for Boston and Houston to estimate job access for black and white youths and adults. The UTPP data allowed them to map the number of jobs according to nine occupational categories by census tract and to relate them to the location of white and black residents of the cities.

In order to estimate the feasible job search radius, the 90th percentile of commuting distance for actual job holders was used. The radii were estimated from the center of each census tract for automobile commuting and four other means of transit, and weighted by the proportion of white and black households who had access to cars.

Cohen and Fossett estimated that the average black in both cities actually has better job access than the average white, even when only low-skill or entry-level jobs were counted. They estimated that average black adult in Boston had access to about 70,000 more entry-level jobs than the average white, and in Houston about 32,000 more. Adjusting for the fact that youths less often have automobile access, they found that the job access advantage of blacks actually increased. Depending on the mode of alternate transit used, black youths in Boston had access to 68,000 to 98,000 more jobs than white youths, and in Houston, from 31,000 to 44,000 more. Their access measures were based on the total stock of jobs, however, rather than job growth.

As this brief review of the literature demonstrates, more than 30 years after Kain's original paper the issues he raised are still far from settled. While it remains plausible that the decentralization of the urban job base contributed to the employment problems of urbanized minorities, the power of the spatial mismatch hypothesis to explain ghetto unemployment across a spectrum of cities with differing spatial configurations is still open to question.

Previous Research on Social Isolation

The concept of social isolation is an old one in sociology, dating from the pioneering work of Robert E. Park and Ernest Burgess (1921). For Park and Burgess, the essential

characteristic of isolation is the "exclusion from communication." They considered geographical forms of isolation sociologically significant insofar as they prevent communication, but argued that cultural differences between groups could present barriers as real as those of physical space. When individuals of the same race or class live together in segregated neighborhoods, physical and cultural distances can reinforce one another and "neighborhood sentiment tends to fuse together with racial antagonisms and class interests" to produce socially isolated communities. Beginning in the 1950s sociologists began producing empirical research documenting the degree of social distance between members of different races, social classes and occupations. Important studies of social distance between whites and blacks were conducted by Bogardus (1958) and Westie (1952), between occupational classes (Laumann, 1965; Laumann and Guttman, 1966), and on the implications of social distance for social mobility (Beshers and Laumann 1967).

Wilson applied these notions of social isolation to explain the weak labor force attachment of the underclass in contemporary urban ghettos. He defined social isolation as "the lack of contact or of sustained interaction with the individuals or institutions that represent mainstream society." That lack of sustained contact can contribute to underemployment in a variety of ways: by impairing the informal job information networks that are a principal channel for the recruitment of entry-level and low-skilled workers; by the absence of role models who demonstrate the habits and mannerisms necessary for success in the labor market; by undermining the confidence that stable employment can be achieved through responsible behavior; and by creating peer pressures to engage in non-market or illegal activities.

That many ghetto residents lack sustained contact with mainstream institutions is true, in part, by definition. If they are jobless or have dropped out of school, their contact with important social institutions is obviously reduced. Only one recent study has, however, evaluated the degree to which the social milieu of the ghetto is deficient in interactions with people who are involved with mainstream institutions. Roberto Fernandez and David Harris (1992) used data from the Urban Family Life Survey to study the social isolation of residents of Chicago's ghetto neighborhoods and to compare them to other areas of the city. The survey, which sampled persons in neighborhoods with 20 percent poverty rates or greater, asked respondents a number of questions about their employment status and income, participation in local organizations, and networks of family and friends.

Fernandez and Harris categorized their sample into the nonworking poor, working poor and non-poor, with poor defined at 125 percent of the federal poverty threshold. They categorized as high-poverty areas those with more than 40 percent of their households below that poverty line. At the risk of oversimplifying their analysis, they found that nonworking poor black men did not have less extensive friendship networks than other categories of black men, but that black women did. The composition of those networks differed for both sexes, however. They found that the nonworking poor tend to have fewer employed and highly-educated friends and to have more friends on public assistance than either the working poor or the non-poor. Among non-working poor black men who had at least one friend, 22 percent said that none of their friends were employed. Over one-third of non-working poor black women said that none of their friends were employed, and 28 percent said that their friendship networks were composed

entirely of people on public assistance. Moreover, nearly 20 percent of the poor said that they had no friends at all.

Their findings by neighborhood type paralleled those by class. Black men in high poverty areas did not generally have less extensive social networks than black men elsewhere, but poor black women were found to be more socially isolated and more dependent on kinship networks as a means of social support. Interestingly, poor black men in poor areas tended to rely less than others on kin, rather maintaining a wide but weak network of social ties. While the number of "mainstream" social contacts fell for both sexes as the poverty rate of the neighborhood increased, using spline regressions Fernandez and Harris did not detect significant non-linearities in the social relationships. In other words, poor neighborhoods were not found to affect the social networks of the nonworking poor differently than they did those of other classes.

While the work of Fernandez and Harris served to document how social networks change with class and neighborhood, they did not attempt to relate the greater isolation of ghetto residents to specific outcomes such as joblessness. Several other studies, however, have sought do that.

Katherine M. O'Regan and John Quigley (1996b) used 1980 and 1990 Census data to evaluate the effects of social isolation on teenage employment. They used a standard exposure index, calculated as

$$(1)\quad E_{ij} = \Sigma \left(n_{it}/N_i \right)\left(n_{jt}/N_t \right),$$

where E_{ij} is the exposure of the ith group to members of group j, n_{it} and n_{jt} are the number of group i and j people in tract t, N_i is the total number of group i people in the MSA, and N_t is the total number of people in tract t. Using generalized least squares, they then estimated the effect of exposure to whites and exposure to poor households on the employment probabilities of white, black and Hispanic at-home teenagers in 200 metropolitan areas. The coefficients for all twelve "social access" variables (two exposure indexes, three races, two Census periods) were in the expected direction and highly significant. They then calculated the effect on black and Hispanic youth employment if access to white households and poor households were evenly distributed, and determined that black teen employment rates would increase by 14 to 15 percentage points and Hispanic rates by 5 to 7 percentage points.

In a related study O'Regan and Quigley (1996a) analyzed the social networks of youth directly. Using 1980 Census PUMS data for 47 metropolitan areas, they studied the effects of employed parents and siblings on the employment probabilities of at-home youths aged 16 to 19. Their family control variables included the employment status and education of the head parent, family income and whether the household was female-headed. Local labor market variables included central city residence, region and the MSA unemployment rate. Their basic model utilized a large sample of 55,411 observations; a subsample of households with working-age siblings included 32,124 observations.

Overall, they found that if a youth lives in a household with a working parent, he or she is 5.9 percentage points more likely to be working as well. The probability of working was also found to be greater if siblings were working. Moreover, their large

sample allowed them to identify individually the effects of working fathers and mothers on male and female youths of different races. They found that the presence of either a working father or mother has a larger effect on the employment probability of females, while only the employment of white males is significantly associated with a mother's employment status. Black and Hispanic males are relatively unaffected by the employment status of a mother but the effect of a working father is greater for them than for whites. This finding is particularly important in that 34 percent of Hispanic youths and 51 percent of black youths have no working father present in the home, compared to only 21 percent of white youths.

O'Regan and Quigley interpreted these findings to be the result of better information on job opportunities for youths with employed family members, and that family members of the same sex were more likely to have relevant job information than family members of the opposite sex. They hypothesized that family members, especially parents, would be the first source of job information a youth would exploit, and that parents' employment status also proxies for the job density of their broader social network. They conceded, however, that the findings could also be interpreted to reveal a "taste for work" that was related to family unobservables. As a further test of the job information hypothesis they evaluated the probabilities of a youth working within the same industry (trade, manufacturing, business and related services, and professional services) as a parent, controlling for that sector's share of the local job base. Their results were very similar to those of the basic employment models: logit estimates revealed that youths were more likely to be employed in the sector in which a parent was. Furthermore, the employment probabilities were in all cases greater for a parent of the

same sex than for a parent of the opposite sex. The authors took these findings to strongly suggest that it was primarily job information, not family unobservables, that accounted for the employment differences.

A similar finding was obtained by Stephan Raphael in his study of spatial mismatch in Oakland. Among the family background variables Raphael included was a measure of the number of other workers in the youths' households. The variable was highly significant and, in fact, estimated to have a larger marginal effect than the spatial variable for black and Hispanic youths.

Establishing that neighborhood variables have an impact on employment or earnings has been more difficult, and there have been relatively few studies which explored the issue. The most thorough of them was Corcoran, Gordon, Laren and Solon (CGLS, 1992), which used the PSID to study the effects of family and community origins on men's economic status. Although they did not study employment probabilities per see, annual hours worked was one of their outcome measures. CGLS studied male heads of households who were between 25 and 32 years olds in 1983 and whose families had been in the original survey in 1968. Although the sample size was limited to a little more than 600 because of those criteria, the researchers were able to reconstruct fairly detailed data on the men's family histories. Among the family background variables found to be most significant were family welfare receipt and the proportion of years the family was below a poverty-related needs standard. Neither the father's nor mother's education were determined to be significant.

CGLS evaluated four socioeconomic characteristics of the men's neighborhood of origin: median family income, male unemployment rate, percentage of families female-

headed with children, and percentage of families receiving public assistance. The most important of them was determined to be the public assistance rate. The authors found that a high neighborhood rate affects men's economic status much as their own family's welfare receipt does. Although the other community variables generally showed negligible associations with men's outcome variables, an exception was that the male unemployment rate was negatively associated with the men's hours of work. CGLS, however, did not account for whether the men had remained in their community of origins, so it is unclear whether the area unemployment effect was related to past conditions that shaped their attitudes towards work or reflected the persistence of high employment rates in areas in which the men lived as adults.

Finally, it is interesting to note that some of the most revealing research on social isolation has come not from the fields of economics or sociology but from linguistics. For example, William Labov has documented the steady divergence of black vernacular from Standard American English, in vocabulary, pronunciation and other features of common speech (Labov 1972; Labov and Harris 1986). At the same time, black vernacular has grown more similar across regions of the country, especially in large urban areas. Labov attributes this divergence to the high levels of racial segregation that have come to characterize American cities. His findings are economically significant in several respects. First, they reflect the degree to which ghetto residents have become socially isolated from "mainstream institutions and the people who represent them." Secondly, the recent research on employment discrimination emphasizes the value employers place on soft skills, one of the foremost being speaking facility. To the degree

that ghetto job seekers speak in a dialect different than prospective employers, co-workers and clients, their chances of being hired may be impaired.

Sample Selection and Research Strategy

As the preceding literature review demonstrates, most of the research in this field has utilized data from the PSID or Census PUMS files. The PSID has the advantage of being longitudinal, so many potential sample selection biases are eliminated. The shortcomings of the PSID are its relatively small sample size and its national scope, characteristics which make it unsuitable for analyzing how employment outcomes are affected by a particular city's spatial configuration. Use of Census data, on the other hand, permits much greater geographic specificity but raises more serious sample selection issues. Most previous research has used subsamples of youths still living with their parents in order to incorporate family background data and to minimize the problem of neighborhood endogeneity. For the most part, the researchers have ignored the potential sample selection biases that are created by excluding youths who are no longer living with their parents (a notable exception is the paper by Jonathan Crane, discussed in Chapter II).

The Housing and Vacancy data utilized in this study is similar in character to Census PUMS data and its use raises many of the same research issues. Whereas in the previous chapter we only utilized data on at-home youths because of the importance of family influences on educational outcomes, in investigating employment outcomes the strategy will be somewhat different. The analysis will focus on all youths ages 18 to 22, regardless of whether they still live with their parents. Several considerations factor into

this sample selection strategy. First, it will be demonstrated that parental characteristics play a much smaller or even a negligible role in determining youths' employment outcomes. Second, it will be argued that the potential biases introduced by excluding on-own youths outweigh the potential biases introduced by the endogeneity of neighborhood choice.

For the following employment analysis information on 2,408 males and 2,502 females aged 18-22 was extracted from the 1991, 1993 and 1996 HVS. As in the previous chapter, the observations were selected so that no individual would be included in the sample more than once. Age 18 is used as the lower limit because many youths leave school before that age and it is important that their labor market outcomes are included in the analysis. Beyond age 22, the proportion of them still living with their parents drops rapidly, and those who have formed their own households have had additional time to migrate far from their original neighborhoods. For example, among the sample of males, 83.5 percent of 18-year-olds lived with their parents, compared to 58.6 percent of 22-year-olds. For females, the corresponding proportions are 80.5 percent and 48.2 percent, respectively. Since the sample is weighted toward the younger ages, 72 percent of the combined total still lived with their parents at the time of the survey.

There are, however, significant differences in living arrangements and employment status by type of neighborhood. In non-ghetto neighborhoods, 75.5 percent of the males and 71.4 percent of the females were still living in their parents' home. In ghetto neighborhoods, 74.1 percent of the males, but only 63.9 percent of the females, were still living at home. The large differential in living arrangements among young

females inside and outside the ghetto is primarily a result of different childbearing rates. Unfortunately, from the HVS data it is impossible to identify precisely which young people are parents; proportions can only be inferred from the composition of the households in which they live. For instance, 450 of the sample females are identified as the head of household, or as the spouse, partner or roommate of the head of household. Of those, about 46 percent live in a household with young children — presumably their own. Young children are present within 37 percent of such households outside of the ghetto but in 61 percent of the those in ghetto neighborhoods. That accounts for virtually all of the gap in the proportion of young females living with their parents in ghetto and non-ghetto neighborhoods. Because of the difficulty of accurately identifying all of the women who have children, however, we will not model the childbearing decision directly. Rather, it will be treated as one of the alternatives females choose in favor of work or school.

Another important source of potential sample-selection bias are differences in employment rates between at-home and on-own youths. In the overall sample of males, 51 percent of those living on their own or with persons other than their parents were employed, compared to only 25 percent of those still living at home. For females, the rates are 53 percent and 25 percent. There are two main explanations for that difference. First, it can be expected that those who are employed are financially more able to afford their own housing accommodations and so are less likely to remain with their parents. Thus, living arrangements are endogenous to the employment equation and sample selection on that basis can seriously bias parameter estimates.

The other important factor is that those who are attending college are more likely to stay with their parents, especially if they are attending a school at which they live in a dormitory or other temporary residence during the school year. From HVS data, we can identify youths who are not working because they are in school, but cannot with accuracy identify those who are both in school and employed. Nevertheless, the proportion who are defined as in school by that criteria is sizeable—nearly half of the entire sample. The rates differ significantly by living arrangement, with 51 percent of at-home males and 53 percent of at-home females reporting that they are not working because they are in school. By comparison, only 27 percent of males living on their own or with others, and 25 percent of females, are defined as in school. Table III.1 summarizes these sample characteristics.

In general, the following analysis of youth employment excludes youths who are reported to be out of the labor force because they are in school, which reduces the overall sample size by about 45 percent. Some attention will be given, however, to the determinants of youth "activity," which is defined to mean that they are either employed or in school or both.

The large differences in employment rates between at-home and on-own youths implies that the sample selection biases introduced by excluding those no longer living with their parents would be serious. However, if they are included in the sample, the issue of neighborhood endogeneity arises. In Chapter I, we saw that the process of residential sorting by income or labor force status is gradual at best. That suggests that youths who leave home usually remain relatively "close to the nest," or at least in a neighborhood that bears many of the same characteristics as their neighborhood of origin.

Table III.1

Involvement of Sample Youths in Work and School

At-Home Boys			**On-Own Boys**		
Employed	Number	Percent	Employed	Number	Percent
No	1307	75.4	No	287	48.8
Yes	426	24.6	Yes	301	51.2
Total	1733	100.0	Total	588	100.0
At-Home Girls			**On-Own Girls**		
Employed	Number	Percent	Employed	Number	Percent
No	1284	76.3	No	510	67.8
Yes	400	23.8	Yes	242	32.2
Total	1684	100.0	Total	752	100.0
At-Home Boys			**On-Own Boys**		
In School	Number	Percent	In School	Number	Percent
No	881	48.7	No	440	73.3
Yes	927	51.3	Yes	160	26.7
Total	1684	100.0	Total	600	100.0
At-Home Girls			**On-Own Girls**		
In School	Number	Percent	In School	Number	Percent
No	822	47.5	No	579	75.1
Yes	909	52.5	Yes	192	24.9
Total	1731	100.0	Total	771	100.0

However, the HVS provides some detail on the place of previous residence that can help to mitigate against endogeneity bias.

Each respondent to the HVS is asked the location of the last place they lived for six months prior to their current residence. The answers are coded with some degree of geographic detail if the household previously lived abroad but more relevant for our purposes are the within-city codes. Three of them are "always lived in this dwelling unit," "same building but different unit," and "same borough but different building." Any respondent who gave such answers certainly lived within the same borough and may have lived within the same neighborhood. Any respondent who gave another answer could not have last lived in the same neighborhood. Approximately 73 percent of the sample males and 70 percent of the sample females who were no longer living with their parents last lived within the same borough. Because these are young people who are unlikely to have made many residential moves, we can assume that, for the most part, the answers represent their family-of-origin's location. Consequently, we can minimize the endogeneity bias by excluding from the sample all of those on-own youths whose previous residence was not in the same borough as their current dwelling.

Results of Model Estimation

The purpose of this chapter is to analyze how ghetto neighborhoods impact the employment status of New York City youths. We are interested, in particular, in testing the spatial and social distance explanations for ghetto joblessness within the context of

the same statistical model. In order to estimate the importance of the various factors, we will utilize a statistical model of the following form:

$$(2) \quad LFS_{ij} = \alpha + \beta_1(Z_i) + \beta_2(X_i) + \beta_3(L_j) + \beta_4(G_j) + e,$$

Where LFS_{ij} is the labor force status of the *i*th individual in the *j*th community. Z_i is a vector of the individual's family background characteristics, such as family structure and level of education of the household head, and X_i is a vector of the individual's own characteristics, such as level of education and race. L_j and G_j are locational and social characteristics of the community in which *i* lives, respectively, which may alter the base probability of the individual being employed, and *e* is an error term.

Table III.2 presents a basic employment model for at-home males and females. Youths who are out of the labor force because they are attending school are excluded from the sample. Family background variables are included, as is an indicator of ghetto residence, which for the time being will proxy for all the locational and social characteristics of their neighborhood of residence. Dummy variables for 1993 and 1996 are included to take into account the city's general economic cycle during the period.

Several results from this basic probit model are worth noting. Among the personal characteristics, age and education are important in determining the employment probability of both males and females, although it appears that females benefit more, or at least more immediately, from higher education. The only race/ethnicity variable that is significant is the negative coefficient for black females.

Table III.2

Influences on Employment Status

At-Home Males and Females in NYC, Aged 18 to 22

	Males		Females	
Log Likelihood:		-434.598		-365.402
Number of Observations:		750		709
Atwork	**dF/dx**	**t-stat**	**dF/dx**	**t-stat**
individual variables:				
hs	0.16284	3.20	0.27029	4.75
somecol	0.04915	0.95	0.05445	1.05
ba	0.04414	0.31	0.31687	2.59
age	0.04640	2.42	0.04586	2.27
black	-0.06139	-1.06	-0.19942	-3.36
prican	-0.01675	-0.25	-0.00931	-0.13
othhsp	0.07918	1.24	-0.01620	-0.23
asian	-0.08413	-0.95	0.08505	0.79
family variables:				
headhs	-0.05745	-1.18	-0.05748	-1.10
headba	-0.01921	-0.28	-0.12059	-1.57
parents	0.02385	0.50	-0.00025	-0.01
owner	0.04165	0.84	0.08832	1.66
headwel	-0.05194	-0.84	-0.18112	-2.82
earndinc	0.00012	0.22	0.00118	1.64
wrkrs	0.11828	4.94	0.11054	4.36
community variables:				
ghetto	-0.12793	-2.55	-0.02882	-0.53
year93	-0.14683	-2.51	-0.11877	-1.86
year96	-0.04549	-0.86	0.16059	2.82

The model shows a substantial difference in the marginal effects of family variables on the employment probabilities of males and females. None of the family variables except the number of other employed members of the household are significant for males, which is consistent with other research that has found large effects of family background on the education of males but little on their subsequent employment and earnings. However, several other family variables, including homeownership, welfare receipt by the head of household, and family earned income are significant for females. At the same time, the indicator for ghetto residence is highly significant for males but not for females. This pattern corresponds roughly to the findings of Fernandez and Harris who, it will be recalled, found that low-income women in Chicago were much more reliant on family networks for social support, whereas men maintained broader but weaker social ties. Among New York City youths as well, males appear to be more affected by community factors while women are more affected by family factors.

The probit models presented in Table III.3 substitute a set of community location variables for the ghetto dummy variable. The family variables are dropped in order to utilize the full samples which include youths no longer living with their parents.

Borough identifiers are included to proxy both for local job availability in the five counties of New York City as well as for the particular aspects of their transportation infrastructure, which is extraordinarily complex because of the city's coastal geography and extensive mass transit system. Manhattan is the omitted borough. The variable SBABUS is included to better capture the more localized aspects of job availability. The variable represents the percentage of zoning lots in the sub-borough area that are engaged in commercial or industrial activities. If a youth lives in a sub-borough area with a large

Table III.3

Spatial Influences on Employment Status

All Males and Females in New York City, Aged 18 to 22

	Males		Females	
Log Likelihood:	-647.607		-657.539	
Number of Observations:	1058		1144	
Atwork	**dF/dx**	**t-stat**	**dF/dx**	**t-stat**
individual variables:				
hs	0.15095	3.94	0.28900	7.23
somecol	0.08273	1.95	0.10680	2.74
ba	0.05486	0.50	0.44133	5.11
age	0.04583	3.08	0.02957	1.93
black	-0.12565	-2.50	-0.18217	-3.85
prican	-0.07768	-1.39	-0.12780	-2.40
othhsp	0.12731	2.58	-0.02184	-0.42
asian	-0.03925	-0.55	0.03205	0.40
year93	-0.15515	-3.23	-0.12692	-2.53
year96	-0.00004	0.00	0.03815	0.89
spatial varaibles:				
bronx	0.02956	0.41	0.02278	0.31
bkn	0.08877	1.15	0.03919	0.52
queens	0.11142	1.29	0.12696	1.46
SI	0.08237	0.66	0.12055	0.96
tvltime	-0.00111	-0.16	-0.00972	-1.43
border	-0.00869	-0.11	-0.00211	-0.02
sbacars	0.00117	0.62	0.00101	0.55
sbabus	-0.00018	-0.04	-0.00905	-2.20

portion of its area devoted to business uses, the job density will be accordingly higher than in primarily residential communities.

In addition, TVLTIME, a variable representing the mean travel time to work of employed residents of each sub-borough area, is included. This variable was constructed from 1990 Census data for community board districts; in several cases it was necessary to create a weighted average of two districts to reflect their consolidation into sub-borough areas. SBACARS is also constructed from Census data and represents the percentage of sub-borough area households who have access to one or more automobiles. In most similar studies such a variable is intended to capture the probability that a youth has access to automobile transit, even if only for use in job search. In the context of New York City its meaning, and hence its expected effect, is somewhat ambiguous. As in most places, auto ownership is positively related to household income, so youths who reside in more affluent communities may have greater access to automobiles. However, in New York City intra-city travel is greatly facilitated by access to mass transit, especially subway lines, and this may offset the income effect on car ownership.

BORDER is a binary variable that indicates whether the individual lives in one of the five sub-borough areas that border directly on Nassau or Westchester counties. No other sub-borough areas of the city are adjacent to a suburban county without a body of water creating a potential transportation obstacle. If employment opportunities for youths are more plentiful in suburban job markets, those who live in border communities should have a transportation and/or information advantage over their counterparts who live in interior communities.

In the male employment probits none of the spatial variables are statistically significant and most of the coefficients have unexpected signs. The borough variables are all positive, though not significant. This is unexpected because Manhattan, the omitted borough, has a per capita job base that dwarfs the others. Proximity to suburban job markets also has a negative sign, although the magnitude is negligible. Especially surprising is the variable which measures neighborhood job density, which is also negative and nonsignificant. Travel time appears to have no effect.

The model for females is very similar except for one perplexing result. The coefficient on travel time is negative, as expected, and nearly significant at the 10 percent confidence level. Yet, the coefficient on job density, SBABUS, is unexpectedly negative and highly significant. I have no ready explanation for why these two coefficients imply contradictory effects of job proximity.

Since Stephan Raphael's study of spatial mismatch in the Oakland area was published, the literature has emphasized job growth rather than total job density. The top panel of Table III.4 shows total employment in each of the boroughs from the first quarter of 1988 to the first quarter of 1996 and the bottom panel shows employment in wholesale and retail trade and services. Over 70 percent of the employed youths in the sample work in one of those two sectors. The percentage change in borough jobs is also shown. From the table it can be seen that there was substantial job loss between 1988 and 1993, when a regional recession reached its trough. Employment then recovered modestly through 1996. There was some variation in the performance of total employment among boroughs, however, and within the trade and services sectors, which generally did better than the economy as a whole.

Table III.4

Employment and Change in Employment by Borough, 1988-1996

Total Employment	**1988**	**1991**	**1993**	**1996**
Bronx	199,667	197,329	194,394	202,943
Brooklyn	405,692	394,993	401,101	403,426
Manhattan	2,390,076	2,231,115	2,096,085	2,118,113
Queens	449,375	441,957	422,625	437,908
Staten Island	67,640	69,264	69,058	76,018
Total	3,512,450	3,334,658	3,183,263	3,238,408
Wholesale, Retail & Services				
Bronx	121,282	123,077	124,922	133,995
Brooklyn	232,413	234,824	240,367	252,065
Manhattan	1,069,101	998,866	950,325	1,027,050
Queens	223,891	224,358	221,182	236,100
Staten Island	44,808	46,653	47,790	53,285
Total	1,691,495	1,627,778	1,584,586	1,702,495

In order to test whether the employment probabilities of New York City's youth are more sensitive to net job growth than to the total employment level, the model was reestimated using a full set of borough-year dummy variables. Manhattan in 1991 was

Table III.4, Continued

Employment and Change in Employment by Borough, 1988-1996

	Percent Change Between:		
Total Employment	**1988-91**	**1993-91**	**1993-96**
Bronx	-1.2	-0.5	4.4
Brooklyn	-2.6	1.5	0.6
Manhattan	-6.7	-6.1	1.1
Queens	-1.7	-4.4	3.7
Staten Island	2.4	-2.3	10.1
Total	-5.1	-4.5	1.7
Wholesale, Retail & Services			
Bronx	1.5	1.5	7.3
Brooklyn	1.0	2.4	4.9
Manhattan	-6.6	-4.9	8.1
Queens	0.2	-1.4	6.7
Staten Island	4.1	2.4	11.5
Total	-3.8	-2.7	7.4

omitted from the set. The borough-year dummies showed no pattern of consistency with borough job growth trends. For example, in the male equations, eleven of the fourteen dummies displayed a t-statistic between 1 and –1 and only the coefficient on QUEENS96

met conventional tests of statistical significance. That coefficient indicated a 20 percentage point positive difference from Manhattan in 1991. Table III.4, however, indicates that overall job growth in Queens between 1993 and 1996 was outpaced by two of the other boroughs, and in the sectors where youths are most likely to be employed, by three of the other four boroughs. The analysis does not provide evidence that the employment of youth in the five boroughs is significantly related to job growth within their own boroughs. Rather, the dominant effect appears to stem from city-wide labor market conditions.

Likelihood ratio tests of the spatial variables collectively exceed the 1 percent level for the female probit. For men, the test statistic falls short of the 10 percent confidence level, indicating that the spatial variables do not have explanatory power for male employment probabilities.

Table III.5 substitutes a set of social variables for the spatial variables in the previous model. The most significant of them is WRKRS, which represents the number of other employed persons living in the same household as the individual observed. This is similar to the measure of household workers that was used as a family variable in the first model. Here, however, the other workers may or may not be family members since we are including on-own youths in the samples. For youths who still live at home, they usually will represent parents or siblings. For on-own youths, the other workers in the household may be spouses, partners, roommates, or other relatives with whom they are living.

As can be seen from the chart, the presence of other workers in the household has a large effect for both males and females; estimated at the mean of the regressors, the

Table III.5

Social Influences on Employment Status

All Males and Females in New York City, Aged 18 to 22

	Males		Females	
Log Likelihood:		-612.904		-632.599
Number of Observations:		1058		1144
Atwork	**dF/dx**	**t-stat**	**dF/dx**	**t-stat**
individual variables:				
hs	0.13303	3.43	0.28802	7.14
somecol	0.06674	1.55	0.08399	2.12
ba	0.03013	0.27	0.43606	4.95
age	0.05399	3.55	0.03245	2.11
black	-0.08161	-1.46	-0.18140	-3.50
prican	-0.01954	-0.36	-0.10561	-2.00
othhsp	0.06690	1.40	-0.05203	-1.04
asian	-0.07328	-1.02	-0.02284	-0.28
year93	-0.07860	-1.55	-0.09733	-1.89
year96	0.00105	0.02	0.06208	1.41
social variables:				
wrkrs	0.13521	8.23	0.13373	8.04
sba27	0.00254	1.79	0.00176	1.61
sbablack	-0.00056	-0.67	-0.00413	-0.05

effect of another employed person on a youth's employment probability is estimated at 13 percentage points. The variable may be capturing several effects. One possibility is that the other workers may be bringing job information into the household from which the individual benefits. If the other workers are parents, that information may be coupled with more active involvement in the youth's job search and placement, as the research of O'Regan and Quigley suggests. However, auxiliary regressions indicate that the "other worker effect" is also large for males and females no longer living with their parents. Because job information provided by a member of the opposite sex is less likely to be useful than information provided by a member of the same sex (see again the research by O'Regan and Quigley), an employed spouse or partner may be of minimal help in job search. Other explanations may be more plausible. For example, there may be a selection process in choice of spouse, partner or roommate through which people with a similar "taste for work" tend to cohabit more readily. Or, the presence of one working member may impose a structure on household routine that encourages behavior conducive to stable employment among other members of the household. All of the above effects can be considered manifestations of Wilson's general concept of "attachment to the labor force."

A second social variable, designated SBA27 in the male model and FESBA27 in the female, characterizes the employment rate of all men or women aged 23 to 27 in the respective sub-borough area. The variable was calculated for each area, year and gender so there are 310 different values. It is intended to capture the peer group environment of the sampled individuals. It was hypothesized that the employment prospects and/or labor

supply of youths are conditioned by the employment experience of those slightly older than themselves through job information networks, role modeling, or peer pressure. The variable represents the employment experiences of older brothers, sisters or neighbors but does not include the sampled individuals themselves, so there can be no spurious correlation between an individual's outcome and a neighborhood norm that includes that outcome. Variables that similarly characterized the employment rates of 28- to 32-year-olds and of 33- to 37-year-olds in the neighborhood were also tested.

The variable is statistically significant at the 90 percent confidence level for males and nearly so for females. For males, the coefficient indicates that each four percentage point increase in the "older brother" employment rate is associated with a 1 percentage point increase in employment probability among the sample youths. For females, the effect appears slightly smaller. The coefficients on the employment rates of other age groups were not significant. These results appear to indicate that youths are affected more by the employment status of others of similar age than by the general employment rates in their neighborhood.

The final social variable is SBABLACK, a simple measure of racial segregation that records the percentage of all neighborhood residents who are black. A number of other variables intended to capture the social or demographic character of the area were tested. Most of them had non-significant coefficients. Two that were significant were the percentage of households receiving welfare and the percentage of households below $20,000 annual income. The coefficients on both were negative and in some specifications statistically significant. However, they, like those on many of the other variables tested, vanished or reversed sign when the model was run with the GHETTO

binary variable included, indicating that they were merely serving to identify ghetto neighborhoods and had no independent explanatory power. The only social variables that were stable in the presence of the ghetto indicator were WRKRS, SBA27 (or FESBA27), and SBABLACK.

Table III.6 presents the full model estimated for males and females. Relatively little changes from the probits already presented. The travel time variable falls to non-significance for females, as does FESBA27. For men, the coefficient on the SBA27 variable increases slightly and the coefficient on SBABLACK also becomes larger, although it is still not statistically significant by the usual criteria. Likelihood ratio tests show that the social variables are significant at the 1 percent confidence level for both males and females, while the spatial variables are significant collectively only for females. Several different specifications were explored in order to ascertain whether any nonlinearities are associated with the SBA27 and SBABLACK variables. None of the tests detected any significant nonlinear effects.

Subsidiary probit models were also estimated for specific gender/racial groupings. Because the sample sizes are much smaller statistical inference based on the results is hazardous. The results mildly suggest that blacks realize a greater return to higher education than whites and Hispanics. The spatial variables do not change materially, although the TVLTIME variable becomes significantly positive for black males and significantly negative for Hispanic males. The effect of other workers in the household is fairly uniform across different racial groups. The employment status of the next-older age cohort appears to be most strongly associated with the employment probability of black males, but the association appears to hold for white and Hispanic males as well.

Table III.6

Full Model Influences on Employment Status

All Males and Females in New York City, Aged 18 to 22

	Males		Females	
Log Likelihood:		-610.142		-625.516
Number of Observations:		1058		1144
Atwork	**dF/dx**	**t-stat**	**dF/dx**	**t-stat**
individual variables:				
hs	0.13635	3.47	0.29388	7.16
somecol	0.07225	1.67	0.07711	1.92
ba	0.04002	0.36	0.44560	5.06
age	0.05224	3.43	0.03780	2.42
black	-0.07975	-1.39	-0.16690	-3.17
prican	-0.02107	-0.37	-0.08036	-1.46
othhsp	0.06702	1.30	-0.04213	-0.79
asian	-0.07709	-1.03	-0.01279	-0.15
year93	-0.07554	-1.46	-0.09227	-1.78
year96	0.00505	0.12	0.06163	1.39
spatial variables:				
bronx	0.03919	0.53	0.04053	0.52
bkn	0.11550	1.47	0.04289	0.55
queens	0.10892	1.22	0.12016	1.32
SI	0.09448	0.74	0.16475	1.26
tvltime	0.00332	0.44	-0.00671	-0.85
border	0.02414	0.29	-0.01286	-0.13

Table III.6, Continued

Full Model Influences on Employment Status

All Males and Females in New York City, Aged 18 to 22

Atwork	dF/dx	t-stat	dF/dx	t-stat
sbacars	-0.00206	-0.96	-0.00123	-0.50
sbabus	-0.00122	-0.26	-0.00996	-2.25
social variables:				
wrkrs	0.13575	8.03	0.12924	7.68
sba27	0.00286	1.84	0.00139	0.95
sbablack	-0.00119	-1.19	0.00422	0.04

A natural question to ask is whether the estimated effects on employment status carry over to productive activity in general, whether it is directed to occupational or educational pursuits. Relatively few researchers have presented such models. Generally, they have produced, at best, weak results (Raphael, 1998). That may be because the influences on work and education differ sufficiently to offset one another and cause parameter estimates to show little effect in a mixed regression. Also, possible selection biases, which we have already seen argue for different sampling strategies in educational and employment regressions, may cause mixed regressions to have greater biases than either would alone.

With those caveats, a probit model of male and female activity status is presented in Table III.7. "Active" is defined as either being in school, at work, or both. The sample includes only at-home youths, in keeping with the analysis in Chapter II, which

Table III.7

Full Model Influences on Active Status

At-Home Males and Females in New York City, Aged 18 to 22

	Males		Females	
Log Likelihood:	-777.251		-769.613	
Number of Observations:	1704		1610	
Active	**dF/dx**	**t-stat**	**dF/dx**	**t-stat**
individual variables:				
hs	0.10169	4.52	0.08557	3.51
age	-0.03155	-3.42	-0.03253	-3.26
black	-0.03258	-0.95	-0.05554	-1.57
prican	-0.06546	-1.77	-0.02362	-0.62
othhsp	-0.00996	-0.29	-0.00904	-0.25
asian	0.00643	0.16	0.10508	2.46
year93	-0.11054	-3.52	-0.09454	-2.90
year96	0.01666	0.67	-0.00955	-0.35
family variables:				
headhs	-0.02813	-1.20	-0.05662	-2.26
headba	0.04230	1.28	-0.02847	-0.76
erndinc	-0.00044	-1.52	-0.00038	-1.00
parents	0.07269	2.93	0.06403	2.47
npers	-0.01380	-1.94	-0.02866	-4.05
headwel	0.01562	0.55	0.01632	0.55
owner	0.03599	1.36	0.07568	2.81
crowds	0.07142	1.72	-0.01749	-0.39

Table III.7, Continued

Full Model Influences on Active Status

At-Home Males and Females in New York City, Aged 18 to 22

Active	dF/dx	t-stat	dF/dx	t-stat
badhsg	-0.06631	-2.64	0.02570	0.98
hsmove	-0.01148	-0.51	-0.05118	-2.10
spatial variables:				
tvltime	0.00879	2.12	0.00588	1.38
sbacars	-0.00126	-1.49	-0.00185	-1.83
sbabus	0.00497	2.13	-0.00160	-0.67
social variables:				
wrkrs	0.04953	3.97	0.09274	6.74
sba27	0.00090	1.03	-0.00046	-0.48
sbablack	-0.00005	-0.09	-0.04697	-0.84
sbaba	0.01349	0.13	0.00098	0.78

demonstrated the importance of family variables on educational outcomes. To the individual and family variables limited sets of spatial and social variables are added. Only those variables which previous analysis suggested might have an impact on school or work outcomes were included.

As suspected, the models have less explanatory power than either the educational and employment models did separately, and because of the potential sample selection biases, it may be hazardous to attempt to draw precise conclusions from them. For example, the female model shows no significant effect of the head of household's welfare

receipt on the activity status of a young women. However, we have already seen that a parent's welfare status has a large effect on a female's probability of graduating from high school, and that many on-own young women have young children present in their households. Those considerations strongly suggest that sample selection bias is masking a much larger, and negative, effect of parents' welfare receipt on the activity status of their offspring.

Perhaps the most unambiguous conclusion that can be drawn from the activity model is that labor market conditions have a substantial effect on youth activity. The regional recession that reaached its trough in late 1993 clearly had a substantial, negative effect on the level of youth activity.

Conclusion

The preceding analysis of youth employment in New York City provides virtually no support for the spatial mismatch hypothesis. On the other hand, there is some evidence that William Julius Wilson's theory of social isolation operates to exacerbate the employment problems of ghetto youths, especially of males.

Variables that characterize the social isolation of ghetto males from "mainstream institutions and people who represent them" are statistically significant, or nearly so, in the full employment model presented in this chapter. The presence of other employed persons in the household is associated with a large increase in the probability of employment. This finding is consistent with theories that emphasize job information networks, but it may also result from unobservable family characteristics or from the self-selection of persons with similar attitudes towards work into shared living arrangements.

It could also reflect positive spillovers from the employed to other members of a household through role modeling, the encouragement of stable household routines, or the desire to emulate a particular standard of living.

Evidence is also provided that youths are affected by the labor market status of peers or near-peers. The association may arise from job information effects, role modeling, or peer group pressures but the statistical analysis cannot distinguish between them. In any case, each of those explanations is supportive of Wilson's notion that the degree of labor force attachment is an important determinant of employment status.

The evidence that racial or economic segregation also helps to isolate ghetto youths from work is less persuasive. Racially segregated neighborhoods do appear to have a negative employment influence on youths, but the source of the effect cannot be identified. Moreover, that there is an effect at all cannot be concluded with a high degree of statistical confidence.

Chapter IV:

Summary and Conclusions

This study explored the causes of ghetto joblessness in New York City. Its basic conclusions are:

- Poverty has become more concentrated into urban ghettos during the past 30 years and a significant amount of the nation's ghetto poverty is found in New York City;

- Residential sorting by income and rent appears to be gradual. Although we cannot ascertain with certainty that the urban ghetto would persist in the complete absence of residential sorting, it does not appear to be the primary cause of the large employment gaps found between young ghetto residents and others with similar work qualifications;

- The educational outcomes of ghetto youths in New York are not substantially affected by their neighborhood conditions. They graduate high school and attend college at rates consistent with their family backgrounds;

- There is no evidence that a spatial mismatch between ghetto youths and job opportunities causes the large, observed disparities in ghetto employment rates;

- There is some evidence that the social milieu of ghettos exacerbates underemployment by diminishing informal job information networks and by socially isolating ghetto youths from labor market activities.

Several of these findings are counter-intuitive or at least fly in the face of conventional wisdom. Public and governmental indifference to ghetto conditions stems, in part, from the belief that the urban ghetto is simply "a place where poor people live." The underlying assumption is that those who are successful move out and those who are not move in, in order to take advantage of lower housing prices. If the residential sorting mechanism is much more gradual than generally believed, the ghetto is more properly seen as a social institution that *generates* poverty. Once it is seen as an institution, rather than a mere collection of individuals, its continued presence in our urban system becomes less defensible as a matter of policy. Yet, the findings here conform with those of other recent researchers and cast additional doubt on the sorting hypothesis.

That few neighborhood effects on educational outcomes are detectable is also contrary to conventional wisdom. The finding implies that the educational system, at least in New York City, is no less efficient at educating disadvantaged ghetto youths than it is more affluent middle-class youths. It also implies, of course, that the system is no more efficient at educating disadvantaged youths either; it is not a leveling institution that offsets family economic or educational disadvantages. It is important to realize, however, that "educational system" refers to the whole network of public, parochial, private and charitable systems that educate young people in our urban environment. The

findings of this study do not pertain specifically to public schools, as no data on type of school attended was incorporated.

It is startling that neighborhood effects are so difficult to find when studying educational outcomes and so difficult to ignore when studying employment outcomes. There appears to be a sharp discontinuity when New York City youths leave the educational system and enter the labor market. That may in fact say something about the usefulness of the education inner-city youngsters receive, but it also points out the dichotomy in responsibilities of a primarily public educational system and a primarily private labor market. Public schools have some political and legal responsibility to provide roughly equal opportunities across neighborhoods, racial groups and income classes. There is no equivalent responsibility on the part of thousands of private employers. Ghetto youths either have the personal resources in terms of information and connections to find jobs, or they don't. Employment opportunities are not allocated by statutory formula as are educational resources.

It is, on the other hand, not too surprising that this study finds little evidence to support the spatial mismatch hypothesis. The theory has always been cast in terms of the concentric city, with poor minorities occupying the inner rings, middle-income whites occupying the outer rings, and employers moving from the center to the periphery. The spatial configuration of the nation's largest city is much more complex than that model implies. It sprawls over five counties, four of which are islands (or parts thereof), making physical distance a poor proxy for job proximity. Furthermore, the City's complex mass transit system, by far the most extensive in the country, distorts the economic geography far from the image of the physical geography that might be seen in a satellite photograph.

Its size, and historical accident, have also left New York with three distinct ghettos, each of which has its own geographic advantages and disadvantages. If access to Manhattan's huge and diverse job market is an advantage, why don't poor black and Hispanic residents of Harlem have an employment advantage over poor black and Hispanic residents of remote East New York? If demand for low-wage retail and service workers is more robust in the City's northern suburbs, why don't the ghetto residents of the Bronx benefit? In fact, regression tests, with dummy variables for each of the three super-ghetto areas of the City, do not show any significant difference between them, despite their disparate geographic settings.

Even casual inspection of the City's social and physical geography suggests that the three ghetto agglomerations resemble each other more in their social characteristics than in any locational respects. The findings of this study indicate that those social characteristics may be important factors in perpetuating the underemployment of the ghetto. Specifically, ghetto youths are relatively isolated from family members and peers who are connected to the mainstream labor market and that isolation appears to contribute to their underemployment. It is impossible say from the results obtained here whether the influence stems from a deficit of informal job information, of role models, or of peer pressure to conform to routines of stable employment. Either way, the results suggest that there is a multiplier effect of joblessness that acts through social networks to exacerbate ghetto unemployment.

Even though some definitive results were obtained regarding the relative merits of the spatial distance versus social distance theories of ghetto joblessness, most of the ghetto effect remains unexplained. In other words, when a ghetto indicator variable is

inserted into the complete employment model presented in Chapter III, the coefficient on it is large and statistically significant. In fact, the ghetto dummy variable dominates most other spatial or social characterizations of the City's ghetto neighborhoods. That strongly suggests that the employment effects of the ghetto are produced through a complex interaction of social and economic factors that are highly collinear.

Indeed, any research on neighborhood outcomes is plagued with one huge, underlying endogeneity issue. In this study, as in virtually all others of the issue, race and ethnicity are treated as exogenous variables. That is an expedient, but ultimately not a defensible assumption. "Race" is essentially a proxy for a set of unobservable cultural and social values that are themselves the product of decades of discrimination, exclusion and isolation. In that sense, any study (including this one) that finds modest "neighborhood effects" in the presence of significant racial differences may truly be guilty of "missing the forest for the trees."

APPENDIX A:

Calculation of Segregation Indexes

The Index of Dissimilarity was origninally proposd by Duncan and Duncan (1955) to measure the degree to which blacks disproportionatley reside in one section of a city. The value of the index ranges from 0 to 1. When its value approaches 0, the racial distribution of the city approaches complete integration.

$$Dis = \tfrac{1}{2} \Sigma \left| (black_i/black_{total}) - (nonblack_i/nonblack_{total}) \right|$$

Where $black_i$ is the number of blacks in area i, $black_{total}$ is the number of blacks in the entire city, $nonblack_i$ is the number of nonblacks in area i, and $nonblack_{total}$ is the number of nonblacks in the city. The Index of Isolation was originally proposed by Bell (1954) to measure the degree to which blacks (or other minorities) are interspersed with particular areas.

$$Iso = \frac{\Sigma (black_i/black_{total}) * (black_i/persons_{total}) - black_{total}/persons_{total})}{\min((black_{total}/persons_i), 1) - (black_{total}/persons_{total})}$$

The first term in the numerator represents the percentage black of the area occupied by the average black. The second term is the percentage black in the city as a whole. The denominator represents the maximum value of the measure when there are a low number of blacks in the city. By dividing by that maximum, the index is adjusted to range from 0 to 1.

APPENDIX B:

Dictionary of Variables

ACTIVE: A binary variable set to 1 if the individual was employed or out of the labor force because they were in school at the time of the survey.

AGE: The individual's age in years.

ASIAN: A binary variable set to 1 if the individual's race/ethnicity is Asian.

ATWORK: A binary variable set to 1 if the individual was employed at the time of the survey.

BA: A binary variable set to 1 if the individual has a 4-year college degree.

BADHSG: A binary variable set to 1 if the individual lives in housing with three or more off the seven basic maintenace deficiencies.

BLACK: A binary variable set to 1 if the individual's race/ethnicity is black non-Hispanic. White non-Hispanics are the excluded category.

BLACKNH: A binary variable set to 1 if the individual lives in a sub-borough area of which 75% or more of the residents are black.

BKN: A binary variabale set to 1 if the individual lives in Brooklyn.

BORDER: A binary variable set to 1 if the individual lives in a sub-boprough area immediately adjacent to Westchester or Nassau counties.

BRONX: A binary variable set to 1 if the individual lives in the Bronx.

CROWDED: A binary variable set to 1 if more than one person per room resides in the individual's housing unit.

EARNDINC: The total earnings of the household from wages, salaries and business income, in thousands of dollars.

FAMSIZE: The number of people living in the individual's housing, ecluding nonrelatives.

GHETTO: A binary variable set to 1 if the individual lives in a sub-borough area in which 25 percent of the population lives below the federal poverty line and 75 precent of its population is black or Hispanic.

HEADBA: A binary variable set to 1 if the individual lives in a household in which the reported head of household has a college bachelors' degree. (applies only to observations in the "living with parents sample)

HEADHS: A binary variable set to 1 if the individual lives in a household in which the reported head of household has a HS diploma. (applies only to observations in the "living with parents sample)

HEADWEL: A binary variable set to 1 if the individual lives in a household in which the householder or spouse recieved some public assistance income in the prior year.

HHINC: The total household income in the year prior to the survey from all sources, excluding the income of the individual who is in the sample. Measured in thousands of current dollars.

HS: A binary variable set to 1 if the individual has a high school diploma.

HSMORE: A binary variable set to 1 if the individual has obtained at least a HS degree.

HSMOVE: A binary variable set to 1 if the individual's household changed residence within the previous five years.

NPERS: Number of persons who live in the household.

OTHHSP: A binary variable set to 1 if the individual's race/ethnicity is Hispanic other than Puerto Rican.

OWNER: A binary variable set to 1 if the individual's household owns their own dwelling. Ownership may be conventional, cooperative or condominium.

PARENTS: A binary variable set to 1 if the individual is a son/daughter residing in a household in which both a husband and wife are present. (applies only to observations in the "living with parents sample)

PRICAN: A binary variable set to 1 if the individual's race/ethnicity is Puerto Rican.

QUEENS: A binary variable set to 1 if the individual lives in Queens.

SBA27: The percentage of 23-27 year old males in the individual's sub-borough area who were employed during the week prior to the survey.

SBA32: The percentage of 28-32 year old males in the individual's sub-borough area who were employed during the week prior to the survey.

SBA37: The percentage of 33-37 year old males in the individual's sub-borough area who were employed during the week prior to the survey.

SBABA: The percentage of adults in the sub-borough area who have a college degree.

SBABUS: The percentage of a sub-borough areas zoning lots that are used for industrial or commercial purposes.

SBACARS: The percentage of residents of the sub-borough area who reported that they had access to an automobile in 1990.

SBAHS: The percentage of adults in the sub-borough area who have a high school diploma.

SBASTATUS: The percentage of adults in the sub-borough area who are employed in high-status jobs. High-status jobs are managerial and professional specialty occupations as defined by the Census Bureau for the 1990 Census (codes 003 through 199).

SBAWHITE: The percentage of residents of the sub-borough area who are white non-Hispanic.

SI: A binary variable set to 1 if the individual lives in Staten Island.

SOMECOL: A binary variable set to 1 if the individual attending college but did not receive a 4-year degree (includes those who hold associate degrees).

USCIT: A binary variable set to 1 if the individual is a citizen of the U.S.

WRKRS: The number of other adults in the household who are employed.

YEAR93: A binary variable set to 1 if the individual was drawn from the 1993 HVS sample.

YEAR96: A binary variaabale set to 1 if the individual was drawn from the 1996 HVS sample.

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