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Unequal Incomes, Unequal Outcomes?
Economic Inequality and Measures of Well-Being

Proceedings of a Conference Sponsored by the Federal Reserve Bank of New York

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Table of Contents

Unequal Incomes, Unequal Outcomes?
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Proceedings of a Conference Sponsored by the Federal Reserve Bank of New York
May 7, 1999

To Our Readers:

We are pleased to bring you this special issue of the Economic Policy Review, *dedicated to the proceedings of the conference "Unequal Incomes, Unequal Outcomes? Economic Inequality and Measures of Well-Being." The conference, held at the Federal Reserve Bank of New York on May 7, 1999, continues this Bank's tradition of supporting informed public discussion of economic issues that go beyond the workings of monetary policy.*

The United States has experienced an extraordinary rise in income inequality over the past few decades. The gap between rich and poor Americans—like that between skilled and unskilled workers—has reached its highest level in the postwar era. Although the trend toward increased pay disparity has in recent years shown some signs of abating, there is little doubt that the real incomes of the poor are lower today than they were twenty years ago.

While the growing divide between high- and low-income groups has received considerable attention, its larger consequences have been less widely discussed. The organizers of this conference—Erica Groshen, Chinhui Juhn, and James Orr of the Research and Market Analysis Group—chose to focus on the impact of income inequality on several broad measures of material well-being. Specifically, they asked those presenting papers at the conference to consider whether the deterioration in income experienced by the poor has been accompanied by a deterioration in outcomes—in health, housing, education, and crime. Recognizing that progressive public policies have to some extent offset the income disadvantages of the poor, the organizers wished to explore the net effects of the income gap on individuals' ability to secure certain very basic goods and services.

In addressing these issues, conference participants pointed to numerous improvements in the economic prospects of the poor over the past several decades. They stressed, however, that unsettling problems remain. For example, crime is down, but the mortality rates of the inner-city poor are still unacceptably high. Housing affordability has improved dramatically across income groups—except among the poorest Americans.

As a collection, the papers in this issue of the Review *demonstrate the manifold ways in which poverty undermines the material welfare and potential productivity of many of our citizens. Accordingly, we hope that the volume will provide a fuller understanding of the causes and consequences of income inequality and spur further research into the most effective policy responses.*

William J. McDonough, President
Federal Reserve Bank of New York

Summary of Observations and Recommendations

Erica L. Groshen, Chinhui Juhn, James A. Orr, and Barbara L. Walter

At last year's Federal Reserve Bank of Kansas City symposium on income inequality, Alan Greenspan suggested that measures of income changes, however reliable, cannot fully explain trends in the material or economic well-being of the population. "Ultimately," he noted, "we are interested in whether households have the means to meet their needs for goods and for services, including . . . education and medical care, which build and maintain human capital."*

With these observations in mind, the Federal Reserve Bank of New York organized this conference—"Unequal Incomes, Unequal Outcomes?"—to focus on the evolution of more direct measures of the material well-being of Americans. Of particular concern was the impact of income inequality on trends in health, housing, and crime victimization. Conference participants also examined some of the changes in policymakers' responses to these trends, especially in the areas of education financing and local governance. Finally, the participants discussed efforts to evaluate the social consequences of policy reforms and offered some guidelines on the best direction for future research and policy initiatives.

UNEQUAL OUTCOMES

HEALTH

Both Barbara Wolfe and Arline Geronimus focused on health as a direct measure of economic well-being that effectively draws attention to those suffering the worst outcomes. Specifically, Wolfe spoke about the strong link between poverty and health. According to her, in 1994 only 10 percent of children under age five in families making $35,000 or more were in less than very good or excellent health. By comparison, one-third of young children in families with income below $10,000 were in less than very good health. Moreover, in recent years the number of poor children whose health is fair or poor has increased relative to the number of nonpoor children in these same health categories. In 1987, for every nonpoor child with health problems, there were close to two children in poverty in poor health; by 1996, that ratio had risen to 2.7.

Geronimus identified a set of young people at particular risk of high mortality rates. She observed that in some U.S. communities—especially urban areas in the North—young people cannot expect to survive through middle-adulthood. Whites generally fare substantially better than African-Americans, yet whites in poor neighborhoods in northern cities experience mortality rates roughly comparable to those of African-Americans nationwide. Furthermore, among the urban African-American poor, mortality rates worsened relative to those of whites from 1980 to 1990. Geronimus also indicated that circulatory disease—not homicide—has been the most important contributor to the higher mortality rates across all poor populations.

Examining health issues in a special address to the conference, Kevin Thurm noted some other disturbing statistics. Thurm observed that infant mortality rates for African-Americans are twice as high as they are for white Americans; Chinese-Americans are four to five times more likely to suffer from liver cancer than other Americans; and Latinos and Native Americans develop diabetes at a rate twice and three times the U.S. average, respectively.

HOUSING

In the session on housing, James Orr and Richard Peach examined trends in housing outcomes by income group. Orr and Peach indicated that there has been a substantial improvement in the physical adequacy of the housing stock over the past few decades, particularly for households in the lowest income quintile. Neighborhood quality for all income groups has also improved, although sharp differences in quality continue to exist across the groups. In one important respect, however, lower income households are *worse* off than before—housing costs now absorb a larger share of their income.

Joseph Gyourko and Joseph Tracy reported that the cost of good housing has risen for low-income individuals. The National Association of Realtors affordability index shows that affordability conditions are better today than at any time in the past twenty-five years. However, Gyourko and Tracy's analysis suggests that this finding may not hold for low-skilled workers at the bottom of the income distribution. The real incomes of these households have not fully recovered to the levels reached before the 1990-91 recession, yet the constant-quality price of the housing bundle they typically consume has continued to rise in the 1990s. Therefore, to afford a single-family home, these households must be increasing the number of hours worked or shifting down to lower quality housing.

CRIME

Turning to another measure of well-being, Steven Levitt examined the changes in the relationship between income and crime victimization over time. He argued that the poor suffer disproportionately more from property crime today than they did twenty years ago, possibly because of the increased reliance on theft-prevention devices by higher income groups. Levitt also indicated that, in stark contrast to property crime, homicide appears to have become more dispersed across income groups, at least based on neighborhood-level data for Chicago. For whites, neighborhood median family income is no longer a predictor of homicide victimization rates—a factor that may explain the increase in the fear of crime across income levels when the crime rate has actually fallen sharply. For blacks, the link between income and crime victimization is found to be only one-third as strong as it was in 1970.

POLICY RESPONSES

Several speakers looked at policy responses to the widening of income inequality in state and local communities. Much emphasis has been placed—correctly so, according to conference participants—on improving education as a way to increase the mobility of disadvantaged Americans. One policy strategy adopted by states has been school finance reform, aimed at providing greater equality in the caliber of education received.

Thomas Downes and David Figlio examined the empirical evidence on the relationship between school finance reform and student outcomes, reviewed the economic literature in this field, and presented new evidence of the effects of reform on community and school composition. They argued that if one's goal is to reduce income inequality substantially, one should not look to school finance reform as a particularly effective policy instrument. Even the most optimistic estimates of the impact of school finance reform on the distribution of student performance indicate that these effects are relatively small. Furthermore, Downes and Figlio noted that these small gains may come at a cost—the movement of higher income families into private sector schools, a development that would lead to less diversity within the public schools.

The papers by Edward Glaeser and Matthew Kahn and by Edwin Mills examined the extent to which local government policies can reduce the effects of rising income inequality. Glaeser and Kahn contended that the future scope of city-based redistributive policies is limited. An important way in which policymakers work to reduce

inequality is by redistributing income from the wealthy to the poor, channeling income tax revenue into spending on welfare and other services. The authors suggested, however, that New York City and other cities have had to scale back their redistributive policies. New York City's evolution from a manufacturing city to a service city accounts for more than one-third of the reduction in redistribution, because businesses in the service sector are more mobile and are therefore harder to tax than those in manufacturing. In addition, Glaeser and Kahn documented a more general decline in the relationship between land area and redistribution. In 1970, cities with greater land area tended to redistribute more income, but by 1990 this connection was no longer evident. Glaeser and Kahn attributed this change to an erosion in the market power of large cities and observed that increased mobility and the existence of edge cities have contributed to a decline in the monopoly power once enjoyed by large cities.

Using a slightly different approach, Mills considered not only the competition between cities, but also the competition between cities and the surrounding areas—the suburbs. He noted that rising income inequality tends to lead to greater income disparity between the suburbs and the central cities because the rich are more likely to move to the suburbs. In addition, business suburbanization has occurred because modern transportation and communication technologies have reduced the costs of moving people, goods, and messages over considerable distances. Moreover, some central business districts have become so large as to exhaust the advantages of locating there. However, Mills suggested that the movement of businesses away from central cities began to change around 1996. Tighter labor markets have induced U.S. businesses to locate in central cities for the same reason that these businesses have been going to Mexico and East Asia—namely, the availability of relatively low-wage workers. Mills also cited the dramatic fall in central-city crime rates in the 1990s and new legislation allowing cities to limit "brownfields liability"— the liability of businesses for environmental damage that occurred before their occupation of a site—as developments that have made it easier for businesses to return to the central cities.

FUTURE CHALLENGES

Most of the papers and discussions underscored the challenges faced by economists and others who undertake to measure well-being and inequality and to identify inequality's causes and effects. The presentation by Marcia Meyers and Irwin Garfinkel addressed some of these challenges. Their project— the New York City Social Indicators Survey (SIS)—uses social indicators to track economic well-being and inequality. By pushing beyond the limitations of current data sources, SIS will enable the authors to collect the data necessary to define inequality in concrete terms and evaluate whether New York City is becoming more or less unequal. Significantly, it will also shed light on what effect government policies have on inequality's magnitude and consequences.

In another examination of policy challenges, Katherine McFate emphasized that we must do more than simply worry about the effects of poverty on those Americans who fall below some minimum income level. Rather, policy in the future should focus more broadly on the fact that too much inequality of income and wealth is, in and of itself, a serious problem. In McFate's view, when the social distance between the highest and lowest income levels is too great, the trickle-down method becomes an ineffective way to reach those at the lowest level. In addition, McFate argued that too much inequality may undermine the legitimacy of our economic system and the functioning of our political systems.

Timothy Smeeding echoed McFate's sentiments, advocating the need to examine further the effectiveness of policy responses to inequality. Smeeding identified three broad categories of policy responses worthy of study: policies aimed at investing in public goods to enhance human capital, policies that reward socially acceptable actions and provide economic mobility by increasing incomes (such as earned income tax credits), and policies that assist those individuals with the most serious physical and mental disabilities.

Health Status of Children and Households in Poverty

Papers by
   Barbara L. Wolfe
   Arline T. Geronimus

Commentary by
   Carol Rapaport

Poverty, Children's Health, and Health Care Utilization

Barbara L. Wolfe

Socioeconomic status influenced the health of children. Low birthweight and infant mortality rates were higher among the children of less-educated mothers than among children of more-educated mothers. Infants born to mothers who did not finish high school were about 50 percent more likely to be of low birthweight than infants whose mothers finished college.

Children in higher income families are less likely than poor children to be without a regular source of health care. However, insurance coverage makes a real difference for poor children in terms of access to health care. Among all poor children under six years of age, 21 percent of those without health insurance had no usual source of care, compared with 4 percent of poor children covered by insurance.

–National Center for Health Statistics, 1998

The issue of the links between poverty, health, and access to medical care is one that has received considerable attention from a variety of perspectives.[1] Health influences most other activities of life, from the ability to engage in learn-

Barbara L. Wolfe is a professor of economics and of preventive medicine and director of the Institute for Research on Poverty, University of Wisconsin-Madison. The views expressed are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

ing to the ability to enjoy life itself. It is therefore not surprising that all societies should be concerned about varying levels of health among their members, especially their youngest members, and about the allocation of the most visible means by which health is thought to be influenced—medical care. This paper explores the ties between poverty and health for children, paying particular attention to the potential ways that society, through health insurance, can affect health status and health care delivery systems.[2]

LEVELS AND TRENDS IN POVERTY AND HEALTH STATUS

In order to assess empirically the links between poverty, health status, and health care access, we need at least one reliable and valid measure of children's health status.[3] One consistent and available indicator of health status in relation to poverty over time is self-reported health status. This is the primary health indicator used in this paper. It is taken from the National Health Interview Survey (NHIS) for 1984, 1990, and 1995, and is also available for the National Medical Expenditure Survey (NMES) and Medical Expenditure Panel Survey (MEPS), making it particularly useful for our analysis.

The NHIS data on self-reported health status by poverty status indicate that between 1984 and 1990 the percentage of children, both poor and nonpoor, who were

reported to be in very good or excellent health increased (Table 1).[4] Between 1990 and 1995, however, this pattern no longer held for poor children: the proportion under the age of seventeen in very good or excellent health decreased. Among poor children aged zero to four years, the decrease was greater. At the same time, the proportion of nonpoor children in very good or excellent health continued to increase. Chart 1, which shows the proportion of children reported to be in very good or excellent health in 1994, suggests a clear association between income and health. Both Table 1 and Chart 1 suggest that poor children are now in worse general health than nonpoor children, and that this pattern has intensified in recent years.

The ratio of poor to nonpoor children reported to be in poor/fair health in the 1987 NMES and 1996 MEPS corroborates these findings. The ratio was 1.95 for children in 1987, but by 1996 it was 2.7, indicating that the underlying health status of the population is increasingly differentiated according to poverty status.

Another indicator of health—blood-lead levels—also suggests a high correlation between poverty and poor health. The proportion of children aged one to five years with high levels of lead in the blood is far greater among the poor and near-poor than among children in higher income families. In 1988-91, more than 16 percent of children in families with incomes below 130 percent of the poverty line had blood-lead levels above 10 micrograms per deciliter, compared with slightly more than 5 percent of children living in families with incomes at 130 to 299 percent of the poverty line and 4 percent among children in higher income families (U.S. Department of Health and Human Services 1998).[5]

Such evidence clearly suggests a high correlation between poverty and poor health, a growing gap between the health status of the poor and the nonpoor from 1984 to 1996, and some indication of an increase in the percentage of children in poor health in the last few years. An alternative explanation for the decline in health status among the poor is that the increasing inequality of income causes poor health among those with the lowest income, but recent evidence at the individual level does not support this hypothesis (see, for example, Mellor and Milyo [1999] and the references they cite).

Does the existing evidence point to an intensification of the link between poverty and poor health? This question is difficult to test.[6] However, two links can be examined: (1) the living conditions associated with

Table 1

PERCENTAGE OF CHILDREN UNDER AGE EIGHTEEN IN VERY GOOD OR EXCELLENT HEALTH
By Age and Poverty Status, Selected Years

Age and Poverty Status	1984	1990	1995
Children aged zero to seventeen years			
Total	78	81	81
Poverty status			
Below poverty	62	66	65
At or above poverty	82	84	85
Children aged zero to four years			
Total	79	81	81
Poverty status			
Below poverty	66	69	66
At or above poverty	82	84	86
Children aged five to seventeen years			
Total	77	80	81
Poverty status			
Below poverty	60	64	64
At or above poverty	81	84	85

Source: National Health Interview Survey (1984, 1990, 1995).

Note: Poverty status is defined according to the federal poverty line for the year indicated.

Chart 1

U.S. Children under Age Eighteen in Very Good or Excellent Health, by Family Income, 1994
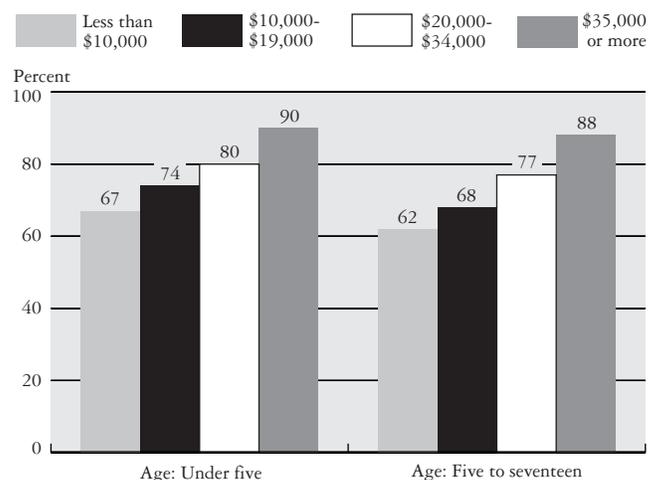
Source: U.S. Department of Health and Human Services (1998).

poverty, which might create risks to a child's health, and (2) the link between poverty and access to health care. These links are discussed below.

A U.S. Bureau of the Census report (Short and Shea 1995) indicates that there are higher levels of conditions that increase the risk of accidents, injury, and illness among the poor than among the nonpoor (Table 2). For example, persons who are poor are about twice as likely as the nonpoor to have a leaking roof, a broken window, or exposed wiring, and are nearly three times as likely to have rats, mice, and/or roaches, as well as plumbing that does not work. They are about twice as likely to report that they are afraid to go out, that they view crime as a problem, and that there are rundown or abandoned structures in their neighborhood. The poor are also nearly eight times as likely to report that they did not have enough food in the past four months. All of these conditions create a higher risk of disease and injury.[7]

LEVELS AND TRENDS IN HEALTH CARE COVERAGE

In this section, we explore health care coverage by health status among the poor and nonpoor populations, asking whether there has been a trend in coverage. In the following sections, we explore the role of health insurance in determining equity in the utilization of medical expenditures.

Chart 2 reports the trend in health insurance coverage for all children from 1987 to 1997. It shows three complementary trends: a U-shaped pattern in the proportion of children covered by private-employer–based coverage; a general increase in the proportion of children covered by Medicaid, which peaked in 1993 and subsequently declined; and an overall small increase in the proportion of children without coverage—the proportion being highest in the latest year shown.

Chart 3 illustrates the coverage of poor children by age, compared with all children. Children who live in poor households lag behind in every age group, especially the twelve-to-seventeen-year-olds; overall, poor children are 70 percent less likely than all children to have private

Table 2
LIVING CONDITIONS AMONG THE NONPOOR AND POOR, 1992
Percent

Conditions	Persons in Families Who Are Nonpoor	Standard Error	Persons in Families Who Are Poor	Standard Error
Housing conditions				
Upkeep problems				
Leaking roof or ceiling	8.5	(0.17)	15.8	(0.58)
Toilet, hot water heater, plumbing not working	4.8	(0.13)	12.0	(0.51)
Broken windows	8.2	(0.17)	18.6	(0.61)
Exposed wiring	1.3	(0.07)	4.0	(0.31)
Rats, mice, roaches	13.9	(0.21)	39.4	(0.77)
Holes in floor	0.8	(0.05)	4.8	(0.34)
Cracks or holes in walls or ceiling	4.1	(0.12)	13.5	(0.54)
Neighborhood conditions				
Neighborhood safe	93.0	(0.16)	78.1	(0.66)
Home safe from crime	95.0	(0.13)	85.0	(0.57)
Afraid to go out	8.7	(0.17)	19.5	(0.63)
Crime a problem	16.3	(0.23)	30.4	(0.49)
Trash/litter	10.0	(0.18)	22.7	(0.66)
Rundown/abandoned structure	9.6	(0.18)	18.8	(0.62)
Food adequacy				
Food adequacy in past four months				
Enough food	98.6	(0.07)	89.0	(0.49)
No days without food last month	94.3	(0.14)	85.2	(0.55)

Source: Short and Shea (1995).

Chart 2

Health Insurance Coverage Status for U.S. Children under Age Eighteen
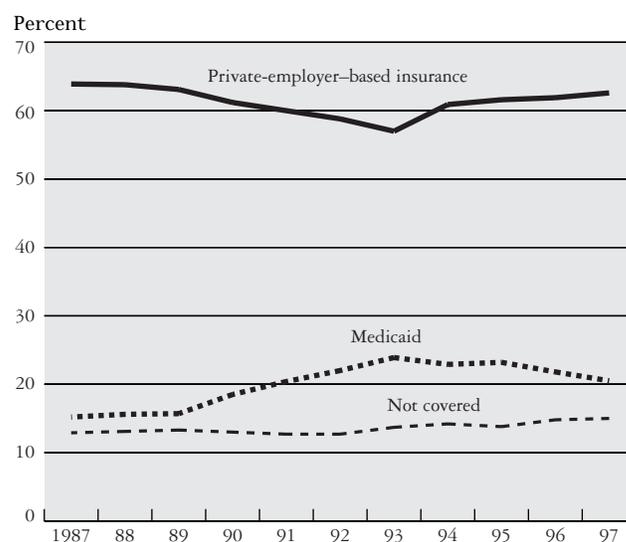
Sources: Unpublished tabulations provided by the U.S. Census Bureau to the Annie E. Casey Foundation; *Health Insurance Coverage Status and Type of Coverage by State—Children under 18: 1987-1997* (Table HI-5).

Note: Persons are as of March of the following year.

Chart 3

All U.S. Children and Poor U.S. Children Covered by Health Insurance, Private Insurance, and Medicaid, 1997

Source: http://www.census.gov/hhes/hlthins/hlthin97/hi97t7.html.
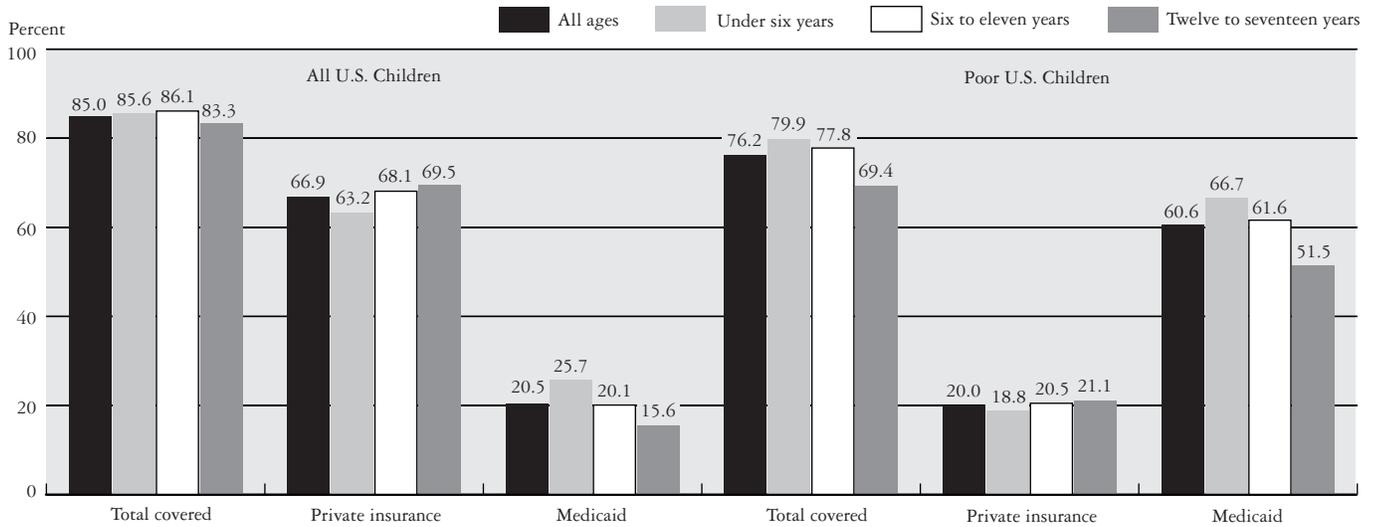
coverage. Children under the age of eleven in poor households are about three times as likely as all children to have Medicaid coverage.

The lack of coverage seen among poor children (23.8 percent in 1997) may at first glance seem surprising: there have been significant expansions of eligibility for Medicaid since 1988, and most children living in families with incomes below the poverty line are now eligible.[8] A recent study of take-up rates among eligible children, using the MEPS data, found that 22 percent were uninsured (Selden, Banthin, and Cohen 1998). Children who were made eligible by recent expansions were uninsured in higher proportions than children made eligible through Aid to Families with Dependent Children (AFDC, or welfare). Ignorance of eligibility, stigma tied to a program associated with welfare, low reimbursement, and limited access to providers may all lie behind these low take-up rates.[9]

Is there evidence that coverage makes a difference? Chart 4 presents the proportion of children who did not have any contact with a physician over the past twelve months, by income and insurance coverage. First, it shows that for every group, regardless of income, there is a very large difference in access to medical care depending on whether or not the child is insured (as measured by one or

more provider contacts). Second, it indicates that the differential increased over time. Third, it shows that the differential probability of not using any care is far, far greater among the poor than the near-poor or the nonpoor. In 1993-94, 21.5 percent of poor uninsured children did not see a provider over a twelve-month period, compared with 7.9 percent of poor insured children—a ratio of 2.7. Within one year, the ratio had climbed to 2.8; 23.3 percent of poor uninsured children had not seen a provider in twelve months. Even among children with "special health care needs"—defined as those who have or are at increased risk of a chronic condition and require more medical care than children in general—those who are poor and uninsured use much less care than similar but insured children. For example, these uninsured children are four times less likely to have a usual source of care and are nearly three times as likely to report unmet health care needs (Chart 5).

ESTIMATES OF THE ROLE OF INSURANCE IN INFLUENCING HEALTH CARE EXPENDITURES

A major goal of this paper is to explore the role of insurance as a determinant of inequality in the utilization of medical care.[10] We analyze the importance of insurance

U.S. Children without a Physician Contact within the Past Twelve Months, by Poverty Status and Health Insurance Status

Source: U.S. Department of Health and Human Services.

Access to Care for Low-Income U.S. Children with Special Health Care Needs, 1994
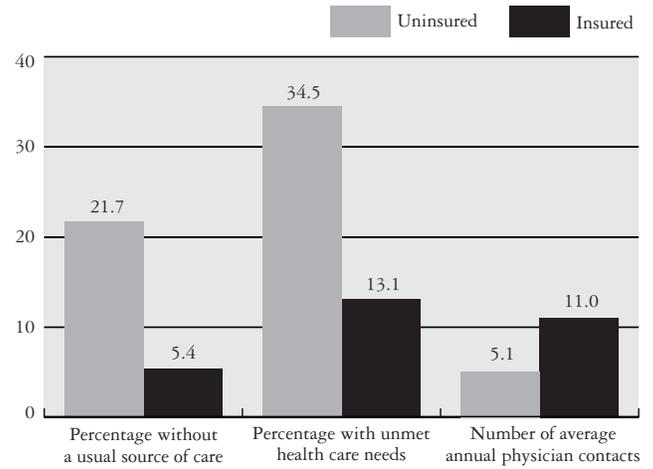
Source: Newacheck et al. (1998).

coverage through the use of regressions on the determinants of medical expenditures, employing the most recent data on medical care use available in a nationwide survey. We examine the importance of different types of insurance (public or private) for children in good to excellent health and for children with significant health care needs. Ultimately, we wish to ask two questions: Would shifting from no coverage to public or private coverage equalize medical care utilization? And which form of insurance would lead to greater equalization?

As noted above, data are from the MEPS, which is part of the national survey series on the financing and use of medical care in this country. Its initial sample, drawn from the NHIS, comprises 10,500 households. Five interviews over two-and-a-half years are planned. We use only the first wave of data in this study. The survey, conducted by the U.S. government, contains data on the individual health, health insurance status, health care utilization, and socioeconomic characteristics of the individuals and their immediate family members.

Unfortunately, the MEPS has not yet released medical expenditure data. However, it does report utilization of health care, using many measures identical to those used in the 1987 survey, NMES, which is part of the same

series (for example, office visits to a physician and number of hospital admissions). In order to measure utilization, we use NMES data on the relationship between expenditures and utilization. Specifically, we perform an ordinary least squares regression of medical expenditures on the measures of utilization that the NMES and MEPS have in common: office-based and non-office–based doctor visits, outpatient visits, hospital admissions, hospital nights, dentist and orthodontist visits, emergency room visits, and an indicator for prescription drug purchase—with controls to take into account regional differences in costs. We then apply the estimated coefficients to the measures of utilization in both data sets to predict expenditures.[11] These predicted expenditures become our measurement of interest for the study.[12]

In our estimates of the determinants of total medical expenditures (our measure of utilization), the control or conditioning variables, in addition to type of insurance coverage, are age, race, whether living in an urban area, health status, and interaction variables for health status and insurance status.[13] We also separately conduct estimates for subgroups defined by self-reported measures of health status. Our health needs measure has two components: a self-reported, five-item health scale and the presence of at least one limitation. We retain the two lowest categories on

the scale as our measure of poor/fair health (see Vanness and Wolfe [1997] and Wolfe and Vanness [1999] for more on the data set and the approach). We add to poor/fair health the presence of a significant limitation. Insurance is assigned to the individual children on the basis of responses to the questions on coverage asked in the first round of the survey.[14]

INSURANCE COVERAGE

Before moving to our regression estimates of the determinants of medical expenditures, we determine which children have insurance coverage according to the 1996 MEPS data (Table 3). Overall, the table suggests continued disparity in coverage between children who are poor and those who are not poor, a picture that is similar to the one presented in Chart 3, which is based on Current Population Survey data and not linked to utilization data.[15] Specifically, the table shows the following patterns:

- Poor children are less likely to have coverage than nonpoor children; in 1996, the ratio overall was 1.66 to 1.

- The probability that children in poor health have coverage is somewhat greater than that for children in good or excellent health.

- The group of children least likely to have coverage are those in poor families in good to excellent health. More than 22 percent of these children are

uninsured, compared with 13 percent of nonpoor children in good to excellent health.

- The group most likely to have public coverage are poor children with health care needs (children in fair or poor health or with a significant limitation). They are also the group least likely to have private insurance. This may reflect Medicaid expansions, especially those through Supplemental Security Income for severely disabled children, as well as enrollment of children who are hospitalized at the site of care.[16]

- Even children with health care needs have very high probabilities of being uninsured (nearly 19 percent).

EXPENDITURES

The tabulations of expected expenditures by current insurance status are reported in Table 4.[17] Overall, children's expenditures are relatively low; the average expenditure is $607 (see appendix). Differences are considerable, with a standard deviation of nearly $2,400. Expenditures differ by poverty status, they differ dramatically by health status, and they differ by the presence or absence of insurance coverage:

- Regardless of the type of insurance coverage, poor children have lower average expenditures than nonpoor children among children in good health.

- Children without coverage have far lower expenditures, on average, than children with coverage. Within poverty and health subgroups, the absolute average difference in expenditures ranges from nearly $300 to more than $3,000 when we compare the uninsured with one of the insured groups. Nonpoor children with health care needs show the largest difference in average expenditures.

Table 3
HEALTH INSURANCE STATUS OF CHILDREN

	Children without Need		Children with Need		All Children	
	Nonpoor	Poor	Nonpoor	Poor	Nonpoor	Poor
Weighted proportions (percent)						
Private	74.48	15.99	64.84	10.70	74.02	15.44
Public	12.28	61.72	22.65	70.50	12.78	62.64
None	13.24	22.29	12.51	18.80	13.21	21.92
Frequency counts						
Private	2,407	145	105	14	2,512	159
Public	543	660	56	95	599	755
None	551	263	28	29	579	292
Total	3,501	1,068	189	138	3,690	1,206

Source: Medical Expenditure Panel Survey (1996).

Table 4
MEAN EXPENDITURES ON CHILDREN'S HEALTH CARE

	Children without Need		Children with Need		All Children	
	Nonpoor	Poor	Nonpoor	Poor	Nonpoor	Poor
Private	627.48	444.67	3,762.99	1,395.33	757.85	514.00
Public	714.91	487.08	1,051.51	1,343.41	743.23	588.45
None	315.54	158.22	579.19	950.44	327.39	229.68

Source: Medical Expenditure Panel Survey (1996).

Notes: Figures are in dollars. Need is defined as being in poor or fair health or having a health limitation.

- Among children with health care needs and with private coverage, there are very large differences in expected expenditures between the poor and nonpoor. In contrast, the expenditures for children who have health care needs and public coverage are much more equal and, indeed, are greater for children in poor families.

DETERMINANTS OF MEDICAL EXPENDITURES

Table 5 presents the results of three regressions that attempt to isolate the impact of insurance coverage on medical care utilization. This approach allows us to control for other characteristics of the child that might affect utilization, such as age, sex, and race. The models highlight the role of insurance and health care needs.[18] The first model includes dummy variables for public insurance and for no insurance and for health care needs (poor/fair health and/or presence of a limitation). The second includes interaction terms between health care needs and the variables capturing insurance coverage, while the third adds a dummy variable for being in a poor or near-poor family. Included as control variables are race, sex, and age of the child as well as the region of the country in which the child lives; this last variable is viewed as a proxy for availability of medical care.

The results are consistent with the tabulations presented above, but give a somewhat clearer picture of the importance of insurance coverage. Children with public coverage have, on average, medical expenditures that are $150 lower than those for children covered by private insurance. Those without coverage have far lower expenditures—about $450 less, on average, than children with private coverage. The second model, which includes interaction terms, highlights the very large differences in expenditures among children with health care needs. The results suggest that, among such children, those with public coverage have medical expenditures that are about $2,300 less than those with private coverage, whereas those with no insurance have medical expenditures that are about $2,800 less than those with private coverage. The results obtained from this model are consistent with the view that health care coverage plays a major role in influencing medical expenditures—and hence, potentially, in reducing the inequality in utilization among those with "equal" health care needs. The third model shows that poverty also reduces medical expenditures, but that the impact for children with health care needs is dwarfed by the impact of insurance coverage.[19]

Table 5
SIMPLE MODELS OF THE ROLE OF INSURANCE IN INFLUENCING MEDICAL CARE EXPENDITURES

Independent Variables	Model 1	Standard Error	Model 2	Standard Error	Model 3	Standard Error
Public insurance	-152	(87)*	13	(90)	70.3	(94)
No insurance	-450	(99)***	-329	(101)***	-283	(78)***
Fair or poor health or health limitations	1706	(146)***	2948	(211)***	2877	(218)***
Age of child	-2.5	(6.6)	-1	(6.6)	-2	(66)
Nonwhite	-184	(83)**	-182.7	(83)**	-109	(81)
Male	-42	(68)	-46	(68)	-35	(67)
Lives in Midwest	28	(106)	52	(105)	47	(105)
Lives in South	-37	(97)	1.7	(97)	-37	(94)
Lives in West	53	(106)	82	(105)	-20	(100)
Constant	743.7	(109)***	653	(109)***	655	(107)***
Interaction terms						
Health needy × public insurance			-2317	(317)***	-2226	(297)***
Health needy × no insurance			-2460	(431)***	-2345	(386)***
Poor					-178	(92)**

Source: Author's calculations, based on Medical Expenditure Panel Survey data on children.

Note: Number of observations = 4,896.

*Statistically significant at the 10 percent level.

**Statistically significant at the 5 percent level.

***Statistically significant at the 0 percent level.

WHAT IF THE UNINSURED WERE INSURED?
Using Table 5's estimates of Models 1, 2, and 3, we now calculate (simulate) the expenditures of children without coverage, if they were to be covered.[20] We do so for both private and public coverage. In effect, we are simulating the type of effect hoped for from the new $4.5 billion per year Children's Health Insurance Program initiative, which is just beginning to expand private health insurance coverage to a large minority of the uninsured low-income children in the United States (see Buren and Ullman [1998] and Mann and Guyer [1998]). We carry out our simulations for private and for public coverage, both of which could occur via CHIP.

We hold constant individuals' age, sex, race, region, and health status, and then change insurance status. In essence, we ask what individuals' expenditures are likely to be, given the expenditure pattern of others like them who have the same insurance status. We then ask what those expenditures are likely to be on the basis of observations of others like them who have the insurance coverage being simulated.

Table 6 presents the simulations of what would happen if children without coverage were to have private or public coverage. The results employ two prototype children to show the expected medical expenditure as insurance coverage varies.[21] In Model 2, these calculations suggest that a white female infant with health care needs ("in poor health") would spend more than four times as much if covered by private insurance than if uninsured. The same infant, if covered by public insurance, would have medical expenditures about 1.6 times greater than if she were uninsured. The difference is substantial when we compare infants in poor health who have private and public coverage—the ratio is nearly 2.8 and the dollar difference is more than $2,000. Among healthy children, the differences in medical expenditures between those with private or public coverage are small. However, insured healthy infants have medical expenditures that are more than three times those of uninsured healthy infants. Providing insurance coverage to infants who are in good to excellent health is expected to increase their medical expenditures by more than $300 per infant. The type of insurance does not

Table 6
EXPECTED MEDICAL CARE EXPENDITURES

Prototype Child	Model 1	Model 2	Model 3
White female infant in poor health and with no coverage	2,000	812	726[a]
If private coverage	2,450	3,601	3,354
If public coverage	2,298	1,297	1,198
Nonwhite female infant in good health and with no coverage	110	141	85[b]
If private coverage	560	470	368
If public coverage	408	483	438

Source: Author's calculations, based on models presented in Table 5.

Notes: Figures are in dollars. "Poor health" refers to either poor/fair health or health limitations.

[a]This is the value if the child is poor. If the child is not poor, the expected value is $904 if she is uninsured, $3,532 if she has private coverage, and $1,376 if she has public coverage.

[b]This is the value if the child is poor. If the child is not poor, the expected value is $236 if she is uninsured, $546 if she has private coverage, and $616 if she has public coverage.

appear to matter significantly in determining medical expenditures for healthy children. Model 3 adds whether or not a child is growing up in a poor or near-poor family. The story regarding the impact of insurance on utilization is vertically unchanged from that of Model 2. Being poor reduces utilization by $178 regardless of the type of insurance.

The simulations point to several conclusions:

- Public coverage is associated with far higher expenditures than no insurance. Among children with health problems, however, those with public coverage are expected to have expenditures far below those with private insurance. Hence, substantial inequality is expected to remain among children with health problems, if all children in lower income families have public coverage while children in higher income homes have private coverage.

- For healthy children, providing either private coverage or public coverage is expected to substantially increase the equality of medical expenditures, but the form of coverage makes little difference. Providing lower income children with public coverage while higher income children maintain private coverage would achieve a high level of equality in expenditures.

These results suggest that current public policy as reflected in CHIP may have a good chance of equalizing

utilization of medical care among the majority of children, if take-up rates are sufficiently high. However, the results also suggest that a dual system of coverage will still have substantial levels of inequality in expenditures among those most in need.

We offer an additional word of caution. Without any intervention, there may be an increasing probability that inequality in utilization will increase, especially among the population covered by the successor to AFDC, Temporary Assistance for Needy Families (TANF). Under TANF, the time costs for working mothers rise; work hours cut into potential time for physician visits. And along with declining TANF rolls, there have been declines in Medicaid enrollments, despite the fact that TANF extends Medicaid coverage for twelve months for most parents and indefinitely for children.[22] Recent reports indicate that eligible families are not participating in Medicaid when they exit TANF and are denied TANF benefits by some states (Schott and Mann 1998 and Cancian et al. forthcoming). These changes may well lead to reduced access to, and utilization of, medical care by this low-income population.

CONCLUSION

In this paper, we have assessed the health status of poor children and the trends in their status, their insurance coverage, and their access to care.[23] We have also made a rough simulation of the effects of extending public and private health insurance coverage to all uninsured children.

As expected, we found that poor health status and poverty were closely linked. Our finding that health status among poor children seems to have deteriorated somewhat since 1990 is consistent with the observed decline in insurance coverage. The regressions and simulations indicate that providing public coverage will foster equal access to health care among those who are healthy, although it will not go very far for children with health problems.

As we continue upon the journey from AFDC to TANF and from long-term welfare dependency to work at low wages, the initial observations are that health insurance and health care access are both being disrupted.

The health status of poor children may be at a critical juncture. Welfare reform and a growing lack of health care coverage among the working poor and near-poor both suggest that access to care has declined for these groups. Programs like CHIP were designed explicitly to fill this gap for children. However, these estimates raise questions about their potential for success among children who currently have health problems.

Even if coverage was equalized across all children, utilization might not be equalized. The availability of providers, ability to make copayments, costs of getting to providers, and forgone earnings all may lead to continued lower utilization among children in lower income families.

Even if utilization was equalized in terms of medical expenditures for those with similar health status, systematic differences in health status might be maintained. Many factors, including those associated with poverty and the stresses that accompany it, contribute to poor health. Nevertheless, providing health insurance, whether public or private, to those who are underinsured will surely reduce inequalities in access to care. Providing the same package to all children may have the double advantage of greater equalization and an increase in the take-up rate.

APPENDIX: VARIABLES USED IN THE 1996 MEDICAL EXPENDITURE PANEL SURVEY

Variables	Mean	Standard Deviation
Age	9.21	5.12
Sex (male=1, female=0)	0.50	0.50
Nonwhite (nonwhite=1, white=0)	0.24	0.42
Wage per person (in thousands)	8.90	24.11
Maximum school years	12.45	3.14
Marital status of parent (respondent)	0.60	0.49
Non-MSA (does not live in urban area)	0.20	0.40
Region: Northeast	0.20	0.40
Region: Midwest	0.20	0.40
Region: South	0.35	0.48
Region: West	0.25	0.44
Privately insured	0.55	0.50
Publicly insured	0.28	0.45
Not insured	0.18	0.38
Number of office-based physician visits, 1996	2.07	3.41
Number of office-based nonphysician visits, 1996	0.44	2.53
Number of outpatient department physician visits, 1996	0.08	0.52
Number of outpatient department nonphysician visits, 1996	0.06	0.59
Number of emergency room visits, 1996	0.17	0.51
Number of hospital admissions, 1996	0.04	0.35
Number of nights in hospital, 1996	0.20	2.74
Number of dental care visits, 1996	1.06	2.25
Number of orthodontist visits, 1996	0.37	1.65
Had prescription medicine	0.54	0.50
Need: poor, fair health, or with at least one limitation	0.07	0.25
Predicted expenditure	607.18	2373.65

Note: Number of observations = 4,896.

ENDNOTES

1. There is an extensive literature on the links between poverty and health. Some of the best known of these include the writings of Alan Williams, Alan Maynard, A. Donabedian, A. J. Culyer, and Julian LeGrand. See the references in the volume edited by van Doorslaer, Wagstaff, and Rutten (1993); Wolfe (1994); and the recent *Future of Children* (1998) volume on child health and managed care.

2. One advantage of studying these links among children is that we avoid most of the debate on causality—that is, whether poor health causes poverty, or vice versa.

3. Any measure should be evaluated in terms of the following characteristics: (1) variability: the ability of a measure or indicator to detect changes; (2) validity: the accuracy of the measure in capturing what it is intended to measure; and (3) reliability: the extent to which the measure is free of error. A component of reliability is sensitivity, or the probability that the measure can detect true cases.

4. These are the top two categories in a five-category measure of self-evaluated (or parent-evaluated) health.

5. A recently released report by the General Accounting Office (GAO/HEHS 99-18, January 1999) shows that children served by Medicaid remain at high risk of elevated blood-lead levels and that the majority have not been screened, let alone treated.

6. Recent measures of poverty that account for noncash benefits, such as food stamps and tax benefits like the earned income tax credit, indicate a modest decline in overall poverty since 1996 (Council of Economic Advisers 1998). However, to the extent that those most able and most healthy are leaving the welfare rolls, and that the probability of being uninsured is increasing, the remaining poor are likely to have a higher level of bad health in years to come.

7. See Massey (1996) and Waitzman and Smith (1998) for evidence on increasing concentrations of poor persons in high-poverty, central-city, and rural areas where crime, poor nutrition, and bad living conditions are more likely to be found.

8. All children born after September 30, 1983, whose families are poor are currently eligible for Medicaid, as are all children up to age six whose family income is below 133 percent of the poverty line.

9. The elimination of AFDC may lead to higher rates of uninsured among low-income populations because the AFDC program provided an automatic tie to Medicaid eligibility (and enrollment) in most states. The new Children's Health Insurance Program (CHIP) is designed to provide access to coverage, but the low take-up rate of Medicaid expansions suggests CHIP may have only limited success.

10. This section of the paper was made possible with the assistance of Yongmei Qin, an economics graduate student at the University of Wisconsin-Madison.

Other indicators are used in related research on equality of medical care utilization. See, for example, Zuvekas and Weinick (1999), who use the existence of a usual provider of care as a measure of equality.

11. The equation and coefficients are as follows: PRED_EXP =-104.31+ MIDWEST * 46.94 + SOUTH * 78.99 + WEST * 127.53 + NONMSA * -115.43 + MD visits * 85.995 + other office visits * 43.343 + outpatient MD visits * 473.36 + other outpatient * 171.04 + emergency room visits * 75.297+ hosp. adm. * 1049.74 + hosp. nights * 693.84 + purchased prescription * 92.37 + dental visits * 108.44 + orthodontist visits * 157.87.

12. To the extent that there has been a shift in health technology and pricing for different types of utilization, this measure may not be an accurate gauge of expenditures. However, the goal of this estimation is to study utilization across all categories of medical care. The approach used seems to dominate alternative indices, which would also face problems of changes in equivalences between alternative types of medical care. Nevertheless, it might be better to think of it as an index of medical care use than of true expenditures.

13. Since income has not yet been released for the MEPS data, we predict family income based on the earnings of family members and on demographics such as education, race, and sex. We use 1987 NMES data within a probit model for the underlying estimates and apply the coefficients to the MEPS data. Based on this predicted family income, we rank-order the individuals. These simulated values are used to differentiate who is and is not poor. We use two alternative measures of poverty: the actual proportion of children and adults who were poor in 1996 according to Current Population Survey–based estimates, 14.4 percent, and the lowest 25 percent of the income distribution. In both cases, we start with those in the poorest families and move up the income distribution to the proportion either officially poor or in the bottom 25 percent. These families are in our groups termed poor. We intend to redo the analysis when the income data are released. (A special request for this information has not yet gained us access to these data.)

Note 13 continued

We prefer the 25 percent sample because it gives us more robust estimates for "poor" children; hence, these are the estimates reported in this paper. See Selden, Banthin, and Cohen (1998) for a similar approach.

14. See the appendix for simple descriptions, means, and standard deviations of the variables used.

15. The children termed poor are those in families with the lowest 25 percent of income, so Table 3 includes poor and near-poor.

16. There has been considerable speculation that hospitals enroll poor children when they appear for care and that this might explain the far greater enrollment among children who have health problems.

17. Recall that we converted utilization into expenditures for 1996 using the estimated relationships for 1987. The results provide some insight into the pattern of expenditures, but some caution should be used in thinking of them as true expenditures. As noted above, they might instead be viewed as an index that provides relative values.

18. The approach assumes away the endogeneity of insurance coverage. That is, in this model we assume that the role of insurance, by reducing the direct price of medical care, would result in the same pattern of utilization (and the same price structure) among those currently without insurance (or with alternative types of insurance) as those who already are covered by the particular type of insurance. In essence, this allows for moral hazard (the response to a lower direct price of care) but requires the elasticity to be the same within categories specified by the right-hand-side variables. It disallows adverse selection beyond the variables included in the model.

19. In an alternative specification, interactions between poverty and type of coverage (public and no coverage) were not at all statistically significant. Adding a variable to capture the highest education attained by either parent reduces the measured impact of poverty even further. The education variable is positive, has a coefficient of about .25, does not substantially change the reported results, and is not significant at the 5 percent level (Model 3).

20. Our approach ignores any endogeneity with regard to the purchase of insurance.

21. Note the assumptions underlying these simulated expenditures, discussed in endnote 18.

22. Eligibility depends on family income. See Selden, Banthin, and Cohen (1998) on the topic of eligible unenrolled children and Medicaid.

23. The author acknowledges the contribution of Timothy Smeeding to some of the ideas in the conclusion.

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Economic Inequality and Social Differentials in Mortality

Arline T. Geronimus

INTRODUCTION

Nationally, the age-adjusted relative risk of death for people at the bottom of the distributions of education, income, and occupational standing is two to three times as high as it is for people at the top of such distributions (Sorlie et al. 1995). The association between socioeconomic position and mortality shows a gradient such that each increment in level of education, occupational status, or income is associated with a reduced risk of death (Adler et al. 1993; Sorlie et al. 1995).

However, at least with respect to income, the relationship to health is not linear: Health improves rapidly as one moves from the lowest levels of income to average or median levels, with increasingly diminishing returns to health from gains to income above that level. In addition, there are marked racial differences in health that are not wholly explained by income (Williams et al. 1997). Racialized stress and high levels of racial and economic segregation also appear deleterious to the health of African-Americans (Williams et al. 1997; Polednak 1996). Recent advances in social epidemiology suggest the importance of

Arline T. Geronimus is a professor of health behavior at the University of Michigan-Ann Arbor. The views expressed are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

aspects of residential areas more broadly as modifiers of the effects of individual socioeconomic characteristics on health (Davey Smith et al. 1998; Geronimus et al. 1996). Thus, the health of equally low-income individuals varies across locales.

Taken together, the above findings suggest that general patterns of the relationship between economic inequality and health may mask extremes for those isolated by persistent poverty and segregation or those exposed to a full range of hazards in their social and physical environment. Furthermore, over the last twenty-five years, the absolute and relative economic circumstances of those in the lower economic strata in the United States have generally stagnated and deteriorated rather than improved (Karoly 1993). Thus, the relative health of those in poverty—low-income African-Americans in particular—may have worsened in recent decades.

In this paper, I draw on analyses that aimed to determine whether impoverished U.S. locales varied by race or urban/rural location in their rates and causes of excess mortality, and whether mortality gaps between impoverished and other U.S. populations widened over the decade from 1980 to 1990. The focus on urban versus rural areas reflects the fact that in the first half of the Twentieth Century, rural Americans enjoyed longer life expectancies than urban dwellers (Fox et al. 1970). Evidence based on

more recent cohorts is mixed and suggests little, if any, mortality advantage for rural residents compared with urban dwellers in young and middle adulthood (Kitagawa and Hauser 1973; Miller et al. 1987; Elo and Preston 1996). However, with some resurgence of infectious disease entities as important causes of death in urban areas and general perceptions of central cities as having become more dangerous and unhealthy in the most recent decades (Wilson 1987; Brown 1993), the fortunes of rural dwellers—even those in poverty—may have again increased relative to their urban counterparts. In addition, recent comparisons of rural and urban dwellers do not focus on those in poverty. Important interactions between race, poverty, and rural/urban residence may exist, but may be unobserved in analyses of national data sets where only the main effects of residence are estimated as a product of averaging across all rural versus urban dwellers.

In the analyses, we also examined what causes of death were the primary contributors to excess mortality among the poor and whether these varied across locales or time periods. We focused, in particular, on how the HIV/AIDS epidemic and homicide may have influenced changes in mortality over the decade.

To address these questions, we limited our analyses to mortality among young and middle-aged adults. Social differentials in morbidity and mortality are pronounced at these ages (Geronimus 1992; House et al. 1994), and mortality data are of high quality for young through middle-aged adults. Their deaths represent a great loss to population life expectancy and have a great impact on families and communities. Reproductive- and working-age adults play critical roles as economic providers and caretakers in families. In low-income African-American communities, adults in this age group often face multiple obligations in supporting family economies and caretaking systems (Chatters and Jayakody 1995). High levels of early health deterioration in this population may be both cause and consequence of expanded caretaking obligations among the relatively healthy (Geronimus 1992; Pariante et al. 1997). Moreover, current antipoverty programs, emphasizing the prevention of teen childbearing and the movement from welfare to work, are based on the implicit assumptions that young and middle-aged adults in poverty are able-bodied and that teens can expect to remain healthy through their reproductive and working ages. If these assumptions prove incorrect, it would have important implications for the chances of successful implementation of these policies and the impact of these policies on the well-being of their target populations.

As I elaborate below, we found that poor local populations pay a heavy toll in the loss of potentially productive members in their prime of life. However, important differences exist among and within persistently impoverished populations by race, gender, geographic location, and time period in the degree to which their poverty translates into excess mortality. African-American residents of persistently impoverished urban areas suffer the worst mortality profiles. Men in these areas face staggering probabilities of early death. Between 1980 and 1990, this already severe disadvantage grew larger. Popular images portray urban health disadvantages as applying mainly to inner-city youth and highlight the contributions of homicide and HIV/AIDS. Yet our results reveal that important social disparities in morbidity and mortality apply not only to youth but also extend throughout the young-adult and middle ages. Moreover, homicide and HIV/AIDS deaths contribute to this excess, but other causes are more important. In contrast to popularized perceptions, homicide explains none of the increase in death rates of urban black men over the 1980s. Death rates among African-Americans in poor rural areas are substantially lower than they are for their urban counterparts. Here, too, homicide and HIV/AIDS explain less of the difference than popularized images suggest.

DATA AND METHODS

Details of our methodological procedures are available elsewhere (Geronimus et al. 1996; Geronimus et al. 1999). In brief, we studied all African-American or non-Hispanic white residents, ages fifteen to sixty-four, of twelve regionally diverse, impoverished areas consisting of aggregated census tracts or ZIP codes in urban areas and groups of counties or parishes in rural areas. They included African-American residents of urban communities in New York

City's Harlem, Detroit's Central City, and Chicago's South Side; African-American residents of rural communities in the Louisiana Delta, the Black Belt region of Alabama, and Eastern North Carolina; and non-Hispanic white residents of urban areas in Cleveland and Detroit, of a poor mountain area in Appalachian Kentucky (a region where some of the poorest U.S. whites reside), and of poor rural communities in South Central Louisiana, Northeastern Alabama, and Western North Carolina. These areas were selected based on comparatively low race-specific mean family incomes and relatively high percentages of families with incomes below the poverty threshold. For comparison, we also analyzed data for whites and blacks nationwide.

In Table 1, summary economic information is reported for each population. Reflecting the national distribution of income, the African-American populations were often substantially less well off than the white populations studied. Appalachian Kentucky was the only white population with a poverty rate exceeding that of blacks nationwide. Otherwise, among whites, rural/southern populations tended to be better off economically than urban/northern ones. Among blacks, the rural populations were generally as or more poor than the urban ones.

All of the populations were poorer than their race-matched national average in 1980 and 1990. According to our economic indicators, none of these poor populations experienced a substantial increase in its economic well-being over the decade. However, some populations experienced notable deterioration in their economic well-being. Most dramatic was the white Detroit population. In 1980, that population was less advantaged than whites nationwide, but it was better off than any other study population and far better off than it became a decade later. Other local populations that experienced smaller, but noticeable, increases in their concentration of poverty were blacks in Chicago and Detroit and whites in Cleveland and Louisiana. These findings are consistent with the broader trend of stagnation or deterioration among the poor in their economic well-being during that decade and the particular impact in the midwest.

We combined population-specific death certificate information for 1979-81 and 1989-91 with age-stratified counts of men and women in each population taken from the 1980 and 1990 U.S. Census, respectively, to calculate age- and sex-specific death rates overall and due to specific causes of interest. To mitigate biases due to Census undercounting, we adjusted population counts using national undercount adjustments.

We computed several standard measures of mortality:

- *Excess mortality rate (EDR)*: This measure shows how many more deaths per year occurred among fifteen-to-sixty-four-year-olds, per 100,000 population in the black or local population, than would have

Table 1

FAMILIES IN POVERTY, SELECTED AFRICAN-AMERICAN AND WHITE POPULATIONS, 1980 AND 1990

Population/Area	Year	Percentage of Families Below the Poverty Level
U.S. population		
Total	1980	9.6
	1990	10.0
African-Americans	1980	26.5
	1990	26.3
Whites	1980	7.0
	1990	7.0
African-Americans		
Harlem, New York City	1980	33.4
	1990	33.1
Central City Detroit	1980	38.5
	1990	44.3
South Side Chicago	1980	46.7
	1990	58.2
Delta Louisiana	1980	48.0
	1990	48.1
Black Belt Alabama	1980	45.1
	1990	48.7
Eastern North Carolina	1980	34.9
	1990	32.8
Whites		
Cleveland	1980	16.4
	1990	21.4
Detroit	1980	10.9
	1990	22.0
Appalachian Kentucky	1980	32.9
	1990	34.6
South Central Louisiana	1980	12.8
	1990	18.9
Northeastern Alabama	1980	14.3
	1990	13.6
Western North Carolina	1980	14.5
	1990	13.6

Source: U.S. Census Bureau.

Notes: Figures refer only to African-American residents or only to white residents of the area studied. The poverty levels are defined by the U.S. Census Bureau. See Geronimus et al. (1999) for a more detailed description of the geographic areas encompassed by each population.

occurred if they experienced the same number of deaths per 100,000 population as whites of these ages experienced nationwide. For example, an EDR of 374 for black men nationwide indicates that of the 791 annual deaths per 100,000 black men, ages fifteen to sixty-four, 374 would have been averted if black men had the same age-adjusted death rates as white men.

- *Age-adjusted rate ratio (RR)*: This measure shows how many times higher the age-adjusted death rate is in the black or local population for ages fifteen to sixty-four than it is for whites of these ages in the nation.

- *P (45) and P (65)*: These measures show the probability that a typical fifteen-year-old in a national or local population will survive to age forty-five or age sixty-five.

- *Average number of years of life lost between ages fifteen and sixty-five (YOLL)*: This measure averages across every person in a specific locale who dies between the fifteenth and sixty-fifth birthday. Each person who dies contributes to the average the number of years remaining between the age at death and the sixty-fifth birthday. (For example, a man who dies at age twenty contributes forty-five years to the overall average; a man who dies at age sixty contributes only five years to the average.)

Each of these measures can be defined for all-cause mortality or by any specific cause. In combination, these measures provide a more complete and nuanced picture of a population's mortality experience than a single measure. The RR is the simplest summary statistic. The EDR is required to estimate the number of deaths that are theoretically preventable in a disadvantaged population. The YOLL gives greater emphasis to those who die in the younger years of the age range than the older. Thus, it provides a better sense of the loss of productive life to a community and the role played by causes of death that are more likely to strike young adults, such as homicide. P (45) and P (65) point to the ages when mortality differentials are most pronounced and serve as rough indicators of the vantage point of youth in a population.

RESULTS

The general patterns we found by race, locality, or time period pertain to men and women. In any specific population and time period, men suffer greater mortality than women. For reasons of space and focus, here I report results only for men. I pay particular attention to African-American men, whose mortality profiles from youth through middle age most starkly illustrate the major points.

Table 2 shows that the great inequalities in levels of excess death for men in the prime of life widened between 1980 and 1990. Nationwide, African-American men experienced about twice the mortality rate of white men in both years, with evidence that the gap increased over the decade as national death rates fell more for whites than for blacks. By 1990, African-American men showed an annualized rate of excess deaths relative to whites of almost 400 deaths per year. This level of social disparity, disturbing as it is, vastly understates the level of excess mortality experienced by young-adult through middle-aged African-American male residents of central cities. In the study areas, 1980 annualized excess death rates ranged from 695 (in Harlem) to 955 (in Chicago). Moreover, by 1990 excess death rates had grown in all three urban African-American localities, doubling in Harlem over the decade and achieving rates of 1,296 per 100,000 population in both Harlem and Chicago. By 1990, the age-adjusted mortality rate ratio ranged from almost 3.00 in Detroit to more than 4.00 in Harlem and Chicago, relative to whites nationwide.

The final 3 columns of Table 2 show estimated probabilities of survival to ages forty-five or sixty-five (conditional on survival to age fifteen) and the average number of years of life lost between ages fifteen and sixty-five in each population. Social inequalities in these outcomes are evident in both years. In 1980 or 1990, almost every white youth could expect to survive to age forty-five and three-quarters or more could expect to survive to age sixty-five. For black youth nationwide, about 88 percent could expect to survive to age forty-five, but only about 60 percent to age sixty-five. Residents of poor African-American urban populations fared substantially worse than this in both years. The chances of survival to age sixty-five for youth in poor African-American urban/northern populations were never more than fifty-fifty, and decreased over the decade. *By 1990, African-American youth in the poor urban study areas*

MEASURES OF MORTALITY AMONG AFRICAN-AMERICAN AND WHITE MEN AGES FIFTEEN TO SIXTY-FOUR IN SELECTED POPULATIONS, 1980 AND 1990

Population / Area	Year	Annual Death Rate	Excess Death Rate	Age-Adjusted Rate Ratio	P45	P65	YOLL
Total U.S. male population							
African-Americans	1980	809	332	1.70	0.89	0.60	5.59
	1990	791	374	1.90	0.88	0.62	5.78
Whites	1980	477	0	1.00	0.94	0.74	3.36
	1990	417	0	1.00	0.94	0.77	3.10
Urban African-American locales							
Harlem, New York City	1980	1172	695	2.46	0.80	0.50	8.92
	1990	1713	1296	4.11	0.71	0.37	11.33
Central City Detroit	1980	1182	705	2.48	0.82	0.48	8.47
	1990	1163	746	2.79	0.81	0.50	8.63
South Side Chicago	1980	1432	955	3.00	0.78	0.42	9.79
	1990	1713	1296	4.11	0.73	0.37	11.71
Rural African-American locales							
Delta Louisiana	1980	716	239	1.50	0.89	0.65	5.33
	1990	808	391	1.94	0.91	0.60	5.40
Black Belt Alabama	1980	791	314	1.66	0.89	0.61	5.74
	1990	755	338	1.81	0.91	0.63	5.39
Eastern North Carolina	1980	925	448	1.94	0.87	0.55	6.19
	1990	906	489	2.17	0.89	0.57	6.13
Urban white locales							
Cleveland	1980	886	409	1.86	0.88	0.58	6.28
	1990	717	300	1.72	0.91	0.64	4.96
Detroit	1980	730	253	1.53	0.91	0.63	5.19
	1990	838	421	2.01	0.88	0.60	6.20
Rural white locales							
Appalachian Kentucky	1980	762	285	1.60	0.90	0.63	5.44
	1990	574	157	1.38	0.92	0.70	4.41
South Central Louisiana	1980	589	112	1.24	0.92	0.70	4.40
	1990	498	81	1.19	0.93	0.73	3.75
Northeastern Alabama	1980	542	65	1.14	0.93	0.71	3.88
	1990	544	127	1.30	0.93	0.71	3.83
Western North Carolina	1980	504	27	1.06	0.94	0.73	3.69
	1990	394	-23	.94	0.95	0.78	2.94

Source: See Geronimus et al. (1999) for details of the estimation procedures.

Note: P45 is probability of survival to age forty-five; P65 is probability of survival to age sixty-five; YOLL is average years of life lost between ages fifteen and sixty-five.

faced lower probabilities of survival to age forty-five than white youth nationwide faced of survival to age sixty-five. In Harlem and Chicago in 1990, a full two-thirds of fifteen-year-old males could not expect to survive to age sixty-five. *This represents less than half the probability of survival to age sixty-five of white males nationwide.*

Considering mortality rates in terms of years of young and middle adult life lost to the community, the findings are equally sobering. All three urban African-Americans populations studied experienced substantially larger numbers of years of life lost among men of these ages than among blacks or whites nationwide. This number also grew over the 1980s in all three cases. By 1990, African-

American men in Harlem or Chicago experienced an average of more than eleven years of life lost between the ages of fifteen and sixty-five, almost twice the number lost for blacks nationwide and almost four times the number for whites.

AFRICAN-AMERICAN RURAL POPULATIONS

As staggering as the excess mortality experienced by African-American men residing in persistently poor urban areas is, the findings for their rural counterparts offer a surprise of a different kind. Despite higher than average poverty rates in the rural areas studied, men's excess mortality experience is generally comparable to that of black men nationwide. So, too, are their probabilities of survival to

ages forty-five or sixty-five and their average years of life lost. They do far better than their urban counterparts. This is true in both years studied. While evident in 1980, by 1990 the urban/rural divide had grown substantially among African-American populations, because increases in excess deaths were smaller in the rural/southern than in the urban/northern populations.

POOR WHITE POPULATIONS

Most of the poor white populations exhibited some excess mortality relative to whites nationwide in both years, but there are specific instances of little or no excess in rural/ southern poor white populations. Changes in excess mortality between 1980 and 1990 were modest among the white study populations. Only the poor white population in Detroit clearly experienced an increase, while all of the remaining poor white populations remained stable or gained some improvement. An urban/northern-rural/ southern divide is suggested for poor whites, but it is of smaller magnitude than among poor African-Americans. Generally, members of the white populations fare substantially better than members of the black populations, yet whites in the poor urban/northern locales experience excess death rates and mortality rate ratios of size roughly comparable to those experienced by blacks nationwide or by residents of the African-American poor rural/southern areas.

Residents of the poor white rural/southern populations face approximately the same probabilities of survival to or through middle age as whites nationwide, while those residing in Detroit, Cleveland, and Appalachian Kentucky fare worse in their probabilities of survival than whites nationwide. The age profiles of mortality in these three white populations are comparable to those of blacks nationwide and blacks residing in rural/southern study areas.

CAUSES OF EXCESS MORTALITY

Decompositions of excess death rates show that circulatory diseases are important contributors to excess mortality in every poor urban African-American population studied in both years (Table 3). By 1990, circulatory diseases alone constituted about one-fourth of all excess deaths in these locations (range = 16 to 30 percent). Circulatory diseases

are the leading cause of excess deaths for black men nationwide and in Detroit and Chicago, and the second leading cause of excess deaths in Harlem. They often outpace other contributors to excess deaths by a wide margin—an order of magnitude in some locales. This is particularly notable because, of all the causes of death studied, the base rate for white men nationwide—against which any excess to black men is measured—is the highest for circulatory disease deaths. For example, in the Chicago population, in 1990 there were 310 excess deaths due to circulatory disease and 241 to homicide. If these numbers are added to their respective base rates, there are 433 circulatory disease deaths per year for young-adult through middle-aged men in Chicago, compared with 253 homicide deaths, or *71 percent more circulatory disease than homicide deaths.*

Much has been made in the popular media about AIDS and homicide in inner cities. And, indeed, in Harlem HIV/AIDs, while unknown in 1980, became the leading cause of excess death for men by 1990. By then, HIV/AIDS alone accounted for almost 300 excess deaths per year for men. No other area studied showed this magnitude of impact from HIV/AIDS. In Chicago, AIDS deaths for men are notable in 1990, but account for a much smaller proportion of the total excess than in Harlem. In Detroit, AIDS deaths are not particularly important contributors to excess mortality, and they contribute very little elsewhere—that is, for poor women, generally, or for men and women in the full range of urban and rural poor populations studied (Geronimus et al. 1996; Geronimus et al. 1999).

Among African-American men, but not women, in Harlem, Chicago, and Detroit, the contribution of homicide to excess mortality is sizable, accounting for at least 20 percent of excess deaths in each of those populations in 1980. However, between 1980 and 1990 the absolute numbers of homicide deaths among men remained relatively stable while the percentage of excess deaths accounted for by homicide witnessed notable declines. In Harlem, homicide deaths fell from 25 percent of excess deaths for men in 1980 to 14 percent in 1990; and in Chicago, from 22 percent to 19 percent. Among black men in Detroit, the percentage of excess deaths due to homicide stayed stable at 25 percent in both time periods.

Thus, *homicide, while an important cause of death among urban, African-American men, accounts for virtually <u>none</u> of the growth in excess death rates in these populations.* Growth in excess death rates over the decade is accounted for instead by increases in deaths due to circulatory disease, cancer, AIDS (in Harlem), and accidents (in Chicago). Some of these increases were dramatic. For example, in Harlem, *deaths due to circulatory disease or to cancer each <u>doubled</u> for men in this time period*—from 95 to 205 excess circulatory disease deaths in 1980 and 1990, respectively, and from 66 to 118 excess cancer deaths per year per 100,000 population. For Harlem women, cancer deaths also doubled over the decade, while excess circulatory disease deaths rose by 40 percent (Geronimus et al. 1999).

AIDS or homicide disproportionately kills people earlier in their adult lives than other important causes such as circulatory disease or cancer. Thus, of all the summary measures we present, YOLL will emphasize the contribution of AIDS or homicide to total mortality. This is because those who die at younger ages (that is, those who are more likely to die from AIDS or homicide) will contribute more to the average years of life lost than those who die at older ages (that is, those who are more likely to die from circulatory disease or cancer). For example, a nineteen-year-old homicide victim will contribute forty-six years toward the average years of life lost, while a forty-nine-year-old dying from heart disease contributes only sixteen.

However, even with this "magnification" of the importance of deaths due to AIDS or homicide, these causes alone explain only a share of the observed mortality differences between African-American men in poor urban areas and white or black men nationwide. In the absence of deaths due to AIDS or homicide, the average years of life lost by men between ages fifteen and sixty-five in each urban population would be: Harlem: 7.25, Detroit: 5.83, and Chicago: 8.26. These figures are:

- two to three times the number for U.S. white men;

- 1.4 to 2.0 times the number for U.S. black men;

- about 33 percent higher than for African-American women in the same locales; and

- 55 to 78 percent higher than for African-American men in impoverished rural areas.

Table 3

CAUSES OF EXCESS MORTALITY AMONG AFRICAN-AMERICAN MEN AGES FIFTEEN TO SIXTY-FOUR RESIDING IN URBAN POVERTY, 1980 AND 1990

Area	Year	Circulatory Disease	Cancer	Accident	Homicide	HIV	Infection/Pneumonia/ Influenza	Other
Number of excess deaths per 100,000 African-American men								
United States	1980	92	57	9	73	0	20	82
	1990	95	61	11	73	38	23	72
Harlem, New York City	1980	95	66	-50	175	0	39	370
	1990	205	118	20	175	296	150	332
Central City Detroit	1980	189	69	2	176	0	39	231
	1990	192	76	-2	187	38	37	217
South Side Chicago	1980	189	69	2	176	0	39	231
	1990	310	168	109	241	79	82	308
Memo: Death rate per 100,000 white men								
United States	1980	177	108	72	14	0	9	97
	1990	123	103	54	12	23	11	92

Note: Figures are based on the underlying cause of death using diagnostic categories from the International Classification of Diseases (ninth revision).

Excess deaths among urban African-American men attributed to cardiovascular disease and cancer contribute importantly to the significant disparities that remain.

Blacks in Middle-Class Metropolitan Areas

We also studied the mortality experience of young through middle-aged black residents of communities with higher mean incomes and lower poverty rates, but within the same major metropolitan areas as some of the poor local populations (Geronimus et al. 1996). The mortality experience of black men in these areas is similar to or better than that for black men nationwide and, therefore, notably better than that of their counterparts in poor urban neighborhoods. A direct comparison of mortality rates of the urban poor population in a specific metropolitan area with those of the better-off suburban population shows that male residents of the poor area had age-adjusted mortality rate ratios ranging from 1.5 to 3.5 times the mortality rate of male residents of the higher income locality. In 1990, African-American men in the higher income area in New York City faced a mortality profile that approximated that of white men nationwide. This finding suggests that when a black population enjoys the same level of economic advantage or municipal services as a white population, it also has a favorable mortality rate.[1]

DISCUSSION

Our findings document a poignant dimension of social disparities in health—that young people in some U.S. communities cannot expect to survive through middle adulthood. While highly publicized causes of premature death such as AIDS and homicide do contribute to this tragedy, they do so by adding to social disparities in mortality experience that are already substantial and result primarily from chronic disease in young and middle adulthood. The evidence reviewed reinforces the centrality of cardiovascular disease as a leading threat to the health and well-being of residents of poor communities.

Further research is required to explain the reasons underlying these findings. The social epidemiological literature already provides some promising clues that can be used as a basis for continued scientific inquiry and policy discussion.

CHRONIC STRESS AND UNCERTAINTY

Chronic, stress-related diseases, such as circulatory disease and cancer, are major contributors to excess mortality in poor populations. Thus, when searching for explanations and solutions, it is important to consider the complex interplay between adverse life circumstances, psychosocial stress, and high-effort coping in the production of stress-related diseases. For example, in the case of hypertensive disease, James (1994) originated and empirically validated the construct of "John Henryism," a strong behavioral predisposition to engage in persistent high-effort coping with social and economic adversity. His ongoing empirical research suggests that high levels of John Henryism interact with low socioeconomic status to increase the risk of hypertensive disease, at least among African-American men.[2] Thus, contrary to the stereotype that young, urban, poor African-American men's fatalism predisposes them to engage in unhealthy behaviors that place them at risk of disease or death, it may be that their persistent, active, effortful coping with widespread forms of social and economic adversity exacts the physical price of a high risk of early cardiovascular mortality. For example, in one study, James et al. (1987) found that differences by socioeconomic status in hypertension prevalence among young adult and middle-aged blacks were small for those scoring low on John Henryism. For those with high scores, however, hypertension prevalence was three times greater for those of low socioeconomic status compared with those of higher socioeconomic status (31.4 versus 11.5 percent).

Similarly, Geronimus' (1992) concept of "weathering" suggests that excess mortality among young through middle-aged African-Americans in poverty might be the consequence of their *cumulative* exposure to the risks associated with material hardship and social inequality. For African-Americans in poverty, the health of young through middle-aged adults might progressively worsen through multiple routes. They include cumulative exposure to hazards in residential and work environments; increased

psychosocial stress as obligations to dependents multiply and the resources of social support networks are spread thin; continued temptation to engage in unhealthy behaviors to cope with increasing stress and uncertainty; the progression of undiagnosed or unmanaged chronic conditions and diseases; and the increasingly deleterious impact of medical underservice in light of escalating health needs. Urban African-American men may fare the worst of all if, unlike other African-Americans, they are systematically exposed to the *full range of these risks* and do so in a context that provides *few protective or identity-affirming* opportunities. That is, the dominant American cultural framework provides powerful negative stereotypical characterizations of young urban African-American men. Negative stereotypical judgments appear to affect the treatment decisions of health providers, to the detriment of black men's health (Schulman et al. 1999), to reduce black men's economic opportunities (Wilson 1996), and to fuel distrust by black men of public health initiatives that have a history of treating them poorly (Dalton 1989). The dominant cultural framework also denies urban black men many identity-affirming symbols. James (1993) speculates that lack of such symbols may also contribute to poor health to the extent that it forecloses constructive avenues to mitigate psychosocial stress.

POVERTY

Poverty carries with it increased exposure to nearly all health risks, including hunger, homelessness, and other material hardships; acute and chronic stress; unhealthy behaviors; overburdened or absent social supports; and depression (Geronimus 1992; Williams and House 1991; Marmot et al. 1987). All of the local populations studied were poor and, as evidenced in Table 1, the urban African-American locales were characterized by extreme poverty. Moreover, poverty rates grew over the decade in almost all the urban populations, while they more often remained stable or lessened in the rural areas. Given the nonlinearity in the relationship of income to health noted earlier, extreme and intensifying poverty rates would be expected to create and exacerbate inequalities in health. As a corol-

lary, policies that improve the economic status of lower income populations can be expected to improve dramatically the health of those at the extremes of poverty.

Our findings also suggest that the detrimental effects of poverty are modified by residence in rural versus urban areas. Whites in Appalachian Kentucky were from the poorest white population, yet their mortality rates were lower than exhibited by poor white populations in the North, including the 1980 Detroit white population that had a poverty rate one-third the rate of the Kentucky population. Indeed, white residents of Cleveland and Detroit had mortality profiles roughly comparable to those of the rural/southern African-American populations or to blacks nationwide, despite having dramatically lower poverty rates.

For African-Americans, the rural/southern populations tended to be as socioeconomically disadvantaged as (or, in some cases, more disadvantaged than) the northern/urban populations. Yet as a group, they had substantially better mortality profiles than their counterparts in northern cities. These differences persisted even after adjustment for cost-of-living differences (Geronimus et al. 1996).

URBAN DECAY

As noted, whites and African-Americans living in economically depressed areas suffered worse mortality if they were urban rather than rural, and this urban disadvantage became increasingly severe for African-Americans. Possible explanations include the reductions in municipal services to central cities witnessed in recent decades. Wallace and Wallace (1990) outline how these reductions resulted in a cascade of threats to the social and physical environments of urban residents, including: the deterioration of housing stock, the movement of drug users and traffickers into burned-out buildings, increased rates of homelessness, the "doubling up" of marginally housed families, overburdened or disrupted social networks, and environmental insults. Such aspects of urban decay are implicated in health-related problems such as increased stress (and hence stress-related disease), violence, HIV/AIDS, homicide, cancer, asthma, reproductive disorders, neurological impediments, accidental injuries, and fire deaths. In addition, northern

urban central cities are among the most segregated areas in the country. Black residents of segregated, low-income areas have lower levels of access to medical care, public services, safe housing, sanitation, recreation, education and training, and good jobs; yet they have increased environmental exposure to the chemical, physical, and social hazards outlined above. Urban decay may also indirectly affect health to the extent that it depreciates the value of housing or undermines private investments in poor communities.

In fact, revitalizing central cities and addressing urban housing problems may well be important policy approaches for improving the health of urban populations. For example, coincident with worsening urban health, family homelessness has shown a dramatic upsurge in the last two decades, mushrooming in some cities including New York (Bassuk et al. 1996; Thompson 1997). The homeless suffer starkly elevated rates of many mental and physical disorders and experience particular difficulties in accessing medical care (Gelberg 1997). The urban homeless are the tip of an iceberg comprised of a larger group who are marginally housed. Most of the extremely poor avoid literal homelessness by being given housing at little or no charge by kin (Bassuk et al. 1996; Thompson 1997). Yet "doubling-up" in poor communities can have negative health implications for all residents of the doubled-up household. They suffer increased space pressures and household crowding; less privacy; lower food quality and quantity; increasingly unsanitary or unsafe housing conditions; more concentrated cooking, smoking, and use of electricity (often on overage wiring systems); increased wear and tear on household facilities; and increased potential for interpersonal conflict and the spread of infectious disease (Sontag 1996; Bruni 1996; Thompson 1997).

While features of urban life have become increasingly deleterious to health, our findings might also reflect the possibility that aspects of rural life are protective. This possibility is understudied and should be explored.

MEDICAL CARE AND INDIVIDUAL BEHAVIOR

What of the common beliefs, that by improving access to medical care—primarily through extending health insurance coverage—and by changing the unhealthy behaviors

of poor individuals, social disparities in health will be importantly reduced? Each of these factors plays a role in the full process that culminates in social inequalities in health, and should be addressed. But a full reading of the social epidemiological literature along with key aspects of our empirical results suggests that other concerns are more fundamental.

Regarding medical care, there is ample evidence of deficiencies in what is provided to African-Americans at every stage of life (Geiger 1996; Whittle et al. 1993). Black men receive lower rates of some forms of life-saving treatment, including organ transplantation and specific high-tech treatments for ischemic heart disease (Whittle et al. 1993; Ford and Cooper 1995). Provider prejudice plays a role (Schulman et al. 1999). The urban poor have witnessed declines in their access to quality medical care in recent years owing to the closing of many inner-city outpatient departments, staff reductions in public hospitals, and reduced incentives for hospitals to provide uncompensated care in a managed care environment (Schlesinger 1987). Community representation on the boards of local health care facilities has also declined. Macroeconomic restructuring intensifying black male joblessness in inner cities has reduced access to private insurance. Moreover, few health care providers locate their practices in central cities. Fossett et al. (1990) conclude that access to care for the poor in urban areas is constrained more by the lack of accessible physicians than by the lack of insurance, noting the need for concerted efforts to increase physician supply in depressed urban areas.

Thus, medical underservice and its intensification in recent years are likely to have contributed to excess mortality in urban areas and its growth over the 1980s. However, it is unlikely to explain the rural/urban differences we found. As bad as they are in urban areas, the problems of medical underservice are most acute in isolated and impoverished rural areas of the country.

Regarding individual behavior change, residents of poor communities often do have worse behavioral health risk profiles than members of more advantaged populations (Northridge et al. 1998). Yet socioeconomic differences in mortality are due to a wider array of factors and additional

measures are necessary to improve the health of the poor (Link and Phelan 1995; Lantz et al. 1998). Furthermore, there is little evidence on the question of whether the urban poor are more likely to engage in unhealthy behaviors than the rural poor. In some cases that are linked to cardiovascular disease and cancer deaths—such as smoking and high-fat diets—there is some reason to believe the reverse may be true.

Unhealthy behaviors themselves are best addressed when interactions between behavior and environment are taken into account. For example, high smoking rates in poor urban African-American communities are likely, in part, to reflect coping responses to the pervasive psychosocial stress residents experience. Short of addressing the stressors, smoking cessation will be hard to achieve. This is especially true in a context where tobacco companies selectively target urban minority groups for advertising (King 1997). In addition, successful behavior change at the individual level often requires participation in health education or rehabilitation programs. Yet interventions to reduce the impact of unhealthy behaviors on mortality in poor communities are hampered by insufficient resources and by inadequate knowledge about the prevalence and patterns of unhealthy behaviors within poor urban communities, apart from national averages or stereotypes. The financial or time costs of participation may be prohibitive for many. Finally, in the context of institutionalized barriers to achievement, full consideration of the role of behavior in the health of the poor must also include the ways that socially approved behavior—such as persistent, active, effortful coping, as discussed above—may be harmful to health.

In closing, eliminating the staggering disparities in the probability of survival to or through middle age should be recognized as a high-priority policy goal. It may be prior to progress toward other important social policy goals. For example, high levels of health-induced disability among working-age African-American men contribute to their relatively low rates of labor force participation (Bound et al. 1996). Such disabilities also pose practical challenges for the members of the family or the larger informal social networks who care for the disabled, often women. These challenges may undermine the caretakers' efforts to fulfill competing obligations to family and work. For some women, these challenges can be expected to intensify as they try to adhere to the rigid work requirements of welfare reform.

If this reading is correct, it would mean that policymakers committed to improving population health should consider a broad array of policy levers *and* that they should require health impact statements for proposed economic or social welfare policies with other primary goals. This would reduce the chances that the health of the poor—and of urban African-Americans in particular—is further eroded by programs targeted at them, but proposed or evaluated on grounds other than their health implications.

Endnotes

1. The higher income area in New York City included a large number of West Indian immigrants (30 percent), but even when looking only at the mortality experience of native-born African-American residents, we see that their mortality rates were comparable to those for white men nationwide.

2. John Henryism is measured by a twelve-item scale. The items reflect the following themes: 1) efficacious mental and physical vigor, 2) a strong commitment to hard work, and 3) a single-minded determination to succeed. For each item, the respondent answers on a scale of 1 to 5, where 1 is "completely false" and 5 is "completely true." Examples of the items are: "I've always felt that I could make of my life pretty much what I wanted to make of it." "Once I make up my mind to do something, I stay with it until the job is completely done." "When things don't go the way I want them to, that just makes me work even harder."

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Commentary

Carol Rapaport

These two papers fit together very well, as each concerns poverty's effects on health status. Barbara Wolfe examines whether poor children receive adequate health care. If they do not, these children are more likely to grow up into adults with health problems. Arline Geronimus examines one possible consequence of health problems: excess mortality in people aged fifteen to sixty-four.

My discussion will focus on the health consequences of poverty. I will start by presenting specific comments on each paper and will follow by briefly noting several other public policy concerns relating to health and poverty.

WOLFE

Wolfe asks important questions about children's health. Are children without health insurance receiving adequate care? What are the differences in health expenditures between children with public insurance and children with private insurance? The paper concludes that health insurance coverage and the health status of children have both declined since 1990. In addition, Wolfe argues that by increasing public coverage we will help foster increased

Carol Rapaport is an economist at the Federal Reserve Bank of New York. The views expressed are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

equality in health care usage for healthy children—but probably not for children with health problems. I think we would all agree that these are vital policy issues.

Wolfe's paper is also noteworthy for its explicit acknowledgment of data limitations. She uses the most recent data from the Agency for Health Care Policy and Research to evaluate medical expenditures. Unfortunately, the agency has not yet released figures on medical expenditures, and Wolfe is very forthright about the limitations imposed on her argument by this constraint. When her paper talks about expenditures, it is really talking about an index of health care use: the higher the index value, the more the child uses the health care system. The paper is also quite frank about several methodological simplifications.

That being said, two straightforward suggestions could strengthen the paper. First, it would be useful to include the characteristics of the parents. Are they high school graduates? What is their current marital status? These and similar parental characteristics can be expected to affect medical expenditures on children. Second, a look at outcome measures other than expenditures would be worthwhile. For instance, the expenditure data are approximations, but the count data on the number of doctor visits are exact. What, then, is the relationship between

poverty and the number of doctor visits for infants and toddlers? The American Academy of Pediatrics recommends a certain number of well-baby/well-child visits per year, depending on the child's age. The paper could examine the relationship between poverty and the share of children meeting these minimum requirements.

Wolfe raises two other important questions, but these are much harder to answer. First, what are the interrelationships between poverty, health insurance, and health status? Her paper focuses on children with a health need, but future work could examine need itself. If the United States had something closer to universal coverage, perhaps we would observe fewer children with health problems. Mothers might get better prenatal care, and childhood diseases such as asthma might be detected sooner. Wolfe shows that by increasing coverage we will increase medical usage, but greater coverage might also affect whether an individual child is at high risk for needing a lot of medical care.

The second question is long-standing among economists: why don't all children who are eligible to enroll in Medicaid do so? This question is described as the problem of take-up of public health insurance. Compare two children—one has public insurance, the other is uninsured, healthy, and eligible for public insurance. Just how different are these two children? Quite different, in Wolfe's paper—and in most other research. However, if the uninsured child got sick, went to a clinic, and was immediately enrolled in public insurance, the two children might turn out to be more alike than not. In other words, researchers may need to distinguish an uninsured child who is eligible for public health insurance from one who is not eligible.

GERONIMUS

This author also addresses an interesting topic: death as an actual health outcome. Such an unambiguous measure of health status is appealing. By analyzing six poor, primarily white communities, and six poor, primarily black communities, Geronimus evaluates excess mortality in men and women aged fifteen to sixty-four. How many black men in a given poor area died, she asks, over and above

what would be expected from a national analysis of white men? Her main result is that it is hard to summarize her main results. On the one hand, blacks in poor urban/northern communities have high rates of excess mortality, and the situation is worsening. On the other hand, people in poor rural communities fare better in terms of excess mortality—but the bottom line is that important differences exist across communities.

My suggestions here again are straightforward. First, I am somewhat concerned about the accuracy of the excess mortality measure. Excess mortality is a very conventional measure in health economics, so my concern really applies to all researchers in this area. Excess mortality takes all white men as the optimal health standard for poor black men. Similarly, all white women are assumed to be the optimal health standard for poor black women. My concern is that this procedure implicitly assumes that people of all races are biologically identical. In extreme cases, this assumption is invalid: white individuals are unlikely to get sickle-cell anemia and black individuals are unlikely to get Tay-Sachs disease. Accordingly, I suggest possibly using a standard other than white individuals when evaluating the health of blacks. For example, one might compare black women in poor communities with black women in more affluent ones.

My second suggestion concerns future research. Geronimus has identified poor communities and essentially has sorted them by health status. The paper, however, has not evaluated why the communities are different. I would like to see an analysis of their characteristics. We have learned that health outcomes differ across the communities, but what else is different? The author alludes to the slower pace of southern living, but many additional characteristics of the community—such as education levels—are observable. Moreover, I am especially interested in the supply of health care providers across communities.

CONCLUDING REMARKS

There are four issues of current policy importance not fully addressed in these two papers. Each, in my opinion, merits further research. First, in 1997, Congress appropriated funds for individual states to expand public health insurance cover-

age for children. The Children's Health Insurance Program, or CHIP, left the states with great discretion in undertaking this action, and we can expect to see large variations in insurance plans across states. These variations will help researchers examine which types of insurance expansion actually improve health outcomes. However, the eligibility increases may in fact cause children to switch from private insurance to CHIP, a process known as crowding-out.

Second, welfare reform removed the direct link between welfare eligibility and Medicaid eligibility. As some individuals are removed from the welfare rolls, they may not understand that their children remain eligible for public insurance. Third, we know very little about the increasing importance of Medicaid managed care and its effects on health outcomes. Finally, health and the elderly will continue to be an important topic; of particular concern is the fact that the Medicare trust funds will face increasing pressures as the U.S. population ages.

PUBLIC HEALTH AND THE PUBLIC AGENDA

by Kevin Thurm

Public Health and the Public Agenda

Kevin Thurm

Thank you, Mr. McDonough, for that gracious introduction and, of course, for the opportunity to come home to New York.

People often remark that New York City is something of a microcosm of our nation as a whole. For that reason, I cannot think of a better place to have this conference. But even more, I cannot think of a better time to have it than now.

What today's presentations tell us is something that Secretary Shalala, myself—and our entire Administration—are aware of back in Washington. We are living through a remarkable—perhaps unprecedented—economic expansion: a time in which millions of jobs have been created, productivity is up, and the U.S. economy has firmly reestablished its vitality. I think Chairman Greenspan the other day used the phrase "truly phenomenal."

But while our economy has brought hope and opportunity to millions, we recognize how much more still needs to be done for many Americans. That is a particular issue for us at the Department of Health and Human Ser-

vices. Because while many measure low incomes in dollars and cents, we also see them reflected in illnesses and injuries that go untreated—and in diseases, even deaths, that could have been prevented. We have seen these occurrences not only in our cities, but in Appalachia, the Mississippi Delta, and the reservations of Native Americans.

I would like to speak with you for a moment about the challenges that we face today—and about the demands they will place on us tomorrow.

In the time that I have been at Health and Human Services, one of the things I have learned is that the public health profession has quite a lot to teach policymakers. That is something many New Yorkers learned earlier this decade when Dr. Margaret Hamburg was New York City's health commissioner. Faced with a serious outbreak of tuberculosis, she organized a multipronged effort aimed at prevention, treatment, and long-term care. It was an effort that involved not only mobilizing health care providers in the field, but also policymakers in New York City, Albany, and Washington. And it was a success. Dr. Hamburg's accomplishment was all about making the right diagnoses, and carrying out the right plan of action.

Well, when public health professionals examine America's health, they see many, many strengths, but they also recognize some very serious symptoms.

The good news, of course, is that Americans are living longer, healthier lives. Thanks in large measure to advances in public health, over the course of this century the average American's life span has increased by twenty-five years. Today, infant mortality is at an all-time low and child immunization is at an all-time high. We have even seen a decline in teen pregnancy. And, over the last several years, we have made dramatic inroads in our fight against AIDS, cancer, and other diseases. But there is also some disturbing news: too many are being left behind. Let me share a few statistics with you:

- Today, infant mortality rates for African-Americans are twice as high as they are for white Americans.

- Chinese-Americans are four to five times more likely to have liver cancer than other citizens.

- Latinos suffer diabetes at a rate twice the national average.

- The diabetes rate among Native Americans is three times as high as the national average. In fact, one-half of all the adults in the Pima Indian Tribe in Arizona are diabetic. That is the highest known rate in the world.

These are the symptoms. What is the diagnosis? We have known for a long time that an individual's risk of an early death rises as his or her standing in the social hierarchy falls. In fact, income is actually one of the strongest single predictors of mortality. This is what it really means when, despite the incredible economic gains we have made over the last six years, we say how much more we still need to achieve.

Today, 10.5 percent of Americans over the age of sixty-five are still living in poverty. African-Americans and Latinos are still roughly twice as likely as other citizens to live in poverty. Many of these Americans are likely to go to work at lower paying jobs, where they face more dangerous working conditions. And, as Barbara Wolfe points out, they are more likely to come home to substandard housing, as well. Furthermore, these conditions are often compounded by a lack of health insurance coverage. Today, more than 43 million Americans are uninsured. In New York City, approximately one in every four residents is uninsured.

How do these numbers translate into reality? Let me give you an example: Last year, in New York City 58 percent of uninsured women over the age of fifty did not receive a mammogram, compared with 33 percent of insured women.

But even more shocking is the plight of the roughly 11 million uninsured children in America today. Barbara Wolfe tells us that poor children without health insurance were more than two-and-a-half times less likely to see a health care provider over the course of a year than poor children with insurance.

At Health and Human Services, we have found that many of these kids come from families where their parents work, but earn too little to afford private insurance. And approximately four million are even eligible for Medicaid. But they are all uninsured. As a result, they are less likely than insured children to be immunized. They are less likely to receive preventive and primary care services. They are less likely to receive ongoing care for chronic illnesses such as asthma. And they are much less likely to receive treatment for injuries and diseases until they become serious.

That is why the Children's Health Insurance Program, or CHIP, was created. CHIP is a $24 billion commitment to provide heath insurance to millions of children growing up today in low-income working families. These are families that earn too much to receive Medicaid, but earn too little to afford private insurance.

To date, we have enrolled approximately one million children in CHIP. Almost every state, the District of Columbia, and Puerto Rico have been approved for CHIP funds. It is a true state-federal partnership. In addition, as with welfare reform, states have tremendous flexibility in this program, but that flexibility must also be balanced with accountability.

We want elected officials to make participation in CHIP by eligible families as easy as it can be. Accordingly, we are working with the states—and with the private sector—on outreach efforts, so they can help make sure that every eligible child is enrolled in CHIP. Our

efforts include a toll-free phone number, a new web site, and a national advertising campaign. The same goes for our outreach efforts on Medicaid. However, our diagnosis tells us that the issue is not just about insurance coverage.

The same commitment that led the President and Vice President to support CHIP also led to their challenge to all of us at Health and Human Services to take action to eliminate racial disparities in health. That is why, last year, Secretary Shalala and the nation's Surgeon General, Dr. David Satcher, set a very simple goal. We said that by the year 2010, America must eliminate racial and ethnic disparities in infant mortality, diabetes, cancer screening and management, heart disease, AIDS, and adult immunization.

In addition, we have asked Congress to invest $400 million over the next five years—in addition to our existing resources—to create public/private partnerships to replicate successful strategies. In particular, with the Congressional Black Caucus, last October the President announced specific targeted efforts to attack HIV/AIDS in the African-American and other racial and ethnic minority communities, where it is a severe and ongoing crisis. In fiscal year 1999, we have targeted $156 million on top of our ongoing programs and efforts.

We have undertaken this health-disparities initiative not only because it is morally right and just, and it reflects the evidence of where these diseases strike most severely, but also because we know that closing these gaps will lead to better health for all Americans.

That is the same idea behind our initiative to improve health care access for uninsured workers. The Administration has proposed $1 billion to strengthen community health clinics, public hospitals, academic health centers, and health departments—the health care delivery systems millions of uninsured Americans depend on.

But, I must tell you, no one suffers from any illusion about the significance of the obstacles we face. We realize that what we face goes beyond issues of income, health insurance coverage, or programs. It is also about providing access to culturally appropriate care as well as about informing, educating, and empowering Americans to take better care of themselves. These are two of the most

pressing challenges—and opportunities—as we enter the twenty-first century.

First, with respect to the need for access to culturally appropriate care, in May 1996 the *New England Journal of Medicine* reported that poor African-American and Latino communities have roughly one-third fewer physicians as poor white communities do.

Simply put, we have an insufficient number of minority health professionals in America today. Now, some people do not accept that race should be an issue. They will tell you that a doctor is a doctor and his or her ethnicity should not make a difference. And they are right—it should not, but in truth, it does.

This is because minority health care providers are more likely to treat minority patients, and minority patients are more willing to see health care providers of their own race and ethnicity. This is also because when minorities do turn to our health care system today, they may be treated differently than whites. Earlier this year, a Georgetown University study found that physicians are far less likely to recommend sophisticated cardiac tests for African-Americans than for whites with identical complaints of chest pain. This is despite the fact that African-Americans are 40 percent more likely to die from heart disease than whites.

There is another factor. The ethnicity of the provider also makes an enormous difference when you take into account the fact that African-American, Asian-American, and Latino physicians are more likely than white physicians to treat Medicaid or uninsured patients in the same area. Today, nearly half of the patients seen by African-American doctors are either on Medicaid or are uninsured. That is one of the reasons why it matters that only 5 of every 100 doctors are Latino and only 4 of every 100 are African-American. We know from experience that those are the physicians most likely to provide the care African-American and Latino families so desperately need.

Accordingly, at Health and Human Services we have been working to help minorities make their way into the health professions. In our fiscal year 1999 budget, we invested more than $300 million in scholarships, loans,

financial aid, and other programs. But we cannot stop there.

We need to work with our primary and secondary schools to stimulate interest in the health professions among the young. We need to strengthen and promote the health sciences at historically black colleges and universities, Hispanic-serving institutions, tribal colleges and universities, and among Native Americans and minorities at other institutions. We also need to maintain our commitment to research so that we can better understand the reasons for different health treatment and outcomes.

Again, this is not about having some pie-in-the-sky ideas about social justice. It is about saving lives. Because our nation's health—our public health—is only as strong as the health of every American family.

The second challenge we face is to understand that effectively communicating health information with every American is also crucial to producing better health outcomes. The truth is that the vast majority of the health problems I have mentioned—problems like infant mortality, heart disease, cervical cancer, diabetes, and others—are, in large part, preventable and treatable. For example, we know that early detection and screening can reduce the risk of death from breast cancer by almost one-third— and that it can nearly eliminate the risk of death from cervical cancer entirely. But many minority women, especially African-American women, have never even had a mammogram or Pap smear.

We face a similar challenge in combating cardiovascular disease—particularly heart disease and stroke. For instance, we know that minorities have higher rates of hypertension and that they develop it at an earlier age. However, we also know that they are less likely to control their blood pressure once it is diagnosed.

But while hypertension and high blood pressure can be easily treated, there is little anyone can do until the individual fully understands the risks he or she faces and the options available. That is where education comes in. Now, sometimes the problem is obvious. For example, for a long time it was almost impossible to find a single informational brochure on mammography in this country written in Vietnamese. Now we have translated that information

not only into Vietnamese, but also into Cambodian, Laotian, Chinese, Korean, and other languages. But if health education were simply a matter of handing out brochures, we would have won some of our battles long ago.

This is because what we are up against is not only a question of getting information into the hands of people who want it, but also helping to let people know that they need it. This is also true for older Americans, who already have coverage through Medicare. We know that less than 30 percent of women between the ages of sixty-five and sixty-nine are getting mammograms every two years. We also know that less than one-fourth of Medicare beneficiaries are receiving recommended tests for colon cancer. Research has also found that only a fraction of Medicare beneficiaries who should be vaccinated against pneumonia actually are.

But it is not enough simply to educate, we must also counteract the misinformation that permeates our nation as a whole, and often low-income minority communities in particular. For example, the tobacco industry has inundated minority communities with some of the most sophisticated advertising this country has ever seen. As a result, they have worsened a health crisis that is already difficult enough to respond to. It is part of the reason why African-Americans have the highest rate of lung cancer of any group in the country.

As Surgeon General Satcher points out, this is in part due to the fact that we have not effectively communicated messages about the importance of a good diet, quitting smoking, and regular exercise. Again, this is true for America as a whole, but for minority communities in particular. To paraphrase an old saying, "when America catches a cold, minority communities get pneumonia."

So we know that we are faced with more than an issue of income, coverage, and programs. It is about appropriate access: not only the lack of affordable health care but also the shortage of minority health care providers. It is about education: the fact that we are simply not effectively communicating health information. But, even beyond this, it is about the need for all of our institutions to keep pace with a whole series of profound demographic shifts in this country.

As I mentioned earlier, New York City is a lot like America. But, in many respects, America is becoming more like New York City. Because of that, the importance of these issues is only going to grow.

The shortage of minority health care professionals and our need to communicate more effectively become particularly critical when we consider the fact that, by the year 2020, more than one-third of Americans will be racial or ethnic minorities. The Hispanic population alone will rise from just over 11 percent to more than 16 percent. By the year 2040, members of minority communities will account for just under half of our population.

But this is not only about race. As the almost ritual debate in Washington over Social Security reminds us, we are becoming an older society: a nation where meeting the needs of the elderly—in housing, health care, nutrition, transportation, and other areas—is going to take up more of our individual time and our collective resources.

Now, responding to all of these challenges will not be done by the federal government alone. It is up to all segments: business, labor, religion, public schools, universities, as well as state and local governments. Most important, it will take leadership—particularly leadership at the most senior levels of public and private institutions.

What the science of public health tells us is that, just as a series of factors often contributes to the spread of disease, it sometimes takes different approaches to cure it. Almost 150 years ago, cholera was one of the deadliest diseases in England. At the time, no one had any notion of how to stop it. Well, one doctor had an idea. He was a doctor named John Snow.

Rather than attempting to treat every single case of cholera, Dr. Snow sat down with a map of London—a city where the disease had claimed more than 500 lives in one ten-day period alone. He laid the map on the table and began to mark the locations of all the homes of the people who had died. What he discovered was that the deaths had all occurred in an area called Golden Square—and that people in this neighborhood were drawing their drinking water from the same source. Armed with nothing more than a map and a pretty good hunch, Dr. Snow left his home and went to one of the water pumps used by the people in Golden Square—and he took off its handle. Once that pump was out of commission, the epidemic abated.

Today, there is not any single pump handle that we need to remove. There are many interventions necessary—and government cannot perform all of them. We all have to do our part because, more than ever, we know that a public health issue today can become an economic problem tomorrow. Funds that are not invested in preventive care now can grow to become huge expenditures for emergency-room care later. Tax dollars that otherwise might be used for education and for rebuilding our infrastructure instead are used to provide care for illnesses that could have been avoided. But this is not just a concern for the public sector.

Today, we know that the companies best suited to compete and win in the new economy will be those with a well-trained, active, and involved workforce. But ask yourself, how likely is it that any employer will be able to achieve that kind of stability when workers from half of our population—and their families—may suffer from untreated sickness and disease? In this respect, public health is not only a byproduct of economic growth—it is a precondition for it.

Let me leave you with the words of a truly great New Yorker. I am talking, of course, about Yogi Berra. Yogi Berra once said that if you want to change something, you have to change something. Well, I submit that it is our job to change something. To take the example of Dr. Snow to heart. And to make it our personal business to take the handles off of those pumps.

Thank you.

AFFORDABILITY OF HOUSING FOR YOUNG AND POOR FAMILIES

Papers by
 James A. Orr and Richard W. Peach
 Joseph Gyourko and Joseph Tracy

Commentary by
 Christopher J. Mayer

Housing Outcomes: An Assessment of Long-Term Trends

James A. Orr and Richard W. Peach

I. INTRODUCTION

In the field of housing economics, there is a long tradition of evaluating housing outcomes for the entire population and various subgroups by tracking four key variables, or concepts: the physical adequacy of the occupied housing unit, the number of people living in the unit relative to the number of available rooms, the financial commitment to housing expressed as a share of the household's income, and the household's assessment of the quality of its neighborhood and of its local public services. In this paper, we examine trends in housing outcomes over the past two decades for income quintiles, controlling for the age of the household head and for tenure (renter versus owner) status.

Our data set for this analysis is the American Housing Survey (AHS), which is produced jointly by the U.S. Bureau of the Census and the U.S. Department of Housing and Urban Development. The AHS was conducted annually from 1973 to 1981 (as the Annual Housing Survey) and has been conducted in odd-numbered years since 1983. We present data from 1975 through 1997. Information is collected on individual housing units and

James A. Orr is a research officer and Richard W. Peach a vice president at the Federal Reserve Bank of New York. The views expressed are those of the authors and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

on selected characteristics of the residents (a small percentage of the units are unoccupied). National samples range in size from 50,000 to 80,000. From 1973 to 1983, the sample consisted of a panel of housing units selected from the 1970 decennial census, with allowances for additions to the stock of housing from new construction. A new sample was drawn from the 1980 decennial census, which has been used from 1985 to the present. However, new sample weights were introduced in 1991 based on the 1990 decennial census.[1]

The main conclusions drawn from our analysis are as follows. There has been significant improvement in the physical adequacy of the housing stock over the past few decades, particularly for households in the lowest income quintile. As a result, today there is very little difference across income quintiles in terms of the physical adequacy of the units occupied. A similar result holds for persons per room. Because newly constructed housing units have tended to increase in size over time while the number of persons per household has declined, persons per room has steadily declined for all income quintiles and there is now little difference across them. Assessments of neighborhood quality have also improved, although not nearly as much as the physical quality of the housing stock, and a sharp divergence of assessments of neighborhood quality remains across the income quintiles. In contrast, financial

commitment has not improved, particularly for lower income households. The share of this group's income devoted to housing increased significantly in the late 1970s (a period of rapid inflation) and remained high in the 1980s (a period of generally high interest rates). While there has been some improvement for the population as a whole in the 1990s—likely due in part to the slowing of inflation and the associated drop in long-term interest rates—this improvement has not been experienced by households in the lowest income quintile.

II. AN OVERVIEW OF DEMOGRAPHIC AND HOUSING CHARACTERISTICS

It is useful to begin this analysis with a broad overview of some of the key demographic and housing characteristics of the households in total and by income quintile.[2] Quintile 1 represents the highest income, quintile 5 the lowest. The table presents data on the age distribution (of the household head) and tenure status of all households and for the

respective quintiles for three years—1975, 1985, and 1997. In addition, for 1985 and 1997 households are divided into those receiving some form of housing subsidy and those not receiving a subsidy.[3]

The proportion of households that own the homes in which they reside was 67.4 percent in 1975, it declined to 65.1 percent by 1985, but then it partially recovered, to 66.1 percent, by 1997. These home ownership rates, which are based on our computations of AHS data sets, are somewhat lower than official Census Bureau published figures, but generally follow the same pattern through time. Higher income households are much more likely to be homeowners than are lower income households. Moreover, the home ownership rate for the highest income quintile rose steadily over the past two decades. In contrast, the rate for the lowest income quintile fell significantly from 1975 to 1985, and recovered only modestly by 1997. A similar but less extreme pattern exists for the middle-income quintile.

DEMOGRAPHIC AND HOUSING CHARACTERISTICS BY INCOME QUINTILE
Percent

| Quintile | Owner | Renter | Age | | | Unsubsidized Households | Subsidized Households |
			Under Thirty-Five	Thirty-Five to Sixty-Four	Over Sixty-Five		
				1975			
1	86.6	13.4	19.8	74.6	5.6	NA	NA
2	77.3	22.7	34.5	58.8	6.7	NA	NA
3	66.9	33.1	36.7	50.4	13.0	NA	NA
4	57.4	42.6	32.6	40.6	26.8	NA	NA
5	51.0	49.0	21.2	32.5	46.3	NA	NA
Total	67.4	32.6	28.9	50.9	20.2	NA	NA
				1985			
1	87.5	12.5	19.2	74.1	6.7	94.4	5.6
2	75.3	24.7	31.0	59.5	9.5	92.6	7.4
3	63.1	36.9	33.0	47.7	19.2	91.5	8.5
4	54.4	45.6	31.2	38.5	30.3	89.6	10.4
5	44.0	56.0	26.1	30.4	43.5	79.7	20.3
Total	65.1	34.9	28.1	50.3	21.6	89.6	10.4
				1997			
1	89.2	10.8	14.6	78.4	6.9	95.9	4.1
2	77.7	22.3	22.7	66.3	11.0	93.7	6.3
3	64.5	35.5	26.6	54.3	19.1	94.5	5.5
4	54.6	45.4	27.3	41.8	30.9	93.1	6.9
5	45.0	55.0	23.5	34.5	42.0	84.8	15.2
Total	66.1	33.9	22.9	55.0	22.1	92.4	7.6

Source: Authors' calculations, based on American Housing Survey national data sets for the respective years.

Note: A unit is defined as subsidized if: a) it is publicly owned housing; b) the federal government pays some cost for the unit; c) state or local government pays some cost for the unit; d) household income is reported each year so that rent can be set; e) a low-cost mortgage is obtained through a government program; f) the unit is rent-controlled—or any combination of the aforementioned.

In terms of age, the population as a whole grew older over the past two decades, with the share of household heads under age thirty-five falling from 28.9 percent in 1975 to 22.9 percent in 1997. Shares of households in the older age categories rose by an offsetting amount, with the largest increase in the age thirty-five to sixty-four category. The age distribution across income quintiles generally reflects the pattern of income over the life cycle, with income rising into middle age and then falling as the primary wage earner approaches and then enters retirement.

Finally, while we cannot have great confidence in the reported proportion of households receiving some form of housing subsidy, we can probably have more confidence in the change in this proportion over time. In total, the proportion of households receiving some form of subsidy fell from around 10.4 percent in 1985 to 7.6 percent in 1997, likely reflecting a combination of tightened eligibility standards, the strong economy, and the low unemployment rates of the mid-1990s. Households in the lowest income quintile are roughly four times more likely to receive a subsidy than those in the highest income quintile.

III. PHYSICAL ADEQUACY

The physical condition of each housing unit in the sample is assessed by using both the inspection report of the individual conducting the survey—the interviewer—and the responses to questions posed to the household. Housing units are then objectively rated as adequate, moderately inadequate, or severely inadequate based on the presence of physical defects and the frequency of occurrence of breakdowns of the plumbing, heating, and electrical systems. This ranking procedure has been generally constant over time, allowing for assessments of changes in physical adequacy. (The specific criteria used to rate units according to these physical adequacy classifications appear in the appendix.) We focus on trends in the proportion of units rated severely inadequate since, in our view, only minor or temporary problems are required for a unit to be rated as moderately inadequate.

In 1975, roughly 5 percent of all housing units in the United States were rated severely inadequate; by 1997, that figure had fallen to around 2 percent (Chart 1). This

Chart 1

Physical Adequacy
Percentage of Units Rated Severely Inadequate
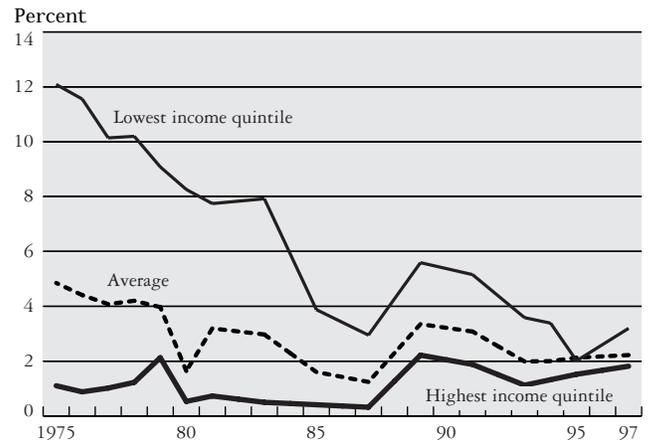
Sources: U.S. Bureau of the Census; U.S. Department of Housing and Urban Development.

improvement reflects the ongoing inflow of new units into the housing stock and the outflow of substandard units through abandonment, demolition, and rehabilitation. The improvement in the physical quality of the housing stock is seen across each of the income quintiles. By 1997, there was little difference in the share of units rated severely inadequate between the highest and lowest income households. Moreover, the most dramatic reduction in the share of severely inadequate units—from around 12 percent in 1975 to about 3 percent in 1997—occurred in the lowest income quintile. Within this quintile, housing adequacy improved for households with relatively young heads (twenty-five to thirty-four years old) as well as for those with relatively older heads (sixty-five years of age and older)—regardless of whether the household head was an owner or a renter.

Furthermore, as shown in Chart 2 (which is plotted from 1985 to 1997, while Chart 1 is plotted from 1975 to 1997), there does not appear to be a significant difference in physical adequacy between lowest quintile households receiving housing subsidies and those not receiving subsidies. Thus, the rising trend of inequality in the distribution of income over the past several decades does not seem to correspond to a relative deterioration in the physical adequacy

Chart 2

Physical Adequacy
Percentage of Units Rated Severely Inadequate
in the Lowest Income Quintile

Percent
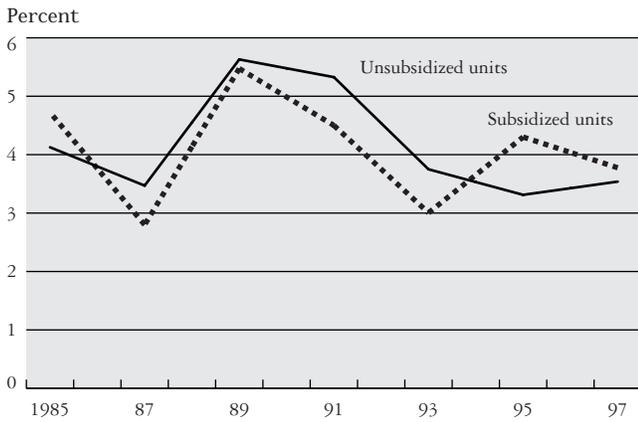
Sources: U.S. Bureau of the Census; U.S. Department of Housing
and Urban Development.

of the housing units occupied by low-income households. On the contrary, the physical adequacy of the housing stock has improved dramatically for the lowest income quintile and there is now little difference in physical adequacy across income groups.

IV. PERSONS PER ROOM

The extent to which households are living in cramped or overcrowded housing units is captured in a measure of the average number of persons per room. This outcome measure is computed for each occupied housing unit in the survey by dividing the total number of persons living in the unit by the number of rooms. Rooms are defined as whole rooms used for living purposes, such as kitchens, living rooms, dining rooms, bedrooms, finished attics and basements, permanently enclosed porches suitable for year-round use, and offices used by persons living in the unit. Not included as rooms are bathrooms, halls, foyers, vestibules, closets, alcoves, laundry and furnace rooms, storage spaces, unfinished attics and basements, and open porches.

The average number of persons per room in U.S. households declined steadily between 1975 and 1997 (Chart 3). The reduction in the degree of crowding in U.S.

households reflects the fact that newly constructed housing units have tended to increase in size over time while the number of persons per household has declined. Three reference points are plotted on the chart that show the number of persons per room in a seven-room house occupied by six people (.857), four people (.571), and two people (.286). The house consists of three bedrooms, a kitchen, living room, dining room, and family room. By 1997, the average number of persons per room had declined to .55, indicating that the typical housing unit is now slightly less crowded than a seven-room house occupied by four people.

A similar reduction in the number of persons per room has occurred for both the highest and lowest income quintiles, and in 1997 there was virtually no difference between these quintiles in the average number of persons per room (Chart 4). Within the lowest income quintile, however, units with relatively younger household heads are about twice as crowded as those with older heads. Moreover, while the number of persons per room in units with both younger and older household heads has declined, the difference has persisted over the period, reflecting the continuing presence of children in the households headed by younger people.

Chart 3

Persons per Room
Number of Persons/Number of Rooms

Ratio
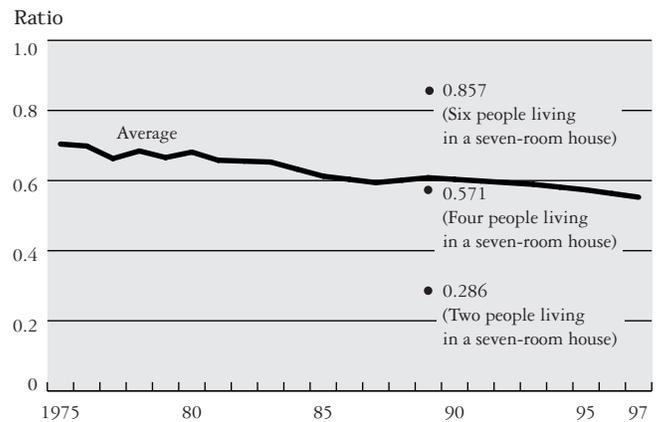
Sources: U.S. Bureau of the Census; U.S. Department of Housing
and Urban Development.

Chart 4

Persons per Room: Highest and Lowest Income Quintiles
Number of Persons/Number of Rooms

Ratio
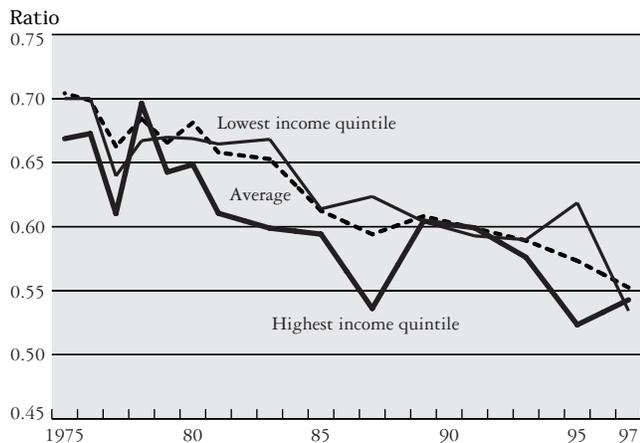
Sources: U.S. Bureau of the Census; U.S. Department of Housing and Urban Development.

V. FINANCIAL COMMITMENT

A household's financial commitment to housing is expressed in terms of housing costs as a percentage of family income. The AHS uses a comprehensive definition of housing costs, which for owners includes principal and interest payments on all mortgages secured by the property; real estate taxes; utilities; property insurance; condo, co-op, and homeowner association fees (starting in 1984); and routine mainte-nance (starting in 1984). For renters, monthly housing costs are termed "gross rent," which includes contract rent plus charges for utilities, whether or not those utilities are included in contract rent. Note that gross rent may not be strictly comparable in all cases since contract rent may include fees for amenities such as swimming pools and tennis courts, parking, and rental of furnishings. Since 1984, renters' costs for property insurance have also been included in gross rent.

Family income is defined as the cash income of the household head or reference person and all other persons in the household related to the reference person over the twelve months before the interview date. Income is the sum of wage and salary income, net self-employment

income, Social Security or railroad retirement income, private pensions, public assistance, and all other money income, gross of taxes and voluntary deductions. Note that income does not include any "in-kind" income, such as housing subsidies, food stamps, or food produced and con-sumed by households. Also note that the AHS defini-tion of income does not include the imputed return on homeowners' equity, a potentially significant amount that will be addressed below.

Chart 5 presents the average housing costs as a percentage of family income for all households as well as the averages for the lowest and highest income quintiles. For all households, financial commitment averaged just above 20 percent in 1975, rose to nearly 30 percent by the early 1980s, stayed at roughly that level through the early 1990s, and returned to around 20 percent by 1997. This upside-down saucer shape roughly corresponds to the behavior of nominal mortgage interest rates. Mortgage interest rates were in the 7.5-9.0 percent range in the early-to-mid-1970s, rose to the 12.5-14.0 percent range in the early-to-mid-1980s, but then returned to the 7.5-8.5 percent range in the mid-1990s.

Chart 5

Financial Commitment: Highest and Lowest Income Quintiles
Average Housing Costs as a Percentage of Family Income

Percent
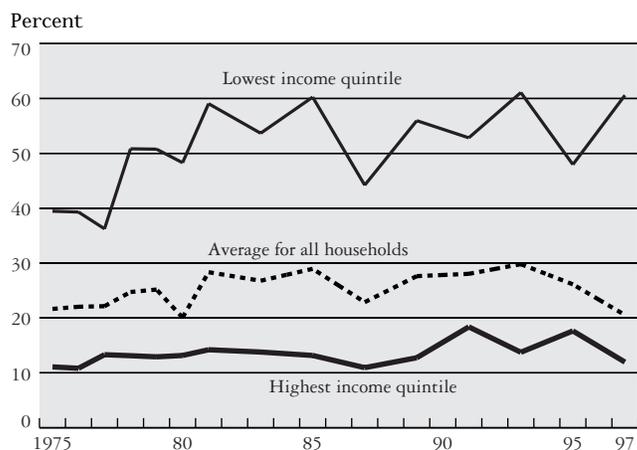
Sources: U.S. Bureau of the Census; U.S. Department of Housing and Urban Development.

For the highest income quintile, financial commitment rose relatively modestly over this time interval. In contrast, the financial commitment of households in the lowest income quintile deteriorated even more from the mid-1970s to the mid-1980s, rising from around 40 percent to around 60 percent. By 1997, it was still around 60 percent, exhibiting none of the improvement experienced by the average household. The source of the long-term rise in the financial commitment of the lowest income quintile has been the relatively slow growth in family income compared with housing costs (Chart 6). While housing costs have advanced more rapidly than income for all households, the difference in growth rates has clearly been most pronounced for the lowest income quintile.

For relatively young households in the lowest income quintile, the fraction of income devoted to housing costs is even higher, averaging about 65 percent in 1997 (Chart 7). This share has remained between 50 and 65 percent for the past decade and has not differed systematically between owners and renters. Low-income households with older heads, however, devote a substantially smaller share of their income to housing than do younger households, but this share has increased roughly 15 percentage points for both groups between 1975 and 1997. Neither the younger nor the older households in the lowest income quintile,

regardless of whether they are renters or owners, have seen an improvement in their financial commitment over the 1990s. Also of note, there does not appear to be a significant distinction in the financial commitment of low-income households in subsidized versus unsubsidized units.

Ideally, the measure of income used in computing financial commitment would include the imputed return on homeowners' equity. After all, this is most households' single largest asset. For those sample records with the necessary data points—or where we could reasonably assign missing values—we estimated the return on owners' equity, included it in income, and then computed financial commitment with and without this source of income.[4] Chart 8 presents those results for the first, third, and fifth income quintiles, where assignment of a sample record to an income quintile is based upon the reported cash income only. Note that financial commitment is reduced by roughly 10 percentage points for the lowest income quintile, but by only about 2 percentage points for the highest income quintile. Two factors appear to explain this result. First, the lowest income quintile includes a relatively high proportion of older households, many of which are owners with relatively low loan-to-value ratios. Second, in relation to cash income, this return on equity is considerably more

Chart 6

Housing Costs and Income Growth, 1975-97
Compound Annual Rate
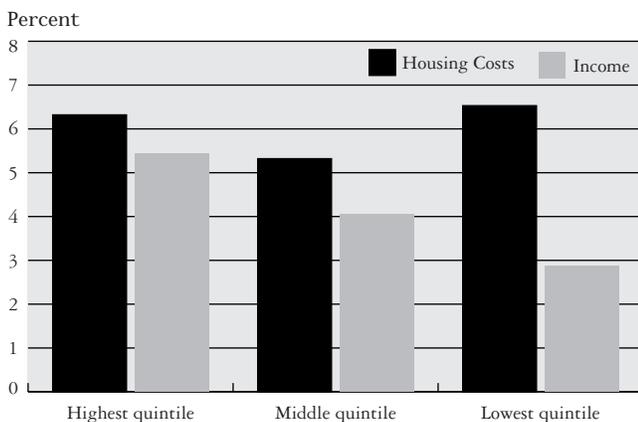
Percent

Source: Authors' calculations, based on American Housing Survey data.

Chart 7

Financial Commitment: Young and Old
in the Lowest Income Quintile
Average Housing Costs as a Percentage of Family Income
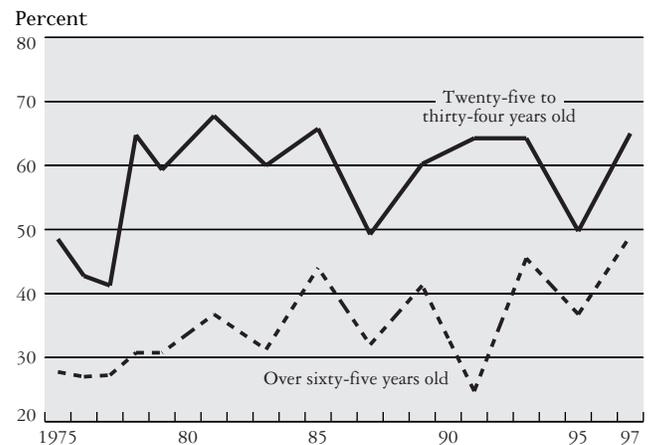
Percent

Sources: U.S. Bureau of the Census; U.S. Department of Housing and Urban Development.

Financial Commitment: First, Third, and Fifth Income Quintiles

Average Housing Costs as a Percentage of Family Income

Percent
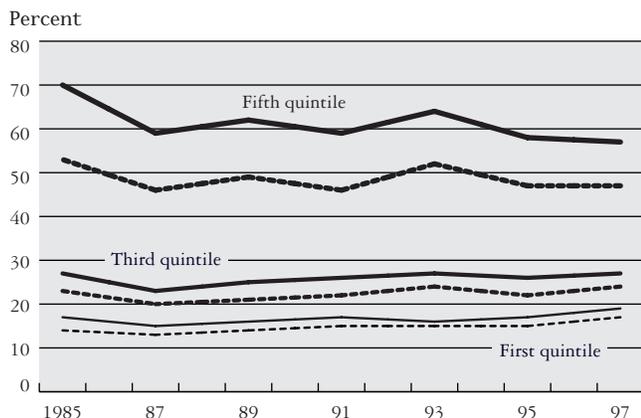
Sources: U.S. Bureau of the Census; U.S. Department of Housing and Urban Development.

Note: Solid lines represent pre-equity housing costs; dashed lines represent post-equity housing costs.

Chart 9

Neighborhood Quality

Percentage of Households Responding "Fair" or "Poor"

Percent

Sources: U.S. Bureau of the Census; U.S. Department of Housing and Urban Development.

important for low-income households than for high-income households. Inclusion of return on equity does not alter the fundamental result, that lower income households pay what many regard to be an excessive share of their income for housing. However, it does alter the relative financial commitment across income quintiles.

VI. NEIGHBORHOOD QUALITY

The AHS includes a self-reported assessment of the household's neighborhood as either excellent, good, fair, or poor, based on the presence, dependability, and adequacy of specific public services and the presence and extent of bother resulting from detriments such as litter, crime, and pollution. We present data on the percentage of respondents rating their neighborhood as either "fair" or "poor" as our final housing outcome.

Between 1975 and 1997, assessments of neighborhood quality improved for households nationwide and in the lowest and highest income quintiles (Chart 9). As with physical adequacy, the greatest improvement has been in the lowest income quintile. Nevertheless, households in the lowest income quintile rate their neighborhood conditions substantially lower than those in the wealthiest quintile.

Within the lowest income quintile, households with relatively young heads rate their neighborhood conditions lower than households with older heads (Chart 10). In addition, owners in the lowest income quintile rate their neighborhood conditions higher than renters do.

Chart 10

Neighborhood Assessment: Owners and Renters in the Lowest Income Quintile

Percentage of Units Rated "Fair" or "Poor"

Percent
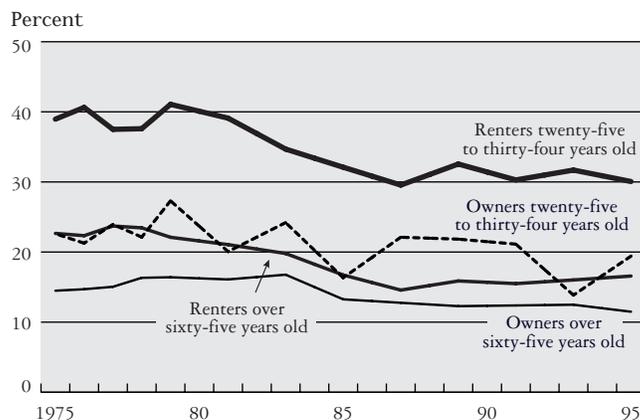
Sources: U.S. Bureau of the Census; U.S. Department of Housing and Urban Development.

VII. Conclusion

The physical adequacy of the nation's housing stock has improved over the past few decades, particularly for households in the lowest income quintile. Today, there is very little difference across income quintiles in terms of the physical adequacy of the housing units occupied. A similar result holds for persons per room. Because newly constructed housing units have tended to increase in size over time while persons per household have diminished, persons per room have steadily declined for all income quintiles and there is now little difference across quintiles. Assessments of neighborhood quality have also improved, although not nearly as much as the physical quality of the housing stock. Furthermore, a sharp divergence of assessments of neighborhood quality remains across the income quintiles. In contrast, financial commitment has not improved, particularly for lower income households. The share of this group's income devoted to housing increased significantly in the late 1970s, a period of rapid inflation, and remained high in the 1980s, a period of generally high interest rates. While there has been some improvement for the population as a whole in the 1990s—likely due in part to the slowing of inflation and the associated decline in long-term interest rates—this improvement has not been experienced by households in the lowest income quintile.

Within the lowest income quintile, physical adequacy improved noticeably over our sample period for households with relatively young heads (twenty-five to thirty-four years of age) and for those with older heads (sixty-five years of age and older). Very little difference was observed in the physical adequacy of the housing units occupied by these two groups in 1997. Although the persons-per-room and neighborhood-quality measures also improved for units with younger and older household heads, both measures were relatively worse for units with younger heads.

The financial commitment of households with younger heads exceeded that of households with older heads, although the gap has narrowed somewhat over the past two decades due to a modest, increasing trend in the commitment of households with older heads. Unit owners in the lowest income quintile had better housing outcomes than renters on all four measures. Notably, the financial commitment of older renters is now more than 10 percentage points higher than that of older owners. In addition, the neighborhood assessment of younger renters was much lower than that of younger owners.

Finally, the available data recognize that the ability to distinguish between households living in subsidized units and those living in unsubsidized units is limited because the information in the American Housing Survey is self-reported. Nonetheless, our analysis of the survey data indicates that there is no significant difference between these groups in terms of financial commitment and physical adequacy.

APPENDIX: PHYSICAL ADEQUACY CRITERIA USED TO RATE HOUSING UNITS

Criterion	Severely Inadequate: Any of the Following Conditions	Moderately Inadequate: Any of the Following Conditions, but None of the Severe Conditions
Plumbing	Lacking hot, piped water or a flush toilet, or lacking both bathtub and shower, all for the exclusive use of the unit.	Having all toilets break down at once, at least three times in last three months, for at least six hours each time.
Heating	Uncomfortably cold last winter for twenty-four hours or more due to heating system breakdown, and the system broke down at least three times last winter for at least six hours each time.	Having unvented gas, oil, or kerosene heaters as the main source of heat.
Upkeep	Any five of the following six conditions: leaks from outdoors, leaks from indoors, holes in the floor, holes or open cracks in the walls or ceilings, more than a square foot of peeling paint or plaster, rats in the last ninety days.	Any three of the six conditions considered severely inadequate.
Hallways	Having all of the following four conditions in public areas: no working light fixtures, loose or missing steps, loose or missing railings, no elevator.	Any three of the four conditions considered severely inadequate.
Electric	Having no electricity, or all of the following three conditions: exposed wiring, a room with no working wall outlet, three blown fuses or tripped circuit breakers in the last ninety days.	NA
Kitchen	NA	Lacking a sink, range, or refrigerator, all for the exclusive use of the unit.

Source: U.S. Department of Housing and Urban Development (1990, p. 67).

ENDNOTES

1. See U.S. Department of Housing and Urban Development (1990) for additional details.

2. The definition of income used to sort households into income quintiles is discussed in the section on financial commitment.

3. A household is defined as receiving a housing subsidy if: a) it occupies publicly owned housing; b) the federal government pays some of the cost of the unit; c) a state or local government pays some of the cost of the unit; d) the household's income must be reported each year to determine the rent the household must pay; e) the household obtained a below-market interest rate on a mortgage through a government program; f) the housing unit is rent-controlled—or any combination of the aforementioned. In the American Housing Survey, all of the above information is self-reported. Therefore, it is quite likely that the true number of households receiving some form of subsidy is larger than reported.

4. To estimate return on equity, an estimate of owners' equity is multiplied by some rate of return. Equity is defined as home values minus the outstanding balance on any loans secured by the home. The AHS contains a self-reported estimate of the current value of the home as well as data that enable the user to estimate outstanding loan balances: the date the loan was acquired, the original loan amount, the amortization period, and the interest rate for the first and second mortgages (with summary information on additional mortgages). Unfortunately, many records lacked some of this information—in particular, the data acquired—so outstanding loan balances could not be computed for all owner records. For those records in which equity could be estimated, the assumed rate of return on equity was the current yield on Government National Mortgage Association mortgage-backed securities, as suggested by Hendershott (1988).

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A Look at Real Housing Prices and Incomes: Some Implications for Housing Affordability and Quality

Joseph Gyourko and Joseph Tracy

I. INTRODUCTION

In the 1980s, the affordability of a single-family home joined traditional housing issues such as substandard units and racial discrimination as a focal point of housing policy discussion. Despite an aging population, which should increase home ownership over time, the aggregate ownership rate declined by 1 percentage point during the 1980s. This marked a reversal of the trend over the past several decades toward higher aggregate home ownership rates.

In this paper, we update this affordability debate using data from the 1990s. We follow Gyourko and Linneman (1993) in addressing the affordability issue by asking a simple question: Is a home of a given quality from ten or twenty years ago more or less affordable today to a household similarly situated to the type of household that occupied the home a decade or two ago? It is important to determine whether the prolonged economic expansion of the 1990s has significantly improved affordability for households at the bottom of the income distribution. Real

Joseph Gyourko is a professor of real estate and finance at The Wharton School, University of Pennsylvania; Joseph Tracy is a vice president at the Federal Reserve Bank of New York. The views expressed are those of the authors and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

house prices at the lower end of the price distribution fell during the 1990s. However, our concept of affordability also hinges on the trends in constant-quality house prices for which, heretofore, there have not been estimates for the current expansion.

Also in need of reexamination is Gyourko and Linneman's conclusion that housing quality at the lower end of the house price distribution is rapidly deteriorating. We introduce a new estimation technique that suggests that the quality of high-end homes may have improved more and the quality of low-end homes may have deteriorated less than has been suggested in previous research. This analysis also has implications for the Clinton Administration's desire to expand home ownership, particularly among lower income households. It strikes us as virtually impossible to tell whether or not this is a good idea without knowing whether the quality of lower end housing really is falling and, if so, if it is the deterioration's proximate cause. If the quality decline is real, and if it reflects an inability of low-income households to afford adequate maintenance, then it may be misguided to encourage more low-income households to place their wealth in owner-occupied housing. While we cannot answer the question here, our analysis suggests urgently needed research.

II. WHAT DO WE MEAN BY HOUSING AFFORDABILITY?

Linneman and Megbolugbe (1992) note that how affordability is defined can have important policy consequences. For example, the most widely known affordability index, published by the National Association of Realtors (NAR), is constructed such that an index value of 100 implies that the median income family qualifies for the median value home. Because interest rates are more variable than incomes, changes in the NAR index over time primarily reflect variations in mortgage rates. Given current low long-term interest rates, the NAR index indicates that single-family housing is now more affordable than at any time in the last twenty-five years. This is evident in Chart 1, in which we overlay the NAR's Composite Homebuyer Affordability Index against the thirty-year fixed-rate mortgage rate.[1] Improving housing affordability as measured by the NAR index points to mortgage subsidy programs and policies that act to lower long-term interest rates.

Work by Jones (1989) and Linneman and Wachter (1989) implies that these policies would be insufficient to deal with the real affordability problems facing many households. These researchers have found that down payment requirements have a significant impact on the ability

of many households to buy a home. While lower interest rates reduce the income necessary to purchase a home, they do not directly reduce the down payment requirements. As a consequence, the levels and growth rates of savings and incomes, in addition to house prices and interest rates, are key components of housing affordability. It is important, then, to move beyond the NAR affordability index.

III. HOUSING, WAGE, AND INCOME DATA: SOURCES AND DESCRIPTION

The American Housing Survey (AHS) series, published by the U.S. Bureau of the Census, is our primary housing data source. We report data from 1974-97. The AHS data were collected annually until 1981 and biannually afterward.[2] In this study, we use only the national core files. We define the reference home for our study to be a single-family, owner-occupied unit located in an urban area. Most houses that fit our definition are detached, though city row houses and suburban town houses are included, while condominiums and cooperatives are excluded.

House prices reflect owner-reported values. Prior to 1985, these values are reported in interval form, with the interval boundaries changing through time. From 1985 to 1997, house values are reported in continuous form up to a top-coded amount that has been rising over time (leaving a roughly constant 4 percent of the sample per year subject to top coding). Rounding of house values is evident in the data since 1985, with clustering around multiples of $25,000. We convert nominal house values into constant 1998 dollars by deflating by the consumer price index (CPI), less its shelter component.

The AHS data contain a wealth of information on housing quality. In order to maintain consistent quality measurements across the many years of our study, we use only a limited number of variables to construct constant-quality real house prices. These are the same variables used in Gyourko and Linneman, permitting a direct comparison with the other time periods covered in that study.

Table 1 lists the twelve structural and neighborhood characteristics that we use to measure quality. Five are dichotomous dummy variables, where a value of 1 indicates

Chart 1

National Association of Realtors (NAR) Housing Affordability Index
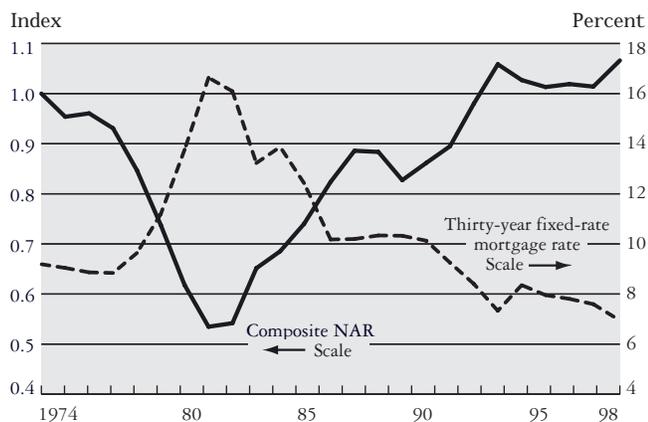
Sources: National Association of Realtors; Federal Home Loan Mortgage Corporation.

Table 1
STRUCTURE TRAITS VARIABLE KEY

Trait	Description
DETACH (detached unit status)	Dichotomous 1=detached unit
GARAGE	Dichotomous 1=garage present
CELLAR	Dichotomous 1=cellar present
CENTAIR (central air conditioning)	Dichotomous 1=central air present
CENTCITY (central-city location)	Dichotomous 1=located in central city
AGEHSE (age of house in years)	Continuous
BATHS (number of bathrooms)	Polychotomous: four categories— 1, 1.5, 2, 2.5+[a]
BEDROOMS (number of bedrooms)	Polychotomous: five categories— 1, 2, 3, 4, 5+[a]
OTHROOMS (number of other rooms)	Polychotomous: six categories— 1, 2, 3, 4, 5, 6+[a]
HEATSYS (heating system codes)	Polychotomous: four categories— central warm air, steam, electric, other
HQUAL (overall structure quality rating)	Polychotomous: four categories— excellent, good, fair, poor
NQUAL (overall neighborhood quality rating)	Polychotomous: four categories— excellent, good, fair, poor

Source: U.S. Census Bureau, American Housing Survey, national core files.

[a]Denotes a top-coded amount.

that the housing unit contains the relevant trait. These variables reflect if the home is detached (DETACH), has a garage (GARAGE), has a basement (CELLAR), is equipped with central air conditioning (CENTAIR), and whether the unit is located in the central city rather than in the suburbs (CENTCITY).

Six of the quality measures are polychotomous. Three measure the number of rooms in the house (BATHS, BEDROOMS, OTHROOMS). The top codes reported for the number of rooms apply to the 1974-83 AHS files. Expanded information on the number of rooms is reported beginning in 1985. However, to maintain consistency across all years, we impose the top coding from the earlier years of the survey.

We also include controls for the type of heating system (HEATSYS). Houses that did not have a central warm air, steam, or electric system are grouped into a single category labeled "other." The final two variables are owner-reported quality ratings of the surrounding neighborhood (NQUAL) and of the overall house structure (HQUAL). For each of these variables, there are four

possible quality evaluations: excellent, good, fair, and poor.[3] A final variable, the age of the home (AGEHSE), is transformed to continuous form by using the midpoint of the reported interval.

We utilize family income data from two sources—the AHS and the March Current Population Surveys (CPS). The income data include all cash income received by the household head and all relatives living in the housing unit. This includes wages and salaries, self-employment income, as well as interest income, social security, pensions, alimony, and the like. Real household and personal incomes are calculated by deflating by the *overall* CPI (not the CPI less shelter, as with house prices) and are expressed in 1998 dollars.[4]

IV. THE HOMES AND THEIR OWNERS

Table 2 provides summary statistics on the socioeconomic characteristics of households that own single-family houses. Table 3 provides summary statistics on the characteristics of their homes. For simplicity of exposition, these tables focus on three points in time—1975, 1985, and

Table 2
OWNER CHARACTERISTICS

Trait	1975	1985	1995
Family income	$48,506	$45,474	$45,989
Age of head of household	47	52	47
Race of head of household (percent)			
White	90.7	90.1	87.7
Black	7.8	8.2	8.9
Other	1.5	1.7	3.4
Sex of head of household (percentage male)	84.3	76.4	70.2
Marital status (percentage married)	80.5	71.0	67.5
Education of head of household (percent)			
Elementary	14.0	11.1	6.0
Some high school	13.2	10.9	9.0
High school graduate	34.1	35.0	29.8
Some college	16.7	17.3	26.3
College graduate	11.3	13.9	17.9
Some graduate school+	10.7	11.8	11.0
Persons in household	3	3	2
Persons per room	0.50	0.43	0.40

Source: U.S. Census Bureau, American Housing Survey, national core files.

Note: Weighted medians are reported for all continuous variables.

STRUCTURE CHARACTERISTICS

Trait	1975	1985	1995
Bathrooms	1.5	1.5	2.0
Bedrooms	3.0	3.0	3.0
House size (square feet)	NA	1,700	1,800
Lot size (square feet)	NA	11,000	12,000
Other rooms	3.0	3.0	3.0
Percentage detached units	94.9	91.3	92.3
Percentage with a garage	78.4	75.0	78.4
Percentage with a cellar	56.9	51.4	49.6
Percentage with central air conditioning	43.6	39.0	56.1
Percentage with warm air heating system	65.5	62.0	62.7
Age of house	20.5	20.5	30.5
House quality ranking (percent)			
Excellent	46.3	59.5	58.9
Good	45.2	33.6	36.5
Fair	7.9	6.4	4.3
Poor	0.6	0.5	0.3
Neighborhood ranking (percent)			
Excellent	43.8	55.3	52.7
Good	44.1	33.7	38.4
Fair	10.7	9.3	7.6
Poor	1.4	1.7	1.3
Percentage in central city	34.1	33.8	30.6

Source: U.S. Census Bureau, American Housing Survey, national core files.

Note: Weighted medians are reported for all continuous variables.

Real Family Incomes

Source: U.S. Census Bureau (American Housing Survey, national core files; March Current Population Survey).

1995. The median family income data in the top row of Table 2 highlight one of the key factors precipitating the housing affordability problem identified by Gyourko and Linneman (1993). After rising by 29 percent, or 1.8 percent per annum between 1960 and 1974 (see the authors' Table 2), the real median household income of homeowners in our samples fell by $3,000, a 6.2 percent decline, between 1975 and 1985. It remained basically unchanged between 1985 and 1995.[5]

To explore this issue in greater detail, Chart 2 shows the time path of real household income from the CPS data for several reference households. We focus on full-time workers with at least five years' potential work experience.[6] The chart presents indexed values of real household income for the 35th, 50th, 62nd, 71st, and 86th percentiles of the income distribution. We select these percentiles because they represent the household incomes in 1975 of the typical owners of homes from the 10th, 25th, 50th,

75th, and 90th percentiles of the house price distribution, respectively.[7] That is, a home from the 10th percentile of the house price distribution in 1975 was likely occupied by a household with an income putting it around the 35th percentile of the overall household income distribution in that year.

The well-known increase in income inequality that occurred in the 1980s is readily apparent in Chart 2, even among the households that all have incomes high enough to support owning a home. By 1997, the index value for the 86th-percentile household is at 1.19, while the index value for the 35th-percentile household is only at 1.01, representing an 18 percent widening from the mid-1970s.

In Chart 3, we show home ownership rates over time for different household income breakdowns. While the ownership rate for households in the top quartile of the income distribution has been very stable, ownership rates for the three lower income quartiles have fallen over time. The extent of the ownership declines increases as you move down the income distribution.[8] This chart points out that, among experienced full-time workers, declines in home ownership propensities have not been confined to those in the bottom quartile of the income distribution.

The pronounced changes in the educational achievement of homeowners identified in Gyourko and

Linneman have continued since the mid-1980s. Owning a single-family home is increasingly associated with having more than a high school education. Gyourko and Linneman reported that in 1960, 50 percent of homeowners had less than a high school education, while only 25 percent had attended college. By 1975 (column 1 of Table 2), only 27 percent of homeowners had less than a high school education, with that fraction falling to 15 percent by 1995. In contrast, by 1995, 55 percent of homeowners had at least some college education, with nearly 30 percent being college graduates.

Chart 4 displays home ownership rates over time by degree of educational attainment of the household head. The most precipitous fall clearly is for those without high school degrees. By 1997, the likelihood that a non–high school graduate owned a house was only 80 percent of the rate that prevailed in 1974. Even high school graduates with meaningful labor market experience now own homes at approximately 90 percent of the rate they did in the mid-1970s.

The housing quality information reported in Table 3 highlights the changes in the type of single-family unit being consumed. Median values are reported so that the data reflect characteristics consistent with the typical home. In terms of the number of rooms, the most significant change is in the number of bathrooms. The median number of bathrooms now is two, an increase of one-half of a bathroom since 1975.[9] Evidence from other sources confirms that homes and lots have become bigger over time.[10]

The spread of central air conditioning continues, increasing from 44 percent in 1975 to 56 percent in 1995. While this trait is sensitive to regional sampling, it represents a strong secular increase from the 3 percent level existing in 1960 according to U.S. Census Bureau data. Roughly two-thirds of homes had centralized warm air heating systems by 1975. While there has been little change since then, this also reflects a marked rise from the 1960s (see Table 3 in Gyourko and Linneman), when most homes had room or steam heating systems. In general, the spread of centralized systems reflects their increasing presence in lower priced homes.

House and neighborhood quality ratings have stabilized at their 1985 values. This marks a break in the trend identified in Gyourko and Linneman in which overall house and neighborhood quality had been consistently improving over time. Finally, the average age of the housing stock has increased. This is the only obvious dimension on which housing quality has declined over time.

Chart 3

Home Ownership Rates
By Real Income
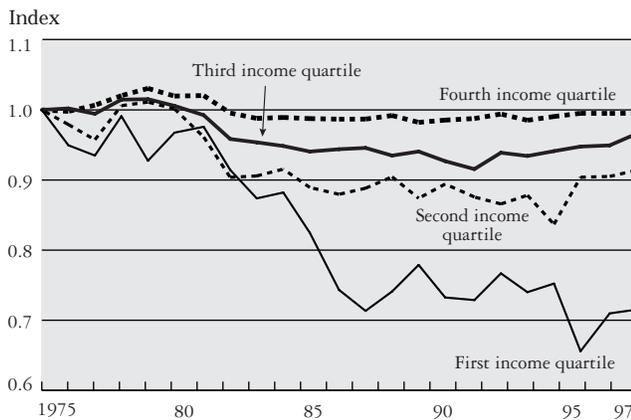
Index

Source: U.S. Census Bureau, March Current Population Survey.

Note: Households must have more than five years of experience and work full-time/full-year.

Chart 4

Home Ownership Rates
By Education Level
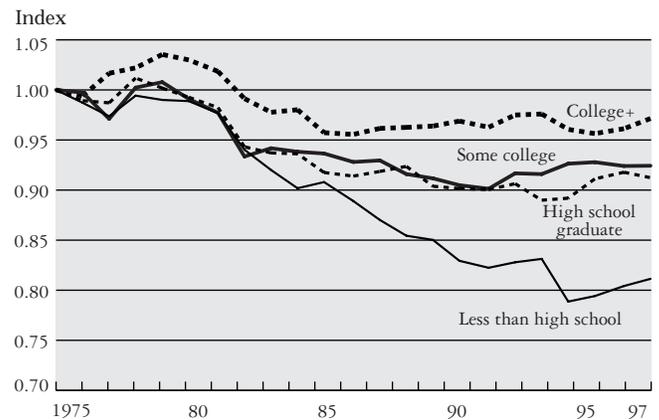
Index

Source: U.S. Census Bureau, March Current Population Survey.

Note: Households must have more than five years of experience and work full-time/full-year.

V. Real House Price Patterns
since 1960

Chart 5 plots in index form the price series for the 10th, 25th, 50th, 75th, and 90th percentiles of the real house price distribution from 1974-97. While Gyourko and Linneman reported that the entire price distribution of single-family housing shifted upward between 1960 and 1974, the same is not true since the mid-1970s. Only the real values of homes from the 75th and 90th percentiles of the price distribution have risen in real terms since 1974, with the index value in 1997 for the 75th-percentile home at 1.10 and that for the 90th-percentile home at 1.35. The median real house value in 1997 is essentially unchanged since 1974. The real price of the home from the 25th percentile in 1997 is only 89 percent of that for 1974. For the 10th-percentile home, the real price fell by an even larger 28 percent between 1974 and 1997.[11]

The widening of the real house price distribution in the 1980s parallels the widening of the income distribution. The literature on income inequality (see Levy and Murnane [1992]) emphasizes that the spreading out of incomes has occurred both within and between different skill groups of workers. This raises the interesting question of whether the growing variance in real house prices is being driven as well by increases in both the within- and between-group variance. Following the inequality litera-

Chart 5

Real House Price Distribution
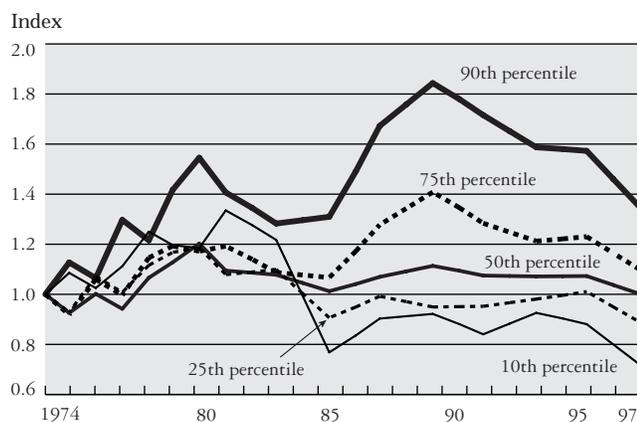
Source: U.S. Census Bureau, American Housing Survey, national core files.

ture, we defined household heads according to forty skill groups based on four education categories (less than high school, high school graduate, some college, and college+) and ten age categories. We found that the increased dispersion of real house prices primarily reflects increased dispersion within age/education groups.[12]

VI. Constant-Quality Prices

Any discussion of ownership affordability must distinguish between changes in house prices associated with house-quality changes, and changes in house prices associated with price changes of constant-quality housing bundles. The following subsections present two approaches to estimating constant-quality price changes.

A. Mean Regression Approach

Five housing-quality packages were chosen to reflect the typical characteristics of homes in the 10th, 25th, 50th, 75th, and 90th percentiles of the price distribution as of 1974 (see the appendix). We used hedonic price regressions to price the five quality bundles, estimating the hedonic price equations separately by year. We priced the five 1974 bundles going forward from 1974 to 1997.

Equation 1 describes the regression specification estimated for each year of the AHS data (year subscripts are suppressed),

$$(1) \quad \log(HP_i) = \beta_0 + \beta_1 BATHS_i + \beta_2 BEDROOMS_i$$
$$+ \beta_3 OTHROOMS_i + \beta_4 DETACH_i$$
$$+ \beta_5 GARAGE_i + \beta_6 CELLAR_i$$
$$+ \beta_7 HEATSYS_i + \beta_8 CENTAIR_i$$
$$+ \beta_9 NQUAL_i + \beta_{10} HQUAL_i$$
$$+ \beta_{11} CENTCITY_i + \beta_{12} AGEHSE_i$$
$$+ \beta_{13} AGEHSE_i^2 + \varepsilon_i ,$$

where *HP* represents the real house price, *i* indexes the individual observations, β_j represents a coefficient or coefficient vector, the regressors correspond to the dichotomous or polychotomous variables defined in Table 1, and ε is the standard error term. By estimating the specification separately by year, we allow the mean trait prices, β_j, to reflect relative attribute price changes that were occurring over the time period.[13] The underlying hedonic coefficients for

each year do not merit discussion here and are available upon request.

The average constant-quality house prices based on the estimated mean trait prices are presented in Chart 6. This chart looks much different from the unadjusted real price series plotted in Chart 5. For the 75th- and 90th-percentile homes, constant-quality price growth has been much less than the appreciation in actual house prices. The reverse is true for the lower quality homes, in particular those at the 10th percentile.

For example, constant-quality prices for 10th-percentile houses increased by 33 percent from 1974-97, while the real price appreciation of the 10th-percentile house (whose trait bundle can change over time) fell by 28 percent. This not only indicates that the unadjusted real price series may misrepresent the affordability of a specific low- or moderate-quality house over time, but that there also may have been a serious erosion of housing quality among lower priced homes.[14]

A comparison of Charts 5 and 6 suggests that the quality of high-end units may have increased over the last two decades. For the 75th- and 90th-percentile homes, the unadjusted real price appreciation is substantially higher than the constant-quality price appreciation. While the unadjusted real price of the home from the 90th percentile

Chart 6

Constant-Quality House Price Indices
Mean Regression Method

Source: U.S. Census Bureau, American Housing Survey, national core files.

increased by 35 percent between 1974 and 1997, the constant-quality price increased by only 1 percent.

Whether the divergence between the average constant-quality and unadjusted price indices at the low-end of the price distribution indicates deteriorating quality among lower end homes is an important question for a couple of reasons. First, the home typically is the repository of virtually all of the owner's net worth, so deteriorating quality suggests that the owners might be consuming their net worth in ways hidden to data analysts. This has potentially important implications for measured savings rates. Second, lower end homes tend to be concentrated in central cities and in older, inner-ring suburbs. A deteriorating housing stock would jeopardize the future viability of such areas, constituting an important urban policy problem.

Given the policy importance of the conclusions drawn from these results, it is important to consider the robustness of the mean regression approach in identifying differential price changes across the house price distribution. Assume, for example, that real incomes at the 75th percentile increase by 10 percent and those at the 25th percentile decrease by 10 percent. In response to these real income changes, there is an increase in demand for high-quality houses and a decrease in demand for low-quality houses. Assume further that these changes in demand affect the overall prices of high- and low-quality houses, leaving the relative trait prices unaffected.[15] With a balanced number of households demanding higher quality homes at the 75th percentile and households demanding lower quality homes at the 25th percentile, there may be no significant change in the average price of a home.[16] The mean regression approach, then, may not pick up this type of divergence in constant-quality real house prices across the house-quality distribution.

Now assume that these changes in demand affect the prices of high- and low-quality houses only through changes in the relative prices of housing traits. That is, assume that homeowners perceive some traits, say, bathrooms, as luxury items. An increase in real income for households at the upper end of the income distribution, then, will lead to an increase in the relative price of luxury
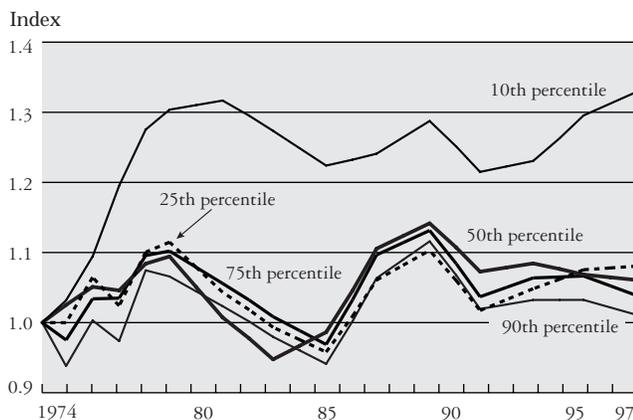
housing traits for high-quality homes. Similar decreases in real incomes for households at the lower end of the income distribution will lead to a decrease in the relative price of these same house traits for low-quality homes. If these relative price changes are roughly offsetting, then there may be no significant change in the average relative prices of housing traits. Again, the mean regression approach may not pick up this divergence in constant-quality real house prices. This suggests that alternative empirical strategies may be worth exploring.

B. QUANTILE REGRESSION APPROACH

This approach borrows heavily from the mean regression methodology, but relaxes the restriction that only average trait prices are used to construct the constant-quality price indices. In the quantile regression approach, each separate price index (say, the one for the 25th percentile) is constructed using its own trait prices. The trait prices for the 25th percentile, for example, are selected so that 75 percent of actual house prices are higher than what you would predict based on the house traits and on the 25th-percentile trait prices. In addition, 25 percent of actual house prices are lower than what you would predict based on the house traits and on the 25th-percentile trait prices. If, say, bathrooms tend to contribute relatively more value to high-quality homes than to low-quality homes, then this will show up as differences between the quantile-specific price for bathrooms at the upper and lower ends of the house-quality distribution.

Equation 2 describes the quantile regression specification estimated for each year (and specific quantile) of the AHS data (year subscripts are suppressed),

$$(2)\ \log(HP_i) = \beta_{q0} + \beta_{q1}BATHS_i + \beta_{q2}BEDROOMS_i$$
$$+ \beta_{q3}OTHROOMS_i + \beta_{q4}DETACH_i$$
$$+ \beta_{q5}GARAGE_i + \beta_{q6}CELLAR_i$$
$$+ \beta_{q7}HEATSYS_i + \beta_{q8}CENTAIR_i$$
$$+ \beta_{q9}NQUAL_i + \beta_{q10}HQUAL_i$$
$$+ \beta_{q11}CENTCITY_i + \beta_{q12}AGEHSE_i$$
$$+ \beta_{q13}AGEHSE_i^2 + \varepsilon_i,$$

where the subscript q denotes a specific quantile (that is, the 25th percentile).

We present in Chart 7 the constant-quality quantile-specific price indices based on the 1974 housing trait bundles and the quantile-specific price estimates from equation 2. Similar to the construction of the earlier price indices, consider the constant-quality price index value for the 25th-percentile house in year t. This is constructed by predicting the value of the house using the estimated 25th-percentile coefficients in year t from equation 2 and the housing traits for the 25th-percentile house and dividing this by its predicted value in 1974.

While the two approaches to estimating constant-quality price indices share many common features, some important differences emerge for the upper and lower tails of the house price distribution. Starting with the upper tail, the quantile hedonic method suggests that more rapid real price increases occurred between 1974 and 1997. The average constant-quality price index for the 90th percentile reached its peak at 1.12 in 1989, and declined to 1.01 by 1997 (Chart 6). In contrast, the 90th-percentile quantile-specific constant-quality price index reached its peak at 1.70 in 1989, and declined to 1.31 by 1997 (Chart 7). Thus, while the average hedonic measure indicates that the 90th-percentile constant-quality house prices were only 1 percent higher in 1997 than in 1974, the quantile hedonic measure suggests that they were 31 percent higher. Recall that the unadjusted real price index for the

Chart 7

Constant-Quality House Price Indices
Quantile Regression Method
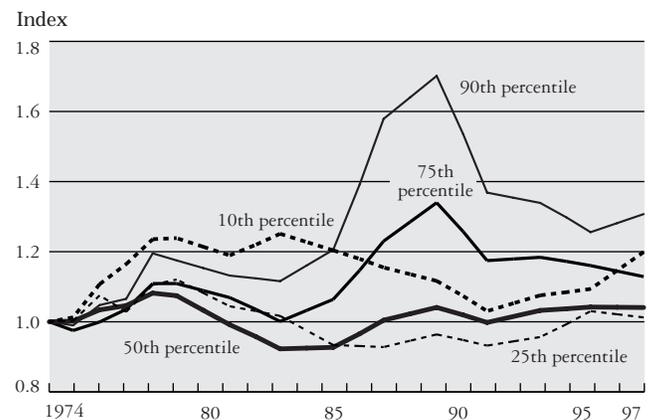
Source: U.S. Census Bureau, American Housing Survey, national core files.

90th-percentile house was 35 percent higher in 1997 than in 1974. The fact that both approaches to holding quality constant yield lower estimates of the real price increase at the top of the house price distribution is consistent with a general trend toward higher quality high-end houses. The increase in quality, though, looks to be considerably smaller when estimated using the quantile regression approach.

Looking at the bottom of the house price distribution, after rising 33 percent by 1981, the unadjusted real price index for the 10th percentile declined over the next sixteen years, ending up in 1997 at 28 percent below the 1974 value (Chart 5). The average hedonic price index (Chart 6) suggests that a constant-quality house at the 10th percentile was 33 percent more expensive in 1997 than in 1974. The quantile-specific hedonic price index paints a similar picture, but indicates that a constant-quality house at the 10th percentile was only 20 percent more expensive in 1997 than in 1974 (Chart 7). The fact that the 10th-percentile unadjusted real price index is well below both constant-quality indices suggests that average quality has worsened at the bottom of the house price distribution. Again, the extent of the deterioration differs depending on the estimation strategy.

That said, one still needs to be careful about concluding that quality changes must underpin any differences between the unadjusted and the constant-quality price growth estimates. While the average hedonic method may miss demand-induced price changes, the quantile hedonic method may pick up not only demand-induced price effects, but also some quality changes. Specifically, real income declines at the bottom of the income distribution will likely lead to both direct and indirect effects on real house prices at the bottom of the house price distribution. The direct effect is that reduced real income should lead to reduced demand for housing, resulting in real price declines. The indirect effect is that reduced real income may lead to deferred and/or reduced house maintenance. This will result in a reduction in the quality of houses, which may be picked up by the quantile-specific trait prices (in particular, the intercepts of the quantile regressions). Our average and quantile hedonic methods may provide a way to bound the true unobserved constant-quality price indices.

VII. REAL PRICES, REAL INCOMES, AND HOUSING QUALITY: IMPLICATIONS FOR AFFORDABILITY

Gyourko and Linneman (1993) identified a burgeoning affordability problem by the end of the 1980s for lower income households that was caused by a combination of reduced real wages (and wage growth and wage growth expectations in all probability) and increases in the real constant-quality prices of lower quality homes. While the NAR's affordability index suggests that home ownership opportunities have improved during the 1990s, other evidence suggests some skepticism is warranted in this regard—especially as one moves down from the median home or buyer. For example, Charts 6 and 7 show that the constant-quality price of a 10th-percentile home rose by at least 12 percent from 1991 to 1997. Constant-quality prices for 25th-percentile homes also increased during the 1990s, but the changes have not been as great. If the real incomes of the likely occupants of these homes did not rise commensurately, then the conditions identified by Gyourko and Linneman certainly would not have abated so far in this decade.

We know from Chart 2 that households from the 35th percentile of the income distribution (likely occupants of a 10th-percentile home) have enjoyed no real income increase since 1974. In Table 4, we report real personal and household income growth tabulated from the March CPS for full-time experienced workers. The three panels break down the data by income, educational achievement, and broad occupation status. Presuming the occupants of lower quality homes tend to have below median incomes, to be less well educated, and/or to be blue-collar/service workers, Table 4 documents that neither individual- nor household-level real incomes have risen in the 1990s, much less to the extent to which constant-quality housing prices rose over the decade.

These data suggest that households headed by relatively low-skilled workers manage to afford a single-family house only by adding the income of a second worker in the household, or by shifting further down the housing quality spectrum. In the case of the former, the household is not similarly situated to the one that consumed the same

	1974-81		1981-89		1989-97	
	Household	Personal	Household	Personal	Household	Personal
Income percentile						
10th	-7.9 (-1.2)	-8.0 (-1.2)	5.5 (0.7)	0.3 (0.04)	-5.8 (-0.7)	-10.4 (-1.4)
25th	-5.8 (-0.9)	-10.1 (-1.5)	6.3 (0.8)	2.1 (0.3)	-3.5 (-0.4)	-8.5 (-1.1)
50th	-1.9 (-0.3)	-8.4 (-1.2)	8.5 (1.0)	5.4 (0.6)	-0.5 (-0.1)	-7.2 (-0.9)
75th	0.1 (0.0)	-4.8 (-0.7)	13.3 (1.6)	7.3 (0.9)	1.2 (0.1)	-4.2 (-0.5)
90th	-0.7 (-0.1)	-3.3 (-0.5)	17.8 (2.1)	10.5 (1.2)	3.9 (0.5)	-0.1 (-0.01)
Education						
Less than high school	-7.8 (-1.1)	-14.0 (-2.1)	3.0 (0.5)	-2.2 (-0.4)	-0.5 (-0.1)	-2.1 (-0.4)
High school graduate	-7.2 (-1.1)	-12.8 (-1.9)	6.0 (1.0)	0.8 (0.1)	-1.4 (-0.2)	-7.0 (-1.2)
Some college	-6.3 (-0.9)	-12.4 (-1.9)	8.8 (1.4)	3.5 (0.6)	0.6 (0.1)	-4.6 (-0.8)
College graduate+	-3.4 (-0.5)	-8.9 (-1.3)	16.5 (2.6)	9.9 (1.6)	11.1 (1.8)	8.1 (1.3)
Occupation						
White-collar	-3.1 (-0.4)	-8.8 (-1.3)	22.2 (2.5)	17.3 (2.0)	8.9 (1.1)	5.9 (0.7)
Blue-collar	-2.8 (-0.4)	-7.0 (-1.0)	-4.0 (-0.5)	-12.1 (-1.6)	3.6 (0.4)	-4.1 (-0.5)
Service	-12.7 (-1.9)	-20.6 (-3.2)	44.0 (4.7)	49.4 (5.1)	0.1 (0.01)	-4.1 (-0.5)

Source: U.S. Census Bureau, March Current Population Survey.

Notes: Cumulative real appreciation rates are reported; implied compound annual growth rates are in parentheses. Heads of household must have more than five years of potential experience and work full-time/full-year.

reject the conclusion that a similarly situated occupant of a high-end home faces an affordability situation similar to that in the mid-1970s or mid-1980s.

That said, the quantile regression results suggest that the authors' conclusion may have been premature. That is, constant-quality house prices rose much more during the 1980s, according to the quantile regression results depicted in Chart 7. If this reflects a much smaller quality growth than indicated by a comparison of Charts 5 and 6, then affordability conditions during the 1980s may well have deteriorated for high-end occupants too. However, data from the 1990s suggest that things have improved on this front. Stated differently, the real incomes of households from the 75th and 90th percentiles of the income distribution rose in the 1990s, while constant-quality trait bundle prices were either flat or declining, depending on the estimation method used.

VIII. CONCLUSIONS

At least through 1997, real incomes of low-skilled workers have not fully recovered to their levels before the 1990-91 recession. With the price of a constant-quality housing bundle continuing to rise, the two primary factors that led Gyourko and Linneman to conclude that there was an affordability problem for relatively low-income occupants of lower quality homes are still present, despite the prolonged economic expansion of the 1990s.

The potential implications of these trends among low-end owners are particularly interesting. For example, the Clinton Administration is supporting a program to expand the pool of owners by at least one million households. Much of this increase will have to come from lower income households. The data presented here (suggesting that the quality of lower end homes continues to decline) point out the need for further research into whether this is in fact the case and, if so, the need to identify its causes. If the quality decline is real, and if the cause is an inability to fund adequately the maintenance of a very capital-intensive good such as housing, then encouraging lower income households to put what little wealth they do have into housing may be misguided. The true savings of these households may be negatively impacted, with further

quality bundle in, say, 1974. The same holds in the latter case, because an inferior housing service flow is now being consumed. While our data and analysis are not precise enough to determine whether affordability conditions have deteriorated significantly in the 1990s, there seems to be little doubt that they have not yet improved materially at the low end of the income and house price distributions.

For the typical occupant of a home at or above the median quality, Gyourko and Linneman concluded that there is not an affordability problem in any meaningful sense. Real income gains by well-paid professionals between 1974 and 1989 tracked the constant-quality prices of high-end homes fairly closely—at least using their average trait price hedonic approach (Chart 6).[17] Based on these data, there seems to be no compelling evidence to

important implications for their retirement years and for the communities in which they live. Research is also needed into whether these owners are increasingly "locked into" their homes (see Chan [1998]). With real quality declines, home equity may not be as high as some owners think or wish. Trading up or moving may become increasingly difficult for this group.

For higher end homes and their upper-income occupants, the quantile regressions suggest that constant-quality price growth in high-quality homes was much higher than what was estimated by Gyourko and Linneman using the average regression approach. Even if their conclusion—that there was no meaningful change in affordability conditions for these households—was premature, data from the 1990s suggest that affordability conditions certainly have not deteriorated for high-income households during this decade.

Trait	Percentile of the Price Distribution				
	10th	25th	50th	75th	90th
Actual price (1998 dollars)					
Bathrooms	1.00	1.00	1.50	2.00	2.00
Bedrooms	3.00	3.00	3.00	3.00	3.00
Other rooms	3.00	3.00	3.00	3.00	4.00
Detached unit	Yes	Yes	Yes	Yes	Yes
Garage	Yes	Yes	Yes	Yes	Yes
Cellar	No	Yes	Yes	Yes	Yes
Heating system	Central warm air	Central warm air	Central warm air	Central warm air	Central warm air
Central air conditioning	No	No	No	No	No
Age of house (years)	31	23	19	17	16
Overall structure quality	Good	Good	Excellent	Excellent	Excellent
Overall neighborhood quality	Good	Good	Good	Excellent	Excellent
Central-city location	Yes	No	No	No	No

Source: U.S. Census Bureau, American Housing Survey, national core files.

ENDNOTES

1. We have rebased the NAR index to have a value of 1 in 1974. This was done to make it more comparable with the American Housing Survey data series that starts in 1974.

2. While the AHS is designed as a panel data set, with an unbroken panel existing since 1985, we treat these data as a repeated series of cross-sections in our analysis.

3. Prior to 1985, there were only the four ratings categories. Subsequent ratings were on a scale of 1 to 10, with 1 being the poorest quality. We follow Gyourko and Linneman's (1993) method of collapsing these ten categories into the four pre-1985 categories.

4. The income and wage data understate the real resources available to many households, as cash incomes do not account for in-kind transfers that have risen appreciably since the 1960s. Moreover, nonwage benefits have become an increasingly large component of overall worker compensation. Of course, these benefits may be capitalized into wages or reflected in fewer hours worked. Gruber (1992) reports that certain mandated health benefits related to maternity are fully reflected in lower wages.

5. Some of the households in these samples are retired and do not have any wage income. There is a slight increase in the number of retirees in the sample over time.

6. We selected this group to abstract from the separate affordability problems facing new entrants into the labor force and part-time employees.

7. To determine the income percentile associated with the 10th-percentile house, we selected the median family income for households living in homes between the 5th and the 15th percentiles in 1975. This income was compared with the population distribution of family incomes in 1975 derived from the CPS data in order to determine its percentile ranking. We followed the analogous steps to determine the appropriate income percentile for the remaining house-quality percentiles.

8. The general drop in ownership rates relative to 1974 levels reflected in this chart and some of those below is indicative of very high ownership propensities among the retired elderly. We do not focus on the elderly here.

9. In 1960, the median number of bathrooms was 1.0, according to decennial census data (see Gyourko and Linneman [1993]).

10. Prior to 1985, the AHS contained no information on either the lot sizes or living areas of the homes in our sample. Data on new homes compiled by the National Association of Home Builders (NAHB) indicate that lot sizes and living areas increased by more than 250 square feet since the late 1970s. Median lot sizes have also increased, to more than 10,000 square feet, but the increase here is less in percentage terms. (See Table 1 of various issues of the NAHB publication, *Housing Economics*.)

11. The pattern of real house prices in the upper end of the distribution can be affected by the characteristics of new construction. While in any given year newly built homes account for only a small fraction of the entire stock, the cumulative effects of the consistently high quality of new homes can have a significant price impact. Our analysis finds that for the past two decades, the typical new home has been more expensive than at least two-thirds of the existing housing stock in any given year. While this varies from year to year, there has been a slight downward trend in the relative quality of new construction since the mid-1970s.

12. We can carry out this variance decomposition only from 1985, when house values are reported in continuous form.

13. We estimate the mean trait prices using a maximum likelihood method that explicitly takes into account: the interval nature of the pre-1985 house values, the top-coding of the post-1983 house values, and the "heaping" of the post-1983 house values at $25,000 multiples.

14. A significant pure aging effect exists in the actual prices of lower quality homes. Because virtually no low-quality new homes have been constructed recently, the stock of homes from the 10th and 25th percentiles ages by one year each year. This is not the case for higher quality homes. For example, the mean age of homes from the 75th percentile increases by only seven years (from nineteen to twenty-six years) between 1974 and 1989. However, the aging of the low-quality housing stock over time is not the primary cause for the disparity between the quality-adjusted and -unadjusted price series. For example, if we fix the quality of the 10th-percentile home in 1974 in all respects but age, its real price appreciation from 1974-97 still far exceeds real price appreciation of the 10th-percentile home. This indicates that housing quality at the low end of the price spectrum has fallen for reasons beyond the fact that lower quality homes are older in 1997 than they were in 1974.

15. That is, here we assume that the change in demand for quality housing does not result in changes in the prices of, say, bathrooms relative to other rooms.

16. This is an example of a mean-preserving spread in the house price distribution.

17. Moreover, we suspect that it is for these households that growing benefits packages have had their greatest negative effect on wages. Given the extensive noncash (and untaxed) benefits offered to many professionals, the real consumption power of these workers probably has risen much more in recent years than the pure wage data suggest.

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Commentary

Christopher J. Mayer

I. INTRODUCTION

Policymakers and researchers have become concerned by the increase in income inequality since the 1970s. However, some critics have suggested that these concerns are exaggerated because the consumer price index, which is used to calculate real income growth, is biased and does not fully consider the quality of goods consumed by the typical household. An alternative approach is to look at the bundle of goods that low-income households consume. Housing is the largest and most important of these consumption goods. To the extent that the cost of housing consumed by low-income households has not increased with the general rate of inflation, one might argue that the welfare of low-income households has not decreased to the same extent as their incomes. The papers by James Orr and Richard Peach and by Joseph Gyourko and Joseph Tracy each argue against this hypothesis. While I mostly agree with their interpretations of the data, I will try to put these papers in a broader context.

Before beginning, I would like to praise the authors and the Federal Reserve Bank of New York for

Christopher J. Mayer is an associate professor of real estate at The Wharton School, University of Pennsylvania. The views expressed are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

addressing an important policy issue. Declines in the U.S. home ownership rate have heightened concerns among analysts, and raising the home ownership rate is an important goal of the Clinton administration. Moreover, the impact of interest rates on the housing market is an important consideration in the conduct of monetary policy. Finally, as I mentioned above, these papers shed additional light on the debate over income inequality and measurement issues in the consumer price index.

My comments can be organized around a number of themes. First, I summarize the findings and make a few technical comments. Next, I discuss some of the other factors that may have contributed to these findings, including changes in demand, cyclical contributions, the supply side, and changes in other amenities. I continue with a discussion of the larger policy issues that these papers raise with regard to home ownership. Finally, I present a brief agenda for future research.

II. DISCUSSION OF THE FINDINGS

These two papers take different approaches to addressing a common problem. Orr and Peach look at a number of long-term trends in the housing market, documenting changes for both owners and renters. To a considerable extent, the news is good. They document a vast improvement in the physical adequacy of housing and in the average number of

persons per room, with most of the gains occurring for households in the lowest income quintile. Neighborhood quality has improved as well, but to a lesser degree. On the downside, however, the authors document an increase in the financial commitment to housing—that is, the percentage of a household's income that is spent on housing. In addition, households in the lowest income quintiles have seen the largest increase in financial commitment, although most of the increase occurred in the late 1970s. Since that time, financial commitment has remained roughly flat for this group, although year-to-year estimates show significant variability, probably due to sampling error.

Inevitably, any study of long-term gains is subject to certain difficulties. For example, variables such as neighborhood quality and physical adequacy depend, at least to some extent, on subjective interpretations that may change over time depending on contemporaneous standards. If expectations for these variables have increased over time, reported numbers in the American Housing Survey (AHS) might even understate actual gains. In addition, Orr and Peach's conclusions on financial commitment may overstate the problem for low-income households because they do not measure changes in the quality of housing. The increased use of air conditioning, the elimination of substandard units, and the inclusion of cable television may be examples of unmeasured quality improvements, although a variable for air conditioning is included in the AHS.

Gyourko and Tracy attempt to resolve this issue by conducting a detailed study of affordability that controls for changes in observed quality over time. They introduce a significant technical tool to address this question: the quantile regression. Previous studies have relied on differences in mean characteristics across income groups to control for quality. However, all houses with similar observed attributes are not created equal. In college, I lived in a four-bedroom house not far from campus. More recently, my wife and I are in the process of buying a four-bedroom house in a suburb of Philadelphia. While both houses have four bedrooms, I can guarantee that these houses are of vastly different quality. While my income has increased since college, so has the quality of my living arrangements. Without getting technical, the quantile regres-

sion allows the price of the attributes of a particular house to depend on the price of attributes of other, similarly priced houses. For most policy discussions, the quantile regression generates more informative estimates of house price changes in different price ranges.

Gyourko and Tracy's methodology produces interesting findings. For example, the quality-adjusted price of the 10th-percentile house has increased faster than the quality-adjusted price of all but the most expensive houses in the sample. Incomes for this group of homeowners have not increased nearly as quickly, and home ownership rates have declined substantially. In addition, real prices for the same 10th-percentile house have actually fallen, leading the authors to speculate that average quality has fallen over time for these houses, possibly due to decreased maintenance by homeowners. At the upper end of the spectrum, both real and quality-adjusted prices have increased substantially over the entire period, although both measures have fallen in the 1990s. Home ownership rates have been flat, but real incomes have risen somewhat. Both real and constant-quality prices for the median house have been relatively steady over this period.

One limitation of the Gyourko and Tracy study is its reliance on homeowners. From a policy perspective, the most disadvantaged households are likely renters and thus are excluded from the sample. Also, the home ownership rate has declined over the sample period, suggesting that the type of home in a given percentile may have changed over time. New construction would also lead to the same problem. If low-quality houses are increasingly dropped from the sample, the regression estimates will understate true gains in quality. The possibility that demand for low-end houses has fallen might explain why real prices have fallen, but quality-adjusted prices have risen.[1]

Another issue to keep in mind in interpreting the results of both papers is their reliance on current, as opposed to lifetime, income. Increases in the returns to education mean that young, highly educated households face a wage profile that is growing over time. As a result, such households may consume housing that represents a higher percentage of current income, but not as large a percentage of lifetime income. In addition, changes in the

labor market may make job transitions more frequent and thus make current income more volatile. Finally, as Orr and Peach show, imputed income for homeowners, not measured in most government surveys of cash income, can significantly affect conclusions about affordability, especially for low-cash-income households.

III. UNDERSTANDING THE RESULTS

Within a larger context, it is interesting to speculate on possible explanations for these findings. The most puzzling result from the Orr and Peach paper is the possibility that households in the lowest income quintile face a larger financial commitment. Without large increases in population, and given that the supply of housing in the short run is basically fixed, one might expect that lower real incomes for this group would lead to decreased housing costs. A couple of explanations are possible. First, the increase in prices may capitalize amenities that have improved over time. Gains in physical adequacy and neighborhoods, the use of air conditioning, a larger number of bathrooms, and more space per person are all amenities that suggest higher prices for housing. Alternatively, very little new housing at the bottom end of the price spectrum has been built over this period. Government regulations that limit supply have made it uneconomical to build new housing for low-income households. Finally, the "lumpy" nature of housing may encourage young, low-income households to over-consume housing early in life. Changes in the labor market may make this more likely for certain high-skill households.

From a policy perspective, it is important to differentiate between these alternative explanations for the increase in financial commitment. To the extent that housing quality has improved over time, it is hard to argue that there is a problem that requires policy intervention, as individual households could always choose to consume a lower quality bundle. In addition, the possibility that average housing quality has increased over time may provide more evidence in support of those who argue that the consumer price index is biased.

Gyourko and Tracy also find that house prices do not track real incomes, even after controlling for changes in observed quality. Here we need to consider other factors that affect the demand for housing in addition to the quality of the units. For example, the user cost of housing (such as the after-tax real cost of living in an owner-occupied unit) has changed substantially over time. Changes in nominal interest rates (and thus the "tilt" on mortgage payments) and the tax code will lead to deviations in the relative price of housing for low- and high-income households (Poterba 1991). In addition, previous research suggests that high-priced trade-up homes exhibit excess volatility over the real estate cycle relative to low-priced units (Mayer 1993). The importance of cyclical factors is apparent in their data, as the prices of the 90th-percentile houses are certainly the most volatile over the sample period. Any policy conclusions that involve intertemporal comparisons of high- and low-priced houses should be sure to take into account the timing of the real estate cycle. Finally, as Mankiw and Weil (1991) suggest in their highly controversial paper, demographics can have an impact on longer term trends in the real estate market.

New construction is a wild card in this analysis. We know very little about the types of houses that are built and how new construction affects affordability, both for renter and owner-occupied housing. While anecdotal evidence suggests that cities erect significant barriers to new construction—including minimum lot sizes, restrictions on multi-family housing and clustered development, minimum quality standards, impact fees, and regulatory delays—we know little about how these barriers affect the overall price level of housing, especially for low-income households.[2] Future research is needed in this area.

IV. POLICIES TO ENCOURAGE HOME OWNERSHIP

While a number of policy implications follow from these papers, I would like to focus on home ownership in particular. After all, with the demise of federally subsidized housing, many policymakers have argued in favor of subsidizing home ownership for the poor as a way to deal with affordability problems. Proponents argue that homeowners are more likely to care for their houses and neighborhoods because they have a stake in the community. Possible benefits include lower crime, better

schools, cleaner neighborhoods, and even higher voter participation. In addition, home ownership is suggested as a natural vehicle to increase the savings of low-income households.

Although the claimed benefits of home ownership are many, the empirical evidence in favor of these hypotheses is scant. However, that is not to say that there is evidence suggesting that there are no societal benefits of home ownership.[3] It is difficult to conduct good studies of the benefits of home ownership because of the endogeneity of the decision to become a homeowner. Home ownership may be correlated with improving neighborhoods. Yet, are improving neighborhoods a direct benefit of home ownership, or do they simply reflect homeowners choosing to live in neighborhoods that are getting better? In this sense, an influx of homeowners is a leading indicator of the direction of a neighborhood.

While home ownership may have some benefits, it also carries some risks for those in the lowest income groups. Gyourko and Tracy present evidence that homeowners in the lowest price decile may be undermaintaining their properties. If households are encouraged to become homeowners but they lack adequate financial resources to do proper maintenance, the possible benefits associated with higher maintenance might actually go in the other direction. In addition, home ownership involves a significant financial investment. Households who buy properties with small down payments owing to subsidized mortgages face the risk that even small declines in property values will leave them locked into their property, unable to sell and facing possible foreclosure and the loss of good credit.[4] During a recession, low-income households—who face some of the most volatile labor markets in terms of job duration and probability of layoff—will face barriers to relocating when moving might present the best alternative to finding a new or higher paying job. Finally, from a portfolio perspective, low-income households may want to choose a more diversified portfolio, rather than simply putting all of their money into a house.

Despite the above-mentioned risks, proponents still argue that home ownership provides a good vehicle to encourage savings. The correlation between savings and home ownership is particularly strong in the data. A problem with this argument, however, is that the historical correlation may not be causal. First, homeowners are wealthier, and thus by definition should save more. Also, financial markets have changed over time. While it may have been costly to refinance a house a few years ago, today there are a large number of banks and mortgage brokers encouraging households to refinance and to use home equity loans to pull equity out of their houses. In fact, some lenders appear willing to lend more than the amount of equity in the property. To the extent that owning a home has historically provided a commitment mechanism to a higher savings rate, that link is probably less strong today.

V. CONCLUSION

As is always true of good research, the Orr and Peach and Gyourko and Tracy papers raise as many questions as they answer. While there has been a vast improvement in the living standards of those in the bottom income quintile, both studies suggest that housing affordability remains a problem. However, it is still difficult to know whether improvements in the quality of housing (Orr and Peach) or in the types of owner-occupied units (Gyourko and Tracy) can explain some of these findings. Data availability problems make it difficult to fully address this issue in a nationally representative study. The quantile regressions developed by Gyourko and Tracy make a very good start, but additional questions remain.

From a policy perspective, we need to know more about the contribution of supply restrictions to affordability, and the implications of encouraging home ownership for low-income households. Even in the absence of such studies, however, one thing is clear: If policymakers want a sure-fire way to encourage home ownership and make housing more affordable, the reduction of restrictions on new supply is a good place to start.

ENDNOTES

1. One might be able to test for this effect by using repeat observations of the same unit in the American Housing Survey.

2. See Fischel (1990) for a more complete summary of the issues and empirical evidence.

3. Green and White (1997) and Glaeser and DiPasquale (1998) document some benefits of home ownership.

4. See the discusion in Gyourko and Tracy, as well as Genesove and Mayer (1997).

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EDUCATION AND CRIME IN URBAN NEIGHBORHOODS

Papers by
    Steven D. Levitt
    Thomas A. Downes and David N. Figlio

Commentary by
    Derek Neal

The Changing Relationship between Income and Crime Victimization

Steven D. Levitt

I. Introduction

This paper explores changes in the relationship between race, income, and criminal victimization over time. Interest in this question is motivated by the widening income distribution of the last two decades. Between 1980 and 1994, the share of income earned by the top 5 percent of American families increased from 15.3 percent to 20.1 percent. Families in the bottom quintile saw their share of income fall from 5.1 percent to 4.2 percent.

Existing theories have sharply divergent predictions about how rising income inequality will affect the distribution of crime across victims.[1] The simplest version of the economic model of crime (Becker 1968) would suggest that the rich become increasingly attractive targets as the income distribution widens, leading to rising victimization of the rich relative to the poor. However, if the rich are able to engage in behavior that reduces their victimization, such as investments in security, victimization of the rich may rise or fall depending in part on the income elasticity of crime avoidance. Finally, in models such as Wilson (1987) in which the rich provide positive externalities to the poor,

increased income inequality along with greater segregation by income can lead to concentrations of poverty. In this scenario, criminal victimization of the poor is likely to rise relative to the rich.

I analyze two data sets in testing these competing theories. The first of these is the National Crime Victimization Survey (NCVS), which provides summary statistics on criminal victimization based on a nationally representative sample for a wide range of crimes. The shortcomings of the NCVS are that geographically desegregated data are unavailable, and that homicide—the crime with the greatest social cost—is not included. The second data set is neighborhood-level homicide data for the city of Chicago over the last three decades. These unique data on Chicago homicides are linked to the 1970, 1980, and 1990 decennial censuses to examine the changing patterns of homicide victimization over time.

The main results of the paper are as follows: Information in the NCVS suggests that property crime victimization has become increasingly concentrated on the poor. For instance, in the mid-1970s households with incomes below $25,000 (in 1994 dollars) were actually burglarized slightly less than households with incomes greater than $50,000. By 1994, the poor households were 60 percent more likely to be burglarized than the rich households. For violent crime, however, a different pattern is observed. In

Steven D. Levitt is a professor of economics at the University of Chicago. *The views expressed are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.*

the Chicago homicide data, homicide rates at a point in time are generally inversely related to median family income in the community. However, this relationship has substantially weakened over time for blacks and has disappeared completely for whites by 1990. This finding is particularly striking because cross-neighborhood income inequality increased substantially over the time period examined. In other words, the income gap between the richest and poorest communities grew substantially, but the murder gap shrunk. Overall, the results of this paper are consistent with predictions of the simple economic model of crime and possibly with an economic model incorporating victim precaution, but not with the Wilson (1987) study.

Before proceeding, it is worth pausing to acknowledge that the estimates presented in this paper, while perhaps interesting in their own right, are unlikely to be of direct relevance to policymaking. Given the results of this paper, the natural tendency is to calculate the extra burden borne by the poor as a result of higher crime victimization. Such a calculation, however, would ignore the fact that individuals distort their behavior in costly ways (for example, by moving to the suburbs, investing in security systems, or not going out after dark). Any measure of the burden of crime should incorporate not only the costs of those victimized, but also the investment made to avoid victimization. For example, if crime avoidance is a positive function of income (Cullen and Levitt forthcoming), then ignoring costs of avoidance will understate the true crime-related burden felt by the rich. A second possible calculation one might want to make based on the results of this paper is the distribution of income that yields the lowest level of societal crime. Because victim precaution is a function of the crime rate, this type of partial equilibrium analysis is misleading.[2]

The remainder of the paper is organized as follows: Section II provides a review of the existing empirical literature on the relationship between crime, poverty, and income inequality. Section III presents the results from the National Crime Victimization Survey. Section IV analyzes Chicago neighborhood-level homicide data. Section V offers a conclusion.

II. LITERATURE REVIEW

The empirical literature addressing the relationship between crime and various measures of economic deprivation (such as income inequality, poverty, and unemployment) is extensive. The brief literature review that follows does not attempt to be exhaustive, but rather, highlights various approaches to the issue. Land et al. (1990), Kovandzic et al. (1998), and Patterson (1991) provide more systematic reviews of the literature. It is important to note that the question that I pose in this paper (namely, what are the relative victimization rates of the rich and the poor and how has this changed over time?) differs in its thrust from most of the existing literature. Most of the papers discussed below focus primarily on the relationship between economic deprivation and the amount of crime in an area, without specific concern for whether the victims are poor or rich.

Broadly speaking, the existing empirical research on the topic has generally adopted one of three estimation strategies. The most common approach has been cross-sectional analyses of American cities, metropolitan areas, counties, or states. Examples of this approach are Bailey (1984), Blau and Blau (1982), Glaeser et al. (1996), Kovandzic et al. (1998), Kposowa et al. (1995), Land et al. (1990), Messner (1982), Simpson (1985), and Williams (1984). Results vary widely across these studies. In some cases, greater income inequality (Blau and Blau 1982; Kposowa et al. 1995; Sampson 1985; Simpson 1985) or increased poverty rates (Bailey 1984; Jackson 1984; Williams 1984; Land et al. 1990) are associated with higher crime rates. A number of other papers find statistically insignificant coefficients on either income inequality (Bailey 1984; Messner 1982; Williams 1984) or poverty (Blau and Blau 1982; Simpson 1985). In a few cases, the sign on poverty (Kposowa et al. 1995; Messner 1982) is reversed.

There are a number of important limitations to studies of this kind. First, they rely on officially reported crime data. Differences in police recording procedures make cross-jurisdiction comparisons troublesome (see, for example, O'Brien [1985]).[3] A second limitation of such studies is the difficulty of adequately controlling for unobserved characteristics of jurisdictions that are correlated both with income variables and with crime rates. Both of these concerns can be at least partially addressed through the use of

panel data, although this strategy has been relatively rare (one exception is Glaeser et al. [1996]). These demographic variables, however, tend to change slowly over time, so there is typically relatively little within-jurisdiction variation available to exploit.

There are two final concerns that are not alleviated through the use of panel data. One is the high degree of correlation between various measures of income and other socioeconomic variables. As an example, Table 1 presents raw correlations across Chicago neighborhoods (part of the data set analyzed in Section IV) for a range of variables using the 1990 census. The correlation between either median family income or poverty rates and other variables such as fraction of female-headed households, the local unemployment rate, percentage black, or percentage owner-occupied housing is in every instance greater than .50 in absolute value and in many cases greater than .80. Consequently, empirical estimates are likely to be sensitive to the precise set of controls used in an analysis and it is difficult to interpret the coefficients of those variables that are included. It is thus not surprising that many studies that include both measures of poverty and income inequality often find one or both of these variables statistically insignificant.

A final concern, as it relates to the particular question that I address in this paper, is that using data at the city, metropolitan statistical area, or state level, one cannot directly determine who is victimized. So, if one goal of the analysis is to identify victimization rates of rich versus poor, these analyses provide little guidance.[4] Cross-sectional

studies using geographic areas such as neighborhoods and communities (Messner and Tardiff 1986; Patterson 1991) circumvent this last problem to a substantial degree. Messner and Tardiff, and Patterson, find higher poverty rates associated with greater crime rates. The use of individual-level data is another escape from this problem; Sampson (1985), using NCVS data for the years 1973-75, reports that neighborhood poverty and inequality have only a small direct impact on crime victimization.[5]

A second empirical approach relies on cross-country crime comparisons. Using official reported crime data, Fajnzylber et al. (1998) find a strong positive correlation between crime and high levels of GDP per capita and greater income inequality. All of the criticisms of cross-sectional analyses are equally applicable to international crime data, which are of poor quality, particularly in developing countries. Particularly troubling is the strong positive correlation between GDP and the propensity for victimizations to be officially recorded. Soares (1999) demonstrates that the sign on income per capita reverses when victimization data from crime surveys replace official crime reports. Notably, however, the coefficient on income inequality is not greatly affected when officially reported data are replaced by victimization survey data.

A third strategy that is sometimes adopted is the use of national-level time series variation (for example, see Allen [1996]). This paper finds that higher poverty and greater income inequality are both associated with *decreased* crime. This research approach is problematic because there

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Table 1
CORRELATION ACROSS VARIABLES IN CHICAGO COMMUNITY-LEVEL DATA, 1990

Variable	Median Family Income	Poverty Rate	Female-Headed Households	Unemployment Rate	Percentage Black	Percentage Owner-Occupied	Homicide Rate
Median family income	1.00	—	—	—	—	—	
Poverty rate	-.85	1.00	—	—	—	—	
Female-headed households	-.74	.89	1.00	—	—	—	—
Unemployment rate	-.82	.91	.88	1.00	—	—	—
Percentage black	-.56	.64	.87	.78	1.00	—	—
Percentage owner-occupied	.65	.76	-.66	-.55	-.34	1.00	—
Homicide rate	-.76	.88	.87	.90	.75	-.57	1.00

Sources: All data are drawn from the 1990 census except the homicide rate, which is a ten-year average of homicides based on data compiled in Block et al. (1998).

Notes: Values in the table are cross-neighborhood correlations for Chicago neighborhoods in 1990. The standard Chicago seventy-seven neighborhood classification is used, except that the central business district is excluded.

are very few degrees of freedom available for estimation and the lack of a reasonable comparison group makes it difficult to interpret the coefficients obtained in anything approaching a causal manner.

In summary, much but not all of the existing empirical evidence is consistent with the conclusion that poverty and income inequality are associated with higher crime rates. Most of the existing literature, however, focuses on the amount of crime perpetrated rather than on how crime victimization is distributed across the poor and the rich. None of the existing literature that I am aware of has considered the way in which the link between poverty and crime victimization may have changed over time. In the following two sections, I explore these issues empirically using the NCVS and neighborhood-level data from Chicago over the 1966-95 period.

III. Evidence from the National Crime Victimization Survey

The NCVS has been conducted annually in the United States since 1973. Roughly 60,000 households are interviewed each year. Unfortunately, no geographic identifiers are available in the data, so analysis of these data is limited to national analyses.

Table 2 presents victimization rates by household income level and race for four different crimes: auto theft, burglary, aggravated assault, and robbery. The first two categories comprise serious property crimes; the latter two categories are the only violent crimes for which the NCVS generates reliable results.[6] Data are presented for the 1974-75 and 1993-94 periods. These years were chosen both because they represent (roughly) the earliest and most recent data available and because the income categories available are comparable in real terms. Survey respondents do not report actual income, but rather are only classified within relatively broad bands. For the years used, it happens to be the case that respondents can be categorized as having real household incomes of less than roughly $25,000 in 1994 dollars, between $25,000 and $50,000, and more than $50,000.[7] In the table, only low- and high-income households are reported. In virtually every case, victimization rates of middle-income households fall between victimization rates

Table 2

VICTIMIZATION BY INCOME LEVEL IN THE NATIONAL CRIME VICTIMIZATION SURVEY

Crime	Income Group	White		Black	
		1974-75	1993-94	1974-75	1993-94
Auto theft	Under $25,000	13.4	14.4	14.8	23.9
	Above $50,000	22.2	19.9	59.2	49.1
	Ratio (poor:rich)	.60	.72	.25	.49
Burglary	Under $25,000	93.7	71.3	134.9	88.6
	Above $50,000	98.6	44.9	137.4	53.0
	Ratio (poor:rich)	.95	1.59	.98	1.67
Aggravated assault	Under $25,000	13.2	16.3	16.2	20.7
	Above $50,000	7.2	7.9	7.3	16.2
	Ratio (poor:rich)	1.82	2.06	2.22	1.28
Robbery	Under $25,000	7.9	6.0	10.6	14.1
	Above $50,000	4.7	4.0	8.9	12.5
	Ratio (poor:rich)	1.68	1.50	1.19	1.12

Source: National Crime Victimization Survey (1974, 1975, 1993, 1994).

Notes: All dollar values are in (approximate) 1994 dollars. Only categorical income data are available in the survey. The income cutoff for the 1974-75 low-income category is $7,000 in nominal dollars and the cutoff for the high-income category is $15,000 in nominal dollars. The consumer price index somewhat more than tripled between 1974 and 1994.

of the low- and high-income counterparts. The ratio of low-income to high-income victimizations is also reported.

A few key facts emerge from Table 2. First, for all crimes reported in both time periods, blacks of a given income were more frequently victimized than whites. The biggest discrepancies were for robbery and for auto theft among the rich. Blacks were roughly twice as likely to be victims of robbery, holding income constant, and rich blacks were more than twice as likely to have a vehicle stolen as rich whites. Second, at any given point in time, the poor were more likely to suffer violent victimizations, but the evidence on property crime is mixed. The higher rate of violent crime is consistent with an increased opportunity for victimization of the poor, as most criminals are themselves poor and thus will tend to live in poor neighborhoods. While there are also greater opportunities to commit property

crimes against the poor, the lower incidence of property crime in this group is consistent with the economic model of crime's prediction that (all else constant) criminals will seek out more lucrative targets.

An interesting pattern emerges with respect to victimization by income over time for property crime. For both races, property crime becomes more concentrated among the poor over time. For instance, in the 1970s high-income households (both white and black) were slightly more likely to be burglarized than low-income households, but by the 1990s low-income households were 60 percent more likely to be victims of burglary. High-income black households went from being four times as likely to have a vehicle stolen to about twice as likely between the 1970s and the 1990s. There are two plausible explanations for this pattern: (1) increased spatial segregation by income, especially for high-income blacks (Wilson 1987) and (2) increased investment in home security and automotive antitheft devices, which is concentrated among rich households. There has been substantial technological advance in victim precaution devices, fueling a dramatic expansion in the size of this industry. The home security industry has grown at an annual rate of 10 percent over the last decade and is now a $14 billion a year business. In a recent survey, 19 percent of households report having a burglar alarm. Houses valued at over $300,000 have a home security system installed 39 percent of the time, compared with only 9 percent for houses valued at less than $100,000.

The temporal patterns of robbery and aggravated assault suggest that the second of these two explanations may be the more important. In contrast to property crime, the rich are not successful in systematically reducing their relative aggravated assault or robbery victimization (nor murder, in the analysis presented below using Chicago data). If spatial isolation were the key factor in reducing property victimization, one would expect to observe a similar pattern for violent crime. However, the differential pattern in violent and property offenses can be explained by the fact that there is no parallel expenditure on victim precaution that the rich can make to reduce the likelihood of violent crime in the way that burglary and auto theft can be prevented.[8] This argument is, of course, highly conjectural and in need of further testing.

IV. NEIGHBORHOOD-LEVEL HOMICIDE VICTIMIZATION IN CHICAGO

The preceding section examined nationally representative survey data. For reasons of confidentiality, no local socio-economic characteristics are included in NCVS. Consequently, while victimization can be stratified by income and race, no other coverages are available. In this section, neighborhood-level data for the city of Chicago are used to examine the correlates of crime at the local level.

The city of Chicago is divided into seventy-seven neighborhoods (sometimes referred to as communities). Neighborhood borders, which have remained unchanged, were initially chosen so as to capture distinct community characteristics roughly fifty years ago, although the distinctiveness of the neighborhoods has blurred somewhat over time. Nonetheless, neighborhood identities (such as those of Hyde Park, Lincoln Park, Austin, Woodlawn, and Grand Boulevard) remain strong. Neighborhood populations range from roughly 5,000 to over 100,000 and cover between one and twenty-five census tracts. In the analysis that follows, I use all of the neighborhoods except the central business district (the Loop), which has very few residents but a large commuter population.[9]

Block et al. (1998) have assembled a unique data set on Chicago homicides with information paralleling the Federal Bureau of Investigation's Supplementary Homicide Report, but also adding detailed geographic identifiers. In this paper, I use data from 1965-95, aggregated up to the neighborhood level. Because the number of homicides per neighborhood each year is relatively small, I also aggregate homicide data over ten-year periods centered around decennial census years (that is, 1966-75, 1976-85, 1986-95). The homicide data are merged with neighborhood information from the 1970, 1980, and 1990 Censuses of Population and Housing. Summary statistics across neighborhoods are reported in Table 3 for each of the census years. Within time periods, there are enormous differences in homicide rates across neighborhoods. For instance, a substantial fraction of neighborhoods did not experience a single homicide between 1966 and 1975 (reported in the 1970 entry in the table), whereas other neighborhoods had homicide rates of more than 70 per 100,000 annually, roughly ten times the national average.

Mean homicide rates rose from 22.3 per 100,000 in the early part of the sample to 29.2 per 100,000 by the end. For the 1986-95 period, no neighborhood was completely free of homicides, and the worst neighborhood had more than 100 homicides per 100,000 residents annually.

Median family income, on average, was relatively stable across the three censuses at approximately $30,000 in 1990 dollars. Note, however, that the standard deviation in this variable across communities rose substantially, from

<table>
<tr><td colspan="5">Table 3
COMMUNITY-LEVEL SUMMARY STATISTICS</td></tr>
<tr><td>Variable and
Time Period</td><td>Mean</td><td>Standard
Deviation</td><td>Minimum</td><td>Maximum</td></tr>
<tr><td>1970</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Annual homicide
  rate per 100,000</td><td>22.3</td><td>21.5</td><td>0</td><td>71.2</td></tr>
<tr><td>Median family income
  (1990 dollars)</td><td>33,930</td><td>7,650</td><td>16,435</td><td>56,821</td></tr>
<tr><td>Percentage black</td><td>32.6</td><td>38.8</td><td>0</td><td>99.3</td></tr>
<tr><td>Percentage Hispanic</td><td>7.3</td><td>10.7</td><td>0</td><td>54.9</td></tr>
<tr><td>Percentage owner-occupied</td><td>35.2</td><td>24.1</td><td>0.6</td><td>90.1</td></tr>
<tr><td>Percentage female-headed
  households</td><td>18.5</td><td>9.2</td><td>7.8</td><td>48.3</td></tr>
<tr><td>Percentage foreign born</td><td>11.1</td><td>7.7</td><td>0.1</td><td>25.6</td></tr>
<tr><td>1980</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Annual homicide
  rate per 100,000</td><td>25.9</td><td>20.3</td><td>0</td><td>81.5</td></tr>
<tr><td>Median family income
  (1990 dollars)</td><td>29,168</td><td>8,812</td><td>8,811</td><td>50,554</td></tr>
<tr><td>Percentage black</td><td>39.9</td><td>41.7</td><td>0</td><td>99.4</td></tr>
<tr><td>Percentage Hispanic</td><td>14.1</td><td>19.5</td><td>0.5</td><td>77.6</td></tr>
<tr><td>Percentage owner-occupied</td><td>38.3</td><td>22.2</td><td>0.5</td><td>90.6</td></tr>
<tr><td>Percentage female-headed
  households</td><td>33.2</td><td>17.8</td><td>7.9</td><td>78.5</td></tr>
<tr><td>Percentage foreign born</td><td>14.4</td><td>12.1</td><td>0.1</td><td>44.7</td></tr>
<tr><td>1990</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Annual homicide
  rate per 100,000</td><td>29.2</td><td>25.4</td><td>0.9</td><td>106.6</td></tr>
<tr><td>Median family income
  (1990 dollars)</td><td>31,131</td><td>12,964</td><td>5,909</td><td>75,113</td></tr>
<tr><td>Percentage black</td><td>38.4</td><td>40.6</td><td>0</td><td>99.5</td></tr>
<tr><td>Percentage Hispanic</td><td>19.1</td><td>23.1</td><td>0.1</td><td>87.8</td></tr>
<tr><td>Percentage owner-occupied</td><td>42.0</td><td>21.8</td><td>2.0</td><td>91.0</td></tr>
<tr><td>Percentage female-headed
  households</td><td>34.4</td><td>20.4</td><td>7.2</td><td>84.5</td></tr>
<tr><td>Percentage foreign born</td><td>16.8</td><td>14.2</td><td>0.2</td><td>49.1</td></tr>
</table>

Sources: All data except homicide rates are drawn from neighborhood-level census data for seventy-six Chicago neighborhoods (only the central business district is excluded). Homicide data are an average of annual homicide rates per 100,000 in the ten-year period centered around the census year (for example, 1976-85), based on data compiled in Block et al. (1998).

Note: Reported values are weighted by neighborhood population.

$7,650 in 1970 to $12,964 in 1990, signifying increased spatial sorting by income over time at the neighborhood level.[10] This pattern was even more apparent in the minimum and maximum median family incomes by community. In 1970, the range was $16,435 to $56,821. In 1990, the span was $5,909 to $75,113. The poorest neighborhoods became much poorer, whereas the richest neighborhoods were substantially wealthier.

A few other facts are worth noting in the summary statistics. First, blacks represent 30-40 percent of the Chicago population overall, but there is a great deal of racial segregation. In 1990, almost half of the city's population (48 percent) lived in communities in which one race made up at least 85 percent of residents; in 1970, that figure was 57 percent. Second, the fraction of the population denoted Hispanic increased dramatically over time, from 7.3 percent to 19.1 percent. Because of changing census definitions of Hispanic, however, it is difficult to determine how much of this increase is real and what fraction is an artifact of data recording. Thus, for most of the paper, I will concentrate solely on the categories non-Hispanic white (simply denoted white) and black. A final point of interest is the fact that the proportion of female-headed households roughly doubled over the sample period. By 1990, more than one in three households with children had an absent father.

Table 4 presents the distribution of annual homicide rates across Chicago neighborhoods for three time periods. Because of the stark differences in homicide rates for whites and blacks, the results are presented separately by race.[11] The homicide rates are population-weighted, so that the numbers reported in the table correspond to the individual-level distribution of homicide risk if all white residents of a community have an equal chance of being victimized and similarly for blacks. Put another way, neighborhoods with few whites (blacks) get little weight in the columns for whites (blacks).

The most striking feature of Table 4 are the enormous differences between whites and blacks. Twenty-five percent of whites in all time periods lived in neighborhoods where not a single white homicide victimization occurred over the course of a decade. Even the most dangerous neighborhoods for whites experienced homicide rates of only about 10 per 100,000, about one-fourth the median homicide rate

DISTRIBUTION OF HOMICIDE RATES PER 100,000 RESIDENTS ACROSS RACE AND TIME

Homicide Percentile	White			Black		
	1966-75	1976-85	1986-95	1966-75	1976-85	1986-95
0-10	0.0	0.0	0.0	1.0	1.4	0.8
10-25	0.0	0.0	0.0	6.1	9.4	9.6
25-50	0.9	1.5	1.2	21.5	23.8	31.2
50-75	3.1	3.6	2.9	53.5	41.4	46.3
75-90	5.8	5.6	4.5	65.9	57.8	71.2
90+	11.9	9.2	7.6	85.8	93.7	109.9
Median	1.8	2.4	2.0	32.5	29.4	42.5
Mean	3.1	3.2	2.5	39.7	37.0	43.8

Sources: See Table 3.

Notes: Values in the table are annual homicide rates per 100,000 residents. Homicide percentiles are obtained by rank ordering homicide rates by race across communities and taking a weighted average, with weights based on the white (or in columns 4-6, black) population in a community.

among blacks. Black residents in the highest risk neighborhoods were murdered at rates about ten times greater than whites in the most dangerous white neighborhoods.

A second fact worth noting is that there are substantial differences across neighborhoods within race. Homicide rates for whites in the most dangerous neighborhoods were more than six times greater than the median white in 1970 and three to four times higher in 1980 and 1990. The black residents most at risk faced homicide rates two to three times greater than the median black and almost one hundred times greater than the safest black residents. Homicide rates rose about 25 percent in Chicago over the time period examined, but a substantial part of this increase was due to an increase in the black population, rather than changes in per-capita victimization rates within race.

Table 5 documents the large differences in income across Chicago neighborhoods and how the income distribution widened, particularly between 1980 and 1990. The numbers reported are neighborhood median family incomes by race. For instance, the entries in the top row of the table for whites represent the average median family income for the neighborhoods in which the poorest decile of whites reside.[12] In 1970, the poorest 10 percent of whites lived in neighborhoods with an average median family income of $26,834 (in 1990 dollars). The corresponding number for the richest 10 percent of whites in

DISTRIBUTION OF NEIGHBORHOOD MEDIAN FAMILY INCOME BY RACE

Median Family Income Percentile	White			Black		
	1969	1979	1989	1969	1979	1989
0-10	26,834	21,127	18,638	18,475	10,592	8,232
10-25	32,284	27,821	26,137	20,938	14,109	13,332
25-50	35,542	32,141	32,794	23,589	20,002	21,363
50-75	38,519	36,579	39,863	30,490	27,131	27,156
75-90	41,512	39,770	46,163	36,559	32,919	31,789
90+	47,790	44,675	66,341	40,465	38,567	44,540

Sources: See Table 3.

Notes: Values in the table are neighborhood median family incomes in U.S. dollars. Percentiles are obtained by rank ordering median family income across communities and taking a weighted average, with weights based on the white (or in columns 4-6, black) population in a community. Note that median family income is available only at the community level, not broken down by race within a community. To the extent that white and black residents of the same neighborhoods have different incomes, the values in the table will not reflect actual median family incomes of white or black residents of the community, but only of all community residents.

1970 was $47,790. By 1990, income for the poorest white neighborhoods had fallen about 30 percent, whereas for the richest whites there was a 40 percent increase. Among blacks, incomes fell more than 50 percent in the poorest neighborhoods between 1970 and 1990, and increased 10 percent in the richest neighborhoods.

Table 6 presents homicide rates across neighborhoods ranked by median family income. Each figure in Table 6 corresponds to the same figure in Table 5, except

DISTRIBUTION OF HOMICIDE RATES BY MEDIAN FAMILY INCOME BY COMMUNITY AND RACE

Median Family Income Percentile	White			Black		
	1966-75	1976-85	1986-95	1966-75	1976-85	1986-95
0-10	8.4	5.5	0.4	86.1	91.5	117.0
10-25	4.2	3.6	3.5	48.1	62.5	63.9
25-50	3.6	4.0	2.9	65.2	42.5	39.8
50-75	2.1	2.6	2.1	24.7	21.5	32.6
75-90	1.5	2.1	2.0	8.8	19.8	37.0
90+	0.8	1.9	2.9	4.7	11.2	10.0

Sources: See Table 3.

Notes: This table parallels Table 5, except that homicide rates per 100,000 are reported in place of median family income. Thus, the percentiles in this table are based on median family income in a community, *not* homicide rates (in contrast to Table 4).

that the homicide rate for these same neighborhoods is reported in place of the median family income. There is a strong correspondence between median family income and homicide rates in the early part of the sample. The poorest white neighborhoods experienced murder rates ten times greater than the richest white neighborhoods; for blacks, the corresponding ratio was almost twenty to one. It is striking, however, that the link between income and homicide weakened substantially over time. For whites, homicide rates were unrelated to income in the 1986-95 period. In fact, the very lowest homicide rates were reported in the poorest white neighborhoods. For blacks, the pattern was less pronounced. The worst black neighborhoods experienced higher homicide rates in later years, but the rise in homicides in these neighborhoods was much smaller than the proportionate increase in the richer black neighborhoods. Murder rates in the 75th to 90th income percentile more than quadrupled for blacks; rates for the highest 10 percent of blacks more than doubled.

What makes the narrowing of the murder gap between the rich and poor so remarkable is that it occurred at a time when the neighborhood incomes were diverging. In other words, not only is it true that rich white neighborhoods have gone from having one-tenth the number of homicides as poor white neighborhoods to having similar rates, but that the richest neighborhoods have gotten substantially richer relative to the poor neighborhoods.

Tables 7 and 8 further investigate the link between neighborhood income and crime in a regression framework. Table 7 aggregates all community residents, regardless of race. Two specifications are shown for each decade, along with a panel-data regression including community-fixed effects. When only median family income and race dummies are included (columns 1, 3, and 5), the impact of income is greater than when a fuller set of covariates are allowed. Without covariates, an extra $1,000 of family income reduces the homicide rate by 1.5 per 100,000 in 1970. A one-standard-deviation change in

Table 7
CORRELATES OF COMMUNITY HOMICIDE RATES

Variable	1970		1980		1990		1970-90	
Median family income (x1000)	-1.5 (0.3)	-0.7 (0.4)	-1.7 (0.2)	-0.8 (0.2)	-0.7 (0.2)	-0.5 (0.2)	-0.7 (0.1)	-0.4 (0.2)
Percentage black	0.28 (0.05)	0.16 (0.06)	0.14 (0.03)	-0.01 (0.04)	0.41 (0.06)	0.07 (0.07)	0.24 (0.06)	0.14 (0.07)
Percentage Hispanic	-0.01 (0.10)	0.17 (0.10)	0.02 (0.05)	0.15 (0.05)	0.08 (0.09)	0.18 (0.09)	0.02 (0.08)	0.23 (0.10)
Percentage owner-occupied	—	-0.07 (0.07)	—	0.16 (0.09)	—	0.01 (0.10)	—	-0.35 (0.24)
Percentage female-headed households	—	0.82 (0.52)	—	0.94 (0.18)	—	0.76 (0.18)	—	0.35 (0.09)
Percentage foreign born	—	-0.40 (0.21)	—	0.13 (0.14)	—	-0.30 (0.17)	—	-0.31 (0.20)
Constant	63.8 (11.3)	30.8 (22.5)	68.8 (7.9)	9.3 (10.7)	34.8 (12.3)	17.3 (13.6)	—	—
Year=1980	—	—	—	—	—	—	-0.6 (1.3)	-3.3 (1.4)
Year=1990	—	—	—	—	—	—	5.1 (1.7)	2.0 (1.7)
R^2	.89	.91	.84	.91	.78	.87	.94	.95
Number of observations	76	76	76	76	76	76	228	228
Community dummies included?	No	No	No	No	No	No	Yes	Yes

Sources: See Table 3.

Notes: The dependent variable is the homicide rate per 100,000. The first six columns are cross-sectional, neighborhood-level regressions using the standard Chicago neighborhood classification, excluding the central business district. The final two columns are fixed-effect panel-data regressions using the three sets of years included in the first six columns. All regressions are estimated using weighted least squares with weights proportional to neighborhood population.

median family income ($7,650), evaluated at the sample mean, raises the homicide rate by about 50 percent. When other covariates are included, the impact of family income is roughly halved and loses statistical significance. A 5 percent increase in the percentage of residents that are black (holding income constant) has approximately the same impact on homicide rates as a $1,000 increase in family income. The coefficient on female-headed households is economically quite large (a one-standard-deviation change increases homicide rates by one-third), but is not statistically significant. An increase in owner-occupied housing and in foreign-born residents, holding all else constant, is associated with lower crime rates. These latter estimates, however, are also not statistically significant at the .05 level. Results for 1980 are for the most part similar to those from 1970, but are more precisely estimated. The coefficient on median family income shrinks in 1990, but remains statistically significant. Because the cross-community dispersion in incomes is greater in 1990, a one-standard-deviation decline in family income still leads to roughly a 30 percent increase in homicide victimization. The concentration of female-headed households also changes dramatically between 1970 and 1990 (the standard deviation on this variable more than doubles), so that even though the coefficients are similar across years, the importance of this variable in explaining differences in crime increases over time.

The last two columns of Table 7 present panel-data estimates. The estimates on family income are smaller than in any of the cross-sections, but nonetheless statistically significant. The coefficient on female-headed households also falls but is still highly significant. Owner-occupied housing reduces crime, but it is not statistically significant at the .05 level.

Table 8 presents results separately for whites and blacks. Only the coefficients on the median family income variable are presented; complete regression results are available from the author. Each entry in the table represents the coefficient from a different regression. It is important to note that the census data on communities are not broken down by race, so the race-specific regressions assume that blacks and whites in a given neighborhood have the same characteristics. As would be expected given the results in Table 6,

Table 8

MEDIAN FAMILY INCOME AND HOMICIDE RATES BY RACE
Coefficient on median family income from various specifications

Regression Specification	White	Black
Simple regression, no covariates		
1970	-0.29 (0.14)	-3.4 (0.4)
1980	-0.12 (0.06)	-2.5 (0.4)
1990	0.00 (0.03)	-2.0 (0.3)
Panel 1970-90	0.03 (0.06)	-1.1 (0.4)
Full set of controls included		
1970	-0.22 (0.17)	-3.5 (0.8)
1980	0.07 (0.08)	-1.8 (0.4)
1990	0.03 (0.03)	-1.3 (0.3)
Panel 1970-90	0.04 (0.08)	-0.5 (0.5)

Sources: See Table 3.

Notes: Values in the table are the coefficients on the median family income variable from regressions paralleling those in Table 7, except that the dependent variable is the homicide rate per 100,000 within a racial group in a community. Each entry in the table reflects a different regression.

there are enormous differences across races, with the coefficient on median family income an order of magnitude that is greater for blacks. Among whites, the link between income and homicide victimization goes from negative and statistically significant to zero between 1970 and 1990. The relationship between income and homicide also falls sharply for blacks over time, but remains statistically significant in all instances except in the panel regression with a full set of controls.

V. CONCLUDING REMARKS

This paper presents a set of empirical results on the relationship between income and crime victimization and how that pattern has changed over time. National victimization data suggest that property crime victimizations have become increasingly concentrated among the poor over the last twenty years. The poor are more likely to be victims of robbery and aggravated assault, and this relationship has remained true over time. Income inequality across Chicago neighborhoods has increased sharply over the last twenty years. Interestingly, however, the link

between neighborhood income and homicide rates has substantially weakened over the same time period. In fact, for whites, there is no relationship between median family income in the neighborhood and homicide rates in the 1990s.

The contrasts in the pattern for property crime and homicide raise intriguing questions about the relationship between income and crime. One explanation for decreased property crime victimization of the rich is the increased reliance on victim precaution expenditures by the rich to protect their homes and cars—protection that is less likely to reduce violent crime and homicide. The results with respect to Chicago homicide—namely, that the rich have been less able to insulate themselves from homicide in recent years—clearly warrant further explanation. Examining the circumstances of homicide and the relationship between victim and offender is a logical first step toward understanding this result better. If the finding proves robust, it reflects an important and previously unrecognized trend in crime victimization. Among other things, this result may provide an explanation for the puzzle whereby fear of crime has risen steadily among the typical American, even at times when crime is steady or declining.

ENDNOTES

1. Various theories also have predictions about how changes in income inequality might affect the level of crime, but I do not focus on this question in the paper. Strain theory, for instance, argues that an increased gap between rich and poor promulgates frustration on the part of the poor, leading them to react violently against the inequity in society, although their rage may be directed either toward the rich or the poor (Cloward and Ohlin 1960). It is also possible that higher crime can lead to greater income inequality. For example, as inner-city crime rises, a firm producing in this area must offer higher wages to attract workers. These rising production costs lead the firm to relocate into lower crime neighborhoods. The spatial mismatch between the location of poor inner-city residents and jobs may further worsen the residents' economic plight (for example, see Wilson [1996]).

2. Capitalization of the costs of crime into property values further complicates welfare calculations. If the costs of crime are fully capitalized, then exogenous increases in crime hurt property owners, but after one takes into account lower rents, they would not reduce the utility of the marginal renter.

3. Furthermore, there is evidence that the propensity to report crime to the police is a function of a victim's income. For instance, in the 1992 NCVS, households with income below $10,000 say that they reported roughly 50 percent of all completed burglaries to the police, whereas households with income over $30,000 report more than 60 percent.

4. Nonlinearity in the mapping from income to victimization further complicates the issue.

5. Unfortunately, the NCVS stopped reporting neighborhood-level characteristics in the late 1970s due to concerns about anonymity. So the approach Sampson (1985) used is not available for more recent data.

6. Homicide is not included in the NCVS. The incidence of rape is too low to generate results when stratified by income and race.

7. According to the consumer price index, prices somewhat more than tripled between 1974 and 1994. The cutoffs in nominal terms in 1974 and 1975 for the low-income and high-income classification are $7,000 and $15,000.

8. One possible exception to the inability to protect oneself from violent crime is residence in a gated community. I thank Derek Neal for this observation.

9. This creates a problem because homicides are classified by place of occurrence rather than by place of residence of the victim.

10. The years 1970 and 1990 refer to when the census was conducted. The income data actually correspond to the previous year in each case.

11. Attempts to calculate results for Hispanics yield homicide rates between those of non-Hispanic whites and blacks. As noted above, generating reliable results for Hispanics is complicated by changing definitions of Hispanic across censuses as well as by the fact that the Chicago Police Department's definition of Hispanic need not correspond to that used in the census.

12. Note that the numbers reported do not necessarily correspond to income numbers for whites only in these neighborhoods, but rather to all neighborhood residents. To the extent that income systematically differs by race within a neighborhood, these numbers will not be completely accurate. Given the available data, however, the breakdown provided is the best that can be offered.

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Economic Inequality and the Provision of Schooling

Thomas A. Downes and David N. Figlio

The school finance landscape has changed dramatically in the past thirty years. Most states have undertaken major changes to their school finance programs, motivated principally by the notion that the unequal school resources associated with unequal incomes and community sorting lead to unequal educational and labor market outcomes. This paper describes the empirical evidence on the relationship between school finance reforms and student outcomes and presents new evidence on the effects of these policies on community and school composition.

BACKGROUND

During the past several decades, federal and state governments have pursued redistributive policies aimed at fostering "equality of economic opportunity"—the idea that although people's incomes may vary, this variance should be due primarily to factors such as individual ability and effort, not to differences in circumstance. This goal has motivated social welfare policies at both the state and federal levels. Despite decades of redistributive policies, numerous empirical studies (such as Solon [1992],

Thomas A. Downes is an associate professor of economics at Tufts University; David N. Figlio is an assistant professor of economics at the University of Florida.
The views expressed are those of the authors and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

Zimmerman [1992], Corcoran et al. [1992], and Shea [1997]) continue to find evidence of a substantial level of income persistence across generations, even after holding constant many individual characteristics. Shea's findings are particularly compelling, as he contends that only parental income correlated with parental ability (rather than "luck") affects children's future incomes. This finding suggests that cash transfers to parents may have little effect in influencing their children's labor market outcomes.

What might account for this link between parental income and children's income? Many economists believe that this relationship is due in large part to differential human-capital investment between high-income and low-income families. High-income parents can invest in more (and better) education for their children, in a manner that low-income parents cannot, due to credit market imperfections. Since credit markets are imperfect, because parents cannot borrow against their children's future earnings to finance human-capital investment, low-income parents may face binding liquidity constraints and, consequently, may underinvest in their children's human capital (Loury 1981; Becker and Tomes 1986; Mulligan 1995). This is only one possible explanation, however, and may carry less weight given Shea's finding that parental money per se does not matter in determining their children's outcomes.

The persistence of income inequality, together with the existence of market imperfections that may help perpetuate this inequality, has motivated policymakers to explore various options designed to make opportunities more equal. Many in the policy arena have suggested that opportunities could be further equalized via the implementation of changes in the system of school finance that make education spending more equal. This argument is bolstered by substantial evidence that premarket factors play a significant role in determining subsequent labor market outcomes (see, for example, Neal and Johnson [1996] and Bishop [1989]). Hence, school finance reforms could serve, to some degree, to sever the link between parental income and the human capital accumulation that leads to improved outcomes of their children.

Thus, the goal of fostering increased income mobility through equality of economic opportunity is a major motivation of the dozens of recent school finance reforms, either court-ordered or enacted by legislative edict. These policies have experienced a resurgence in the last several years, with state supreme court decisions mandating equalization in states such as Kentucky, Texas, Vermont, and New Hampshire, further altering a school finance landscape that has changed dramatically since 1970.

The best available evidence on the impact of these major finance reforms, and of other lesser changes in the systems of school finance in the individual states, supports the conclusion that these reforms have reduced within-state inequality in education spending (Murray, Evans, and Schwab 1998) by weakening the link between school district property wealth and spending. This weakening of the link between property wealth and spending does not imply that there has been a commensurate weakening of the link between education spending and *current* income. Since low-income individuals reside in both low- and high-property-wealth districts, as do high-income individuals, the impact of finance reforms on the relationship between spending and current income must be examined independently. Support for this argument is provided by Brunner and Sonstelie (1999), who show that finance reforms in California have not changed the distribution of spending across income groups.

To examine the impact of school finance changes in the 1970s and 1980s on the relationship between education spending and income, we combined data drawn from school-district-level extracts from the 1970 and 1990 Censuses of Population and Housing with financial data drawn from the 1972 Census of Governments and the 1989-90 Survey of School District Finances. For each district in each cross-section, we were able to observe per-capita income, the fraction of the population in poverty, total expenditures per pupil, current expenditures per pupil, total expenditure per pupil relative to the state average, and the fraction of revenues generated locally. We also had complete data for a substantial number of these districts in both 1970 and 1990, although—given the nature of the 1970 school-district-level extract—data on small, rural districts were far less likely to be available than for their urban and suburban counterparts.

When we examined the relationship between income and spending, using all of the districts in each of the cross-sections, we observed a slight decline in the strength of the relationship between per-capita income and each of the spending measures.[1] For these same cross-sections, the strength of the relationship between the poverty rate and each spending measure exhibited a more substantial decline, sometimes even changing direction.[2] It appears, however, that these changes were driven primarily by the impact of the finance changes on rural districts. When we limited our analysis to districts for which we had complete data in both 1970 and 1990, the relationship between per-capita income and the spending measures actually strengthened between 1970 and 1990.[3] For these districts, the strength of the relationship between the poverty rate and the spending measures did decline, but the decline was not as substantial as that observed when the analysis was based on the two cross-sections.[4] Although these results may seem surprising, they should not be completely unexpected, since the correlation between property wealth and income is strongest in rural areas.

The implication of these results is that, while finance reforms have shifted additional resources to income-poor rural districts, the reforms have not shifted resources toward income-poor urban and suburban districts to the

same extent. Thus, we find for the nation, as Brunner and Sonstelie found for California, that the school finance changes of the 1970s and 1980s may have done little to redistribute spending across income groups.

In light of these results, the question of whether finance reform policies will, in fact, weaken intergenerational persistence in income remains an open one. Equally uncertain are the impacts of these reforms on school and community composition. This uncertainty concerning the impact of school finance reforms has motivated a number of economic theorists to explore the potential results of these policies by crafting models that extend the classic Tiebout (1956) model to develop predictions concerning the impact of school finance reforms on various aspects of schooling provision. A number of papers—including Bénabou (1993, 1996), Fernández and Rogerson (1996, 1997, 1998), Nechyba (1996, 1999), Glomm and Ravikumar (1992), and Bearse, Glomm, and Ravikumar (1996)—address the likely impact of these reforms on community composition, public sector outcomes, and private school enrollments.

The papers in this line of research that consider the impact of finance reforms on social mobility often derive contradictory implications for the likely effects of these reforms. On the one hand, Glomm and Ravikumar (1992), along with many others, suggest that public provision of education increases social mobility. On the other hand, Bénabou (1996) and Durlauf (1996) each show that public provision of education can lead to *decreased* social mobility in the event of income-stratified communities and local financing of public schools (both of which arguably are characteristic of schools in much of the United States). The fact that plausible theoretical models yield substantially divergent predictions makes this inherently an empirical question.[5]

A review of the theoretical literature also makes it clear that the impact of finance reforms on school and community composition can only be ascertained empirically. The papers in this literature generally confirm the insight of Fischel (1989); restrictions on the ability of individuals to consume their desired level of education services in the public sector will tend to break down the tendency of individuals to sort on the basis of income or parental education.

Furthermore, as Nechyba's (1999) insight in a related context makes clear, many of the high-income individuals who move from previously high-spending to previously low-spending school districts will, at the same time, be choosing to opt out of the public schools.

This tendency of school finance reforms to induce significant changes in community composition, however, depends on the extent to which the ability of schools to produce outcomes owes to the quality of peers in the schools. Nechyba (1999) observes that if the peer effect is sufficiently strong, individuals will either opt out of the public sector or, by extension, will choose the public sector only if they are able to reside in homogeneous communities. Pursuing the logical implication of this reasoning, we expect that if parents feel that peers are sufficiently important, school finance reforms and tax limits could accentuate the tendency of individuals to sort both across communities and across schools.[6] This logic appears to be confirmed by other theoretical work. For example, while his focus is on the general equilibrium effects of the introduction of private school vouchers, Nechyba (1996) shows that comparison of alternative systems of school finance depends not only on the structure of each of these finance systems but also on the parents' perceptions of the link between spending and student performance and of the importance of peer group effects. Bénabou (1996) shows that the effects on student performance of a move from a system of locally financed schools to a system of state-financed schools depends critically on the importance of both peer effects and purchased inputs in production and on the extent of cross-community migration that the move to a state-financed school induces.

In large part because of the relative newness of the school finance reforms of the last two decades, there is no empirical evidence on the relationship between these policy changes and income inequality. As an intermediate step, several authors (Husted and Kenny 1996; Hoxby 1998; Downes and Figlio 1998; Card and Payne 1998) have empirically attacked the question of how school finance reforms have affected the level and distribution of student performance. Such an approach seems natural in light of the well-documented link between outcomes on

standardized tests and future earnings (Loury and Garman 1995). Downes and Figlio (1998) and Card and Payne (1998) are particularly noteworthy because they show that student-level data can be used to evaluate the long-run impact of policy changes on standardized test performance. The differences in the conclusions reached by these two pairs of authors also make it clear that reaching consensus on the precise impact of finance reforms requires further work.[7]

Once consensus is reached on the impact of finance reforms on student performance, is that the end of the story? In our view, the answer is no for several reasons. First, other effects of these policies may be interesting to examine in their own right. Second, studying these impacts in other areas allows us to begin to pinpoint the determinants of the observed performance changes. Third, by broadening the scope of our study of the effects of school finance reforms, we can begin to complete our understanding of the impact of these policy changes on the schooling experience for all children, not just for those children who remain in the public schools. This third point is particularly important, because careful understanding of the distributional consequences of a public policy change requires that the entire distribution of students be studied.

To date, there have been few attempts to quantify the magnitude and the nature of the interdistrict and intersector mobility predicted in the theoretical work of Nechyba (1996, 1999), Bénabou (1996), and Fernández and Rogerson (1996, 1997, 1998). In this paper, we summarize some of our own recent work on school finance reforms and community and school composition, and interpret the school performance results in the context of these findings. In addition, we present new evidence on the effects of school finance reforms on the differential selection into public and private schools of central-city students from high-income and highly educated families.

SCHOOL FINANCE REFORMS AND THE DISTRIBUTION OF STUDENT OUTCOMES

Although a vast literature exists on the relationship between school spending and student outcomes, the question of whether additional dollars spent on schools will improve outcomes remains unresolved—and hotly contested. Indeed, in papers prepared for a special issue of the Federal Reserve Bank of New York's *Economic Policy Review* devoted to education in America, Eric Hanushek and Alan Krueger evaluate the existing evidence in different ways. Hanushek (1998) concludes that "the current organization and incentives of schools do little to ensure that any added resources will be used effectively" (p. 23). Krueger (1998), however, asserts that "the U.S. public school system has not deteriorated and may in fact be reasonably efficacious" (p. 38). While these authors certainly disagree about the degree to which American schools are "broken," and about how to read the existing evidence on school spending and student outcomes, it is reasonably certain that neither believes there to be a mechanical production relationship between dollars and achievement, as might be implied by the unfortunately popular name of the "education production function" literature.

The realization that it was fruitless to utilize an education production approach to quantify the impact of finance reforms led several researchers to explore directly the performance effects of school finance reforms. The first paper in this line of research is Downes (1992), in which the extensive school finance reforms in California in the late 1970s were analyzed. This work indicated that greater equality across school districts in per-pupil spending was not accompanied by greater equality in measured student performance. In part, this failure of performance to converge was attributable to growing cost differentials between high-performance and low-performance districts. Nevertheless, the paper raised troubling questions about the efficacy of finance reforms of the type implemented in California. Because this research focused on the possibly unique California case, however, the generalizability of the conclusions is debatable.

Hoxby (1998) uses national-level data to characterize how finance reforms change the incentives facing local districts and, thus, per-pupil spending. She also considers how these changes affect dropout rates. She finds that, on average, dropout rates increase about 8 percent in states that adopt state-level financing of the public schools. And, while Hoxby's work does not explicitly address the effect of equalization on the within-state distribution of

student performance, it seems likely that much of the growth in dropout rates occurred in those districts with relatively high dropout rates prior to equalization. In other words, these results imply that equalization could adversely affect both the level and the distribution of student performance.

Although Hoxby raises an important point, her approach misses key features of school finance reforms that are relevant for exploring the effects on student outcomes. Because she does not explicitly account for the imposition of tax or expenditure limits, which we demonstrate in Downes and Figlio (1998) to be important determinants of student outcomes, and because the passage of these limits is often roughly contemporaneous with school finance reforms, it is unclear whether the changes in performance observed by Hoxby are attributable to school finance reforms or to the imposition of tax or expenditure limits. Furthermore, Hoxby's method focuses on local incentives and does not explicitly account for changes in direct state support of public schools. Large changes in the fiscal incentives provided to school districts have generally been associated with large changes in the ways in which school spending is allocated at the state level (Brunner and Sonstelie 1999).

While the dropout rate is an outcome measure of considerable interest, analyses of the quality of public education in the United States tend to focus on standardized test scores and other measures of student performance that provide some indication of how the general student population is faring. Recent work of Husted and Kenny (1996) suggests that equalization may detrimentally affect student achievement. Using data on thirty-seven states from 1987-88 to 1992-93, they find that the mean Scholastic Aptitude Test (SAT) score is higher for those states with greater intrastate spending variation. Like Hoxby, however, Husted and Kenny fail to control for the imposition of tax or expenditure limits, and, because they use state-level data, Husted and Kenny cannot examine the intrastate impact of equalization. Finally, since only a select set of students take the SAT, Husted and Kenny are not able to consider how equalization affects the performance of all students in a state.

Card and Payne (1998) also use SAT scores to explore the relationship between school finance reforms and student achievement. The authors tend to find that school finance equalization improves outcomes for lower income students, indicating that it may have some positive redistributive consequences. While Card and Payne adjust SAT scores to a larger degree than Husted and Kenny to account for selectivity, many of the concerns associated with Husted and Kenny's paper are relevant for their work as well.

To date, the only paper to investigate the effects of school finance reforms on the full distribution of students is Downes and Figlio (1998). In this paper, as well as in our other work, we use variants of an event analysis approach to quantify the impact of finance reforms and tax limits. Since tax limits and finance reforms differ (sometimes dramatically) from state to state, such an approach is imperfect for isolating the effects of these policies. Although we recognize this limitation of the event analysis approach, we also feel that compromises must be made if we are to attain a national perspective on the impact of these policies. Thus, to partly account for the heterogeneity of school finance reforms, we categorize the reforms according to whether they are or are not court-mandated, as suggested by Downes and Shah (1995).

We recognize that our classification of school finance reforms as court-mandated or legislatively mandated is somewhat crude, since there exists considerable heterogeneity across school finance reforms. Thus, in Downes and Figlio (1998), we also adopted Hoxby's (1998) suggested classification of reforms as "pro-spending" or "anti-spending."[8] More work on classifying and identifying school finance reforms, as well as more individual-state analyses, are certainly in order.[9]

Downes and Figlio (1998) use information from two rounds of individual-level data on student attributes and test scores: the National Education Longitudinal Survey (surveyed students were high school seniors in 1992) and the National Longitudinal Survey of the High School Class of 1972. We linked students to their schools and estimated separate effects of school finance reforms, as well as tax or expenditure limits, for students in schools "leveled up" by

school finance policies and those in schools "leveled down" (in relative terms) by the policies. We found that court-mandated and legislatively mandated school finance reforms tended to increase average public school performance and that students in initially low-spending school districts tended to benefit the most from legislative reforms. We also found that, if anything, anti-spending reforms led to increased student outcomes and pro-spending reforms led to decreased student outcomes.

In more recent work (Downes and Figlio 1999), we have explored the effects of school finance reforms on *private* school performance, using an identical empirical approach to the one we used to measure public school performance effects. In that paper, we observed that, while our models yielded a statistically insignificant distributional test score effect of legislative school finance reforms, we found a strong, statistically significant distributional effect of court-mandated school finance reforms. Specifically, we found that the relationship between school finance reforms and private school student test scores increased with the ratio of the initial county expenditures relative to the average per-pupil expenditures in the state. Taken together with our finding in earlier work of no impact of court-mandated reforms on the distribution of public school test scores or even on the level of public school test scores in states other than California, this finding could indicate that court-mandated finance reforms are widening slightly the dispersion in overall (that is, public *and* private) student performance. In such a case, the school finance policies intended to decrease the dispersion of student outcomes may actually tend to increase this dispersion.

SCHOOL FINANCE REFORMS AND COMMUNITY COMPOSITION

The preceding discussion provides a strong motivation for why it is so important to consider the school choice implications of school finance reforms. Students are not tied to a particular school or even to a particular neighborhood or community. This point, which has become a central theme of much of the theoretical work mentioned above, indicates the possibility that the distributional effects, if any, of

redistribution of resources per se in the public sector could be undone by geographic resorting and public-private selection of students, particularly if peer effects and teacher quality (both of which, alas, are difficult to measure) matter more than school spending.

To date, the empirical literature has been extremely quiet with regard to the possible school choice responses to school finance reforms. Only one study, Aaronson (1999), directly addresses the impact these policies have on the degree of homogeneity of affected districts. Aaronson finds that the extent of income sorting is unaffected by a state supreme court decision ruling the existing system of school financing unconstitutional. Only in states in which the system of school financing has been upheld by the courts does Aaronson detect any evidence of changes in the composition of affected districts. His results indicate that, in the aftermath of a supreme court decision for the state, the fraction of low-income individuals increases in districts in the bottom portion of the state's across district income distribution. Also, the only significant compositional effect Aaronson uncovers when examining the fraction of high-income individuals who live in high-income districts is a decline in the fraction of high-income individuals in those districts that have both high average incomes and low median house values.

Aaronson's work is ground-breaking, careful, and thoughtful, but it also has flaws that could affect the conclusions. First, for 1970, Aaronson is unable to create school-district-level measures for nonurban districts. Thus, most of his empirical work is based on 1980 to 1990 changes. The concern, therefore, is that the base year is too close to the policy implementation. While Aaronson's conclusions are the same if he examines 1970 to 1990 changes for those districts for which he has data and if he omits those states with policy changes close to 1980, the possibility still exists that the preferred estimates of the policy effects understate their actual effect.

The second flaw in Aaronson's approach is that he groups districts on the basis of their location in the state's income distribution, not on the basis of their location in the distribution of education spending. Thus, for example,

Aaronson asks if, in low-income districts, the fraction of families with low incomes changes in the aftermath of a court-mandated finance reform. The problem with this approach is that these policies differentially affect districts on the basis of their education spending, not on the basis of their personal income. There are numerous examples of districts with low per-capita incomes and high levels of education spending. In short, the policy variables should be interacted with initial levels of per-pupil spending and not with initial income levels.

The final drawback to Aaronson's approach is that he looks only at the impact the policies have on income sorting. While much of the theoretical literature concentrates on income sorting, it is because in most theoretical models demand for education is perfectly correlated with income. In reality, demand for education may be as strongly correlated with parental education levels as with income. Thus, the need exists to consider the impact of the policies on the extent of sorting by education.

In recent work (Downes and Figlio 1999), we evaluate the effects of school finance reforms on community composition, using the school-district-level data described above. In that paper, we find evidence of policy-induced resorting, reflected in changes in the observed composition of school districts. This pattern is consistent qualitatively, if not always statistically significant, across measures of community composition for both legislative and court-mandated reforms, suggesting that a classic Tiebout story best describes the post-finance reform dynamic. Specifically, in a Tiebout-world, finance reforms reduce the incentive to sort on the basis of tastes for education. Thus, in initially low-spending districts, such policies should result in relative increases in per-capita income, in relative declines in the poverty rate, and in relative increases in the fraction of college-educated people. This is exactly the pattern of changes that we observe.

The results that support these conclusions are shown in Table 1. The differential effect of the policies on districts with different prereform levels of spending is revealed by the estimated coefficients on the interactions of the policy dummy with the ratio of the 1972 level of per-pupil spending in the district to the state average.[10] The fact that the policies differentially affect districts is supported by these results; per-capita income has grown less rapidly in high-spending districts in states in which a legislative reform of the school financing system has been implemented. This result is paralleled by a finding that the fraction of individuals with a college degree has declined relatively in initially high-spending districts in legislative reform states. For court-ordered reforms, the only apparent compositional impact is a relative decline in the fraction of individuals with a college degree.

These estimated compositional effects are relatively easy to reconcile with the estimated impacts of these policies on the standardized test performance of public school students as described in Downes and Figlio (1998), as the reduction in dispersion could be attributable to relative changes in peer group quality resulting from the apparent resorting associated with legislative school finance reforms. Only by determining if the new residents of low-spending districts choose the public schools, however, can we check the validity of this argument.

Table 1
DIFFERENCES-IN-DIFFERENCES-IN-DIFFERENCES RESULTS
Estimated Effect of School Finance Policies on School District Demographics

Policy Variable: Interaction of District Spending Relative to State Average with	Dependent Variable: Change in[a]			
	Log of Per-Capita Income	Fraction in Poverty	Fraction without a High School Education	Fraction with a College Degree
Court-mandated reform	-0.0428	0.7765	1.1443	-2.5436
	(0.0449)	(1.1651)	(1.0933)	(1.1204)
Legislative reform	-0.0894	1.2212	0.9675	-2.5435
	(0.0395)	(1.2030)	(0.6713)	(1.1362)
R^2	0.5538	0.3513	0.4820	0.5832

Source: Authors' calculations.

Notes: The regressions also include the 1970 value of the log of per-capita income, the fraction below poverty, the fraction with less than a high school diploma, the fraction with a college degree, the fraction that are Hispanic, and the fraction that are African-American. Also included are controls for the 1972 fiscal status of the district, as well as a constant, state-specific effects, and urbanicity dummy variables reflecting seven urban status possibilities (large central city, midsized central city, suburb of large central city, suburb of midsized central city, large town, small town, and rural, as defined by the U.S. Census Bureau). In addition, the regressions control for tax limit status. Standard errors that are robust to heteroskedasticity and within-state correlation of the error terms appear in parentheses below the parameter estimates.

[a] All changes are measured as the 1990 level minus the 1970 level.

SCHOOL FINANCE REFORMS AND SCHOOL SECTOR SELECTION

The results mentioned above describe the changes in the composition of different types of *communities* following large-scale school finance reforms. But they provide very little evidence regarding the changes in the composition of *public schools* in the wake of finance reforms. Changes in public school composition could look much different from changes in school district community composition as a whole since communities include childless families, families with children not of school age, and residents who send their children to private schools. We therefore now explore the effects of school finance reforms on the characteristics of student selection into public and private schools.

To this end, we use data from the 1970 and 1990 Public Use Microsamples (PUMS) of the U.S. Census of Population to explore the school choices of residents of central cities of metropolitan areas. We focus on two family characteristics: the household's income and the education level of the household head. For the purposes of this analysis, we consider a household to be high-income if its income exceeds four times the poverty rate, and we consider a household to be highly educated if the household head has a four-year college degree. We estimate the effect of school finance reforms on public school enrollment rates of different types of people using a "difference-in-difference" strategy: we compute a policy effect by calculating the estimated difference between cities subject to a school finance reform and those not subject to a reform in the change within a city from 1970 to 1990 in the fraction of the public school student population that comes from a highly educated or high-income household. In this approach, we also control for changes in tax limit status.

We present in Table 2 the estimated policy effects of court-mandated and legislative school finance reforms. We observe that court-mandated school finance reforms are associated with differential *increases* in public sector rates of household education and income that are statistically distinct from zero. Legislative school finance reforms also apparently differentially increase public sector rates of household education and income, although these differ-

ences are not statistically significant at conventional levels. Therefore, the evidence suggests that school finance reforms are associated with increases in the rates of highly educated and high-income households sending their children to urban public schools.

Even this comparison, however, does not provide complete evidence on the sorting story. To fill in the rest of the picture, we also perform the same comparisons using data from the private sector. The second row of Table 2 presents the same type of difference-in-difference analysis in which we are interested for the set of students who reside in the central city of a metropolitan area and attend *private* school. We observe that court-ordered school finance reforms are associated with significant increases in the fraction of high-income and highly educated families among central-city residents who are private school attendees. Moreover, this difference is qualitatively larger for the private sector than for the public sector and is statistically distinct from the public sector (at the 8 percent level) in the case of highly educated families. In the case of legislative school finance reforms, a similar pattern emerges, but is only significantly different between public and private sectors with regard to the education characteristic.

Table 2

DIFFERENCE-IN-DIFFERENCE RESULTS
Estimated Effects of Tax Limits and School Finance Reforms on Public and Private School Composition

	Composition Variable			
	Household Income Exceeds Four Times the Poverty Rate		Household Head Is College Graduate	
Policy Variable	Court-Mandated Reforms	Legislative Reforms	Court-Mandated Reforms	Legislative Reforms
Public school students	0.071	0.036	0.043	0.010
	(0.029)	(0.022)	(0.022)	(0.019)
Private school students	0.124	0.037	0.141	0.054
	(0.041)	(0.034)	(0.039)	(0.036)
p-value of difference	0.151	0.970	0.082	0.063

Source: Authors' calculations.

Notes: The results in the table are based on the set of students in the 1 percent sample of the decennial census residing in central cities of metropolitan areas. The reported figures are the estimated difference between policy cities and no-policy cities (for each of the various policies) in the difference between 1990 and 1970 composition measures. The regressions also control for tax limit status. Standard errors that are robust to heteroskedasticity and within-city error correlation appear in parentheses below the parameter estimates.

In summary, the evidence is wholly consistent with the notion of highly educated families and, to a lesser extent, high-income families moving to the central cities in response to school finance reforms and sending their children to private schools. Therefore, the community composition results described above are, as we suspected, almost surely not reflective of changes in the student body population. The results are also consistent with the performance findings that suggest that both public school student and private school student test scores increase in communities that are "leveled up" by school finance reforms. These results suggest that the performance findings may be either directly or indirectly reflective of the compositional changes that we are noticing herein.

In related work (Downes and Figlio 1999), we look at public and private school composition for a broader set of communities—not just central-city students—using data from the National Education Longitudinal Survey and the National Longitudinal Survey of the High School Class of 1972 and find similar distinctions between selection into public and private schools. In that paper, we report that court-mandated school finance reforms are associated negatively with the income level and parental education level of public school students, but the interaction with initial per-pupil expenditure is significantly positive, suggesting that the negative compositional effect of court-mandated reforms is primarily a property of relatively low-spending schools.[11] Selection into private schools as a function of prereform county per-pupil expenditures is qualitatively a mirror image of selection into public schools as a function of prereform per-pupil expenditures. For instance, we observe that court-mandated reforms tend to lead to positive income selection into private schools, but this selection is attenuated as the relative spending level of the county increases. The results are the same, qualitatively, in the case of parental education—there appears to be positive selection into the private sector in the wake of school finance reforms, but less so (if any) as initial levels of relative public school spending increase.

With regard to both parental education and family income, differential selection into public schools at different levels of 1972 county relative per-pupil spending is statistically distinct from the estimated differential selection in the private sector. The estimated effects of legislative school finance reforms, however, seem to follow no perceptible pattern and are not statistically significant.

A likely, though not exclusive, explanation for these findings and those summarized in Table 2 is that some high-income and highly educated parents respond to school finance equalizations by moving to relatively poor school districts and selecting into private schools. Such an outcome, forecast by authors such as Nechyba (1996), is consistent with stronger positive selection into public schools from initially high-spending counties and stronger positive selection into private schools from initially low-spending counties.

CONCLUSION

Hopefully, what this brief review of the literature makes clear is that the impact of school finance reforms on the extent of income inequality in the United States remains to be determined. Nevertheless, one lesson should be clear from this discussion: if the goal is to reduce income inequality substantially, state supreme court decisions mandating relatively specific changes in the school finance system are not particularly effective policy instruments. Even the most optimistic estimates of the impact of court-mandated school finance reforms on the distribution of student performance indicate that these distributional effects are relatively small. And these small gains come at the potential cost of movement of higher income families into the private sector and a concomitant increase in the extent of sorting by income in the schools. The goal of reducing the persistence of income inequality is laudable. However, court mandates that dictate the nature of school finance reforms do not seem to be particularly good tools for accomplishing this goal.

ENDNOTES

1. For example, the simple correlation between the log of current spending per pupil and the log of per-capita income was 0.344 in 1970 and 0.304 in 1990. Similarly, in a regression of the log of per-capita income on the log of current spending per pupil and state-specific effects, the coefficient on the log of current spending per pupil was 0.164 in 1970 and 0.136 in 1990.

2. The simple correlation, for example, between the log of current spending per pupil and the poverty rate was -0.345 in 1970 and -0.155 in 1990; the regression coefficient on the log of current spending per pupil was -1.082 in 1970 and 2.023 in 1990.

3. For instance, the simple correlation between the log of current spending per pupil and the log of per-capita income was 0.342 in 1970 and 0.447 in 1990; the regression coefficient on the log of current spending per pupil was 0.167 in 1970 and 0.399 in 1990.

4. The simple correlation, for instance, between the log of current spending per pupil and the poverty rate was -0.343 in 1970 and -0.296 in 1990; the regression coefficient on the log of current spending per pupil was -1.103 in 1970 and 0.048 in 1990.

5. Theory is also equivocal about the impact of school finance reforms on mean income in a state. For example, Bénabou's (1996) results imply that mean income could decline, while Fernández and Rogerson (1997, 1998) generally find that moving to a state system of financing could increase mean income.

6. The existence of peer effects need not accentuate the tendency to sort. See de Bartolome (1990) and Brueckner and Lee (1989) for models in which peer effects exist and heterogeneous communities form. What is clear from these models is that the degree of sorting will depend critically on the benefits that high-income or high-ability individuals get from mixing with lower income or lower ability individuals.

7. This paper is not the place to discuss the relative advantages and disadvantages of the approaches taken in these two papers. We refer the reader to the individual papers for the relevant discussions.

8. The pro-spending/anti-spending classification is based upon the impact a reform has on the cost to local taxpayers of increasing spending by one dollar, holding constant intergovernmental aid. A pro-spending reform reduces this cost; an anti-spending reform increases it.

9. Aaronson (1999) has suggested a third alternative characterization of finance reforms based on the outcome of court challenges to a state's school finance system.

10. The specifications that generate the estimates in Table 1 include a full set of state dummies. As a result, it is not possible to estimate separately the common impact of any one of the policies on all districts in the state that have implemented that policy. This limitation prevents us, for example, from determining if the outcomes are consistent with Fernández and Rogerson's (1997, 1998) prediction of increasing per-capita income after a shift to state financing.

11. We find similar results, although less statistically significant, in the case of legislative school finance reforms.

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Commentary

Derek Neal

LEVITT

Steven Levitt makes a set of interesting observations concerning changes in the relationship between a given individual's income and the likelihood that he is a crime victim. The relationship between income and crime victimization is important because it contributes to overall inequality among our citizens. Work on this topic is timely because the measures of wages, earnings, and wealth that serve as our standard yardsticks of individual prosperity indicate that outcomes in our society have become less equal in recent decades. Levitt's main thesis contains two parts. First, he argues that property crime has become more concentrated among poor households. Second, he contends that violent crime has not become more concentrated among the poor and, in fact, he shows that murder—at least in one large city—may have become less concentrated among the poor.

Levitt argues that these preliminary results do not add much to our understanding of how the distribution of individual welfare has changed over time because we cannot observe what individuals spend in order to avoid crime.

Derek Neal is an associate professor of economics at the University of Wisconsin-Madison. The views expressed are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

His argument is correct, and I admire his reluctance to jump to unwarranted conclusions. Here, I comment on his initial findings and pay particular attention to the results concerning the increasing concentration of property crime among the poor.

I begin by noting that in the National Crime Victimization Survey (NCVS) data, there is really no obvious pattern in the relative exposure of rich and poor families to violent crime. Aggravated assault has clearly become relatively more common among black families with incomes of more than $50,000, but no similar results appear for robbery or aggravated assault among whites. Furthermore, the homicide results from Chicago indicate that murder became less concentrated in neighborhoods with low median incomes over the 1965-95 period. But the results do not make clear the degree to which murder actually became relatively less common among poor families in Chicago. A comparison of the 1970 and 1990 results in Levitt's Table 7 shows that the relationship between community characteristics and community homicide rates is remarkably similar in the two periods once all the community characteristics are included in the regression. Thus, the change in the correlation between median family income and homicide rates may simply reflect different patterns of mixing by income across communities.

My main point is that the evidence on changes in the incidence of violent crime is far from clear cut, while the evidence on the incidence of property crime is clear, consistent, and striking. For both auto theft and burglary, victimization rates among the poor rose relative to the rates among the rich. Furthermore, although burglary rates fell in all groups, the decline among the rich is much greater than the decline among the poor. For both blacks and whites, the ratio of burglary rates among the poor to burglary rates among the rich increased by more than two-thirds. Moreover, the levels of change in these victimization rates are quite impressive. All groups saw the annual probability of burglary victimization for a household fall by at least 2 percentage points, and rich blacks actually enjoyed a decline of more than 8 percentage points. In addition, for both races, the excess decline in burglary victimization rates for rich versus poor white families was more than 3 percentage points.

These seem like big numbers to me, especially given that the expected losses associated with burglary victimization should be larger for rich households than for poor households. If the expected loss for a rich family is even $1,000 per burglary, the 8-percentage-point reduction among rich black families represents an expected savings of $80 per year in the direct costs of burglary alone, and this figure does not even take into account the time costs or the nonpecuniary costs of victimization. As a check on these victimization numbers, I would be interested to know whether or not the patterns of victimization reported in the NCVS provide any insights into trends in the cost of property insurance over the same time period.

Levitt argues that the NCVS numbers may reflect a combination of improvements in crime avoidance technologies and more intensive use of these technologies among rich families. I have no quarrel with this conjecture, but I do believe that a complete analysis of these trends requires data on patterns of residential segregation and crime. We read a fair amount in magazines and newspapers about "gated communities." However, I do not think we really understand the role of residential segregation in determining crime trends or trends in the relative victimization of rich and poor.

DOWNES AND FIGLIO

Thomas Downes and David Figlio provide an interesting survey of a relatively recent but rapidly growing literature on school finance reform. Because this literature deals with the relationship between government policies and the distribution of investments in human capital, it addresses some of the most important issues in modern research on inequality. The authors also include two sets of results from their own research. I will not provide a detailed commentary on the entire literature that Downes and Figlio review. Rather, I will focus my attention on their results and on a specific debate over methodology that is ongoing in this literature.

Their results in Table 1 indicate that in states where some type of equalization reform occurred between 1970 and 1990, relatively high-spending districts experienced relative reductions in the fraction of residents who have college degrees. The authors interpret this as evidence that well-educated parents leave high-spending districts when reforms restrict the ability of these districts to spend more than other districts.

The results in Table 2 examine the fraction of both public and private school students in central cities who come from families with high incomes or families with household heads who are college graduates. Downes and Figlio report that relative to central cities that are not affected by reforms, central cities that are included in equalization plans experience increases in the fraction of students from high-income or high-education homes. This is true for public school and private school students, but especially for private school students. The authors offer the following interpretation of the results in the tables: "The evidence is wholly consistent with the notion of highly educated families moving to central cities in response to school finance reforms and sending their children to private schools."

This scenario is only one of many that could be constructed to rationalize the numbers in the tables. It is possible that urban public schools gain students from two sources in response to equalization reforms. First, they could acquire some middle- and low-income students who would have attended urban parochial schools in the

absence of reform. These students could be small in number relative to the public school population yet still represent a substantial portion of the urban private school population. Second, urban public schools could acquire a larger number of children from high-income families who would have migrated to the suburbs in the absence of reform. Given the relatively small size of the private school sector, these two effects could yield what we observe in Table 2—namely, modest increases in the fraction of urban public school students who come from high-income homes and large increases in the fraction of urban private school students who come from high-income homes.

I do not offer this scenario as the correct explanation for the results in Table 2, but rather as one of many that are equally plausible and yet indistinguishable based on the evidence that the authors present. This type of difference-in-difference analysis of composition measures will never provide clear answers to questions concerning patterns of residential mobility in response to reform changes. Composition changes in central cities alone cannot be used to pin down changes in the number of families that make specific types of choices concerning schooling and location.

However, I am more concerned about another methodological issue. Downes and Figlio, and many others who work on this topic, commonly employ an event-study approach. This approach treats all reforms as an occurrence of a specific and common event. In this frame-work, states or localities that have not experienced formal reforms serve as a control group, while those that have experienced reforms constitute the treatment group. The goal is to evaluate the average effects of reform (the treatment) on various outcomes. Downes and Figlio acknowledge that there are problems with using the event-study approach to evaluate school finance reforms, and I commend them for raising these important issues. However, we differ in our evaluation of the importance of these problems. I am firmly convinced that the event-study method is not appropriate for research on school finance reforms. A recent paper by Caroline Hoxby (1998) demonstrates that school finance equalization reforms are incredibly heterogeneous events. The changes in tax and expenditure regulations that accompany these reforms vary greatly among states, and the effects of these reforms on the incentives faced by local school districts vary significantly within and among states. No sensible economic model would ever predict that such varied reforms would yield similar impacts, and I am not sure that we learn much about how these reforms work or how an optimal reform should be designed by estimating the average impact of such a varied set of interventions.

The details are important here. Future research should focus on pinning down exactly how various features of school finance reforms affect the incentives and behavior of schools, parents, and students. Hoxby has taken the first step down this road. Others should follow her lead.

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ECONOMIC INEQUALITY AND LOCAL PUBLIC SERVICES

Papers by
    Edward L. Glaeser and Matthew E. Kahn
    Edwin S. Mills

Commentary by
    James M. Snyder, Jr.

From John Lindsay to Rudy Giuliani: The Decline of the Local Safety Net?

Edward L. Glaeser and Matthew E. Kahn

I. INTRODUCTION

The archetypal mayors of the 1990s act like city managers, not social levelers. New York's Rudy Giuliani, Chicago's Richard M. Daley, Philadelphia's Edward Rendell, and Los Angeles' Richard Riordan emphasize their skills at providing safety and attracting business. While many of these leaders enact policies that are aimed at the poor, their political appeal is based primarily on their ability to provide basic public services and to attract businesses. The change from taking care of the poor to providing basic urban services is not just rhetoric. New York City's public assistance rolls have dropped by almost 400,000 during Giuliani's tenure (see Citizens Budget Commission [various years]).

This current phenomenon would not be unusual if it were not for the mayors that these men replaced. In the 1960s, 1970s, and even as late as the 1980s, big-city government often defined itself by its attempts at redistribution. Mayors such as John Lindsay, Coleman Young, and Marion Barry were supported by electoral coalitions whose leaders counted on significant redistribution to the less advantaged, both formally through official programs and informally through patronage. Local redistribution started long before the 1960s. James Michael Curley was just as much of a redistributionary mayor as Coleman Young.

Big cities are still unusually oriented toward providing services to the poor, even controlling for the level of poverty. Cities with more than one million inhabitants spend 2.5 percent of their budget, or $88 per inhabitant, on local welfare expenditures. By comparison, cities with populations between 2,500 and 10,000 spend 0.7 percent of their budget, or less than $3 per inhabitant, on local welfare expenditures. Cities with more than one million inhabitants spend 7.4 percent of their budgets on public housing and public health. Small towns spend 3.6 percent of their budget on these categories. Thus, despite the massive decline in big-city redistribution over the past decade, big cities are still unusual in their tendency to allocate expenditures to the poor.

These expenditure differences result in real differences over space in the amount of income received from the government by the poor. Poorer residents of big cities are more likely to receive public housing and receive larger amounts of public assistance (despite supposedly uniform statewide policies). We believe that the greater abundance of transfers in cities (relative to suburbs and

Edward L. Glaeser is a professor of economics at Harvard University; Matthew E. Kahn is a professor of economics and international affairs at Columbia University. The views expressed are those of the authors and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

small towns) contributes to the segregation of the poor into large cities, which we believe is a policy issue of first magnitude.

We consider two puzzles about the local safety net and New York City. First, why do big cities, and particularly New York, engage in so much more redistribution than small towns? The broad question (the connection between cities and redistribution) is the topic of the companion paper to this one (Glaeser, Kahn, and Rappaport 1999). Our second puzzle is to understand why the level of redistribution in New York City (and to a certain extent elsewhere) has declined so substantially over the past three decades. We use results from our companion paper to explain the level and the trend of New York City's redistribution policies. We need to understand why New York City provides local redistribution to seriously evaluate whether this redistribution will continue to be a feature of New York City life.

Changes in local generosity have both positive and negative aspects. Obviously, we may find it undesirable for the poor to receive less from local government. Such trends might exacerbate income inequality. However, differences in the availability of transfers over space create spatial distortions that encourage the poor to disproportionately live in big cities. Our goal here is not to evaluate the effects of the local safety net, but rather to understand its causes and particularly the causes of its decline in New York City.

This paper has five primary sections. In the first section, we present an overview of the ways in which localities actually redistribute to the poor. In the next section, we discuss the determinants of the costs of redistribution and the benefits of redistribution. Benefits include cash transfers for voters who are themselves poor or who care altruistically about the poor. Costs include tax payments and (depending on the tax instrument used) reduced labor demand and housing prices.

Section III presents a brief overview of the history of redistribution in New York City. New York's exceptionalism really started during the New Deal under LaGuardia. During the 1950s and early 1960s, New York remained distinct from other large cities, but the differ-

ences were small. It was really under Lindsay that New York City developed a redistribution system that separated it from all other cities. The last decade has seen a striking increase, followed by a decrease, in the amount of redistribution within the city.

The final two sections attempt to formally explain why New York City is different from other cities and why its redistribution levels have changed over time. Using regression estimates from a nationwide city-level data set, we present a decomposition analysis of underlying city attributes to explain the gap between New York and other cities or between New York in 1970 and New York in 1990. We find that no one variable explains the greater tendency of New York City to redistribute income relative to other large cities. It is, in fact, not an outlier once you control for its tremendous population, but that would be close to assuming the conclusion. We find that perhaps one-quarter of the difference can be explained by low rates of home ownership in New York. Close to 40 percent of the difference can be explained with variables meant to capture the relatively immobile New York tax base. The remainder of the New York redistribution can be attributed to greater proximity between rich and poor in the city and perhaps higher levels of attention to the needs of the poor because of that proximity.

There are four effects that together explain more than 85 percent of the change in New York's level of redistribution relative to other cities over time. Increased home ownership rates and increased population mobility explain a large fraction of the reduction in New York's relative generosity between 1970 and 1990. Reduced manufacturing employment rates explain part of the decline in New York's redistribution efforts, but they do not explain the decline relative to other cities. There has been a general decline in the relationship between land area and redistribution. In 1970, cities with more land area tended to redistribute more income. We interpret this change as relating to the general decline in the market power of large cities. Increased employer and household mobility and the existence of edge cities mean that large cities no longer have the monopoly power that they once

had. As these cities' monopoly power declines, so does their ability to redistribute.

II. HOW LOCALITIES REDISTRIBUTE

In the long run, economic theory predicts that localities cannot redistribute (Feldstein and Vaillant 1998). Mobility ensures that utility levels are constant for all income groups across space. In practice, cities can and do redistribute. Even if utility levels are ex ante identical across cities, there are almost always quasi-rents created by moving costs, and redistributionary city leaders can exploit these quasi-rents. In other words, even if a firm will in equilibrium be indifferent between all possible localities ex ante, ex post the firm will have sunk down roots and the city can redistribute by taxing the firm. Of course, the firm will have expected this ex ante and firms will receive up-front payments or tax abatements from the city to compensate for higher expected taxes.

There are many mechanisms that cities use to redistribute income from their richer residents and firms to the poor, who are better endowed with votes than they are with income. The most obvious form of spending on local redistribution is local welfare spending itself. The only problem with calling this spending local redistribution is that AFDC (Aid to Families with Dependent Children) levels are officially set at the state rather than at the municipality level.[1] In practice, however, as our case study illustrates, cities have a great deal of discretion about the size of their local safety net.[2] Welfare takeup rates are always much less than 100 percent everywhere. As the costs of getting AFDC payments decline (inconvenience, distance to office, and stigma are all forms of costs), takeup rates rise.

City government chooses the size and character of the bureaucracy, which handles the welfare program and thereby chooses the cost of receiving welfare payments. This bureaucracy can either be inaccessible physically and generally hostile to claimants or accessible and encouraging. More spending on the bureaucratic side of welfare can lead to higher welfare rolls if the spending is targeted toward getting eligible citizens on welfare (Shefter 1985).

While welfare spending is not the primary form of redistribution for most cities, it is the clearest form of redistribution enacted at the city level. There are forms of pure redistribution other than AFDC payments.[3] These extra programs give the city flexibility in expanding or contracting welfare rolls that extend beyond the choices made by the federal government concerning eligibility.

The second major form of local redistribution is building public housing. While there is often a sizable local component of public housing spending, much of public housing spending is primarily decided by the Department of Housing and Urban Development (HUD) at the national level. As shown elsewhere (Glaeser, Kahn, and Rappaport 1999), these federal housing payments are particularly targeted toward larger cities, and these transfers reflect the single largest reason why transfer to the poor rises with city size. The discretion of localities over the nature of public spending is certainly limited, but the locality naturally has control over many details of both construction and operation of public housing.[4]

The third form of public spending on redistribution is public hospitals. Public hospitals serve the city's poorer residents.[5] Spending on public hospitals and the availability of public hospitals is higher in big cities. Some fraction of this greater spending may occur because of scale economies in this sort of health provision. Major cities, such as New York, train a large share of the nation's future doctors. Much of this education occurs at public hospitals. However, the bulk of the connection between hospital spending and city size is due to the greater urban proclivity toward redistribution to the poor, and this form of spending is a big share of total big-city redistribution.

Redistribution also works through the tax system. New York City has personal and corporate income taxes, which are imposed on both residents and commuters (at different rates). These taxes together produce 20 percent of city revenues.[6] The income tax in New York is sharply progressive and has been in place since the Lindsay administration. Corporate income taxes are also progressive (because shareholders are unlikely to be poor) and represent a particular tax on out-of-city shareholders.

Other forms of redistribution are frequently more opaque and include public employment, schooling, policing, and transportation. Public employment has been a classic means of redistributing income to the poor in many cases (Alesina, Baqir, and Easterly 1998). Indeed, Fernando Wood's plans for large-scale redistribution in mid-nineteenth-century New York hinged upon using the poor as municipal laborers (and selling food at below cost to the poor). Redistribution through schooling policies also appears to be important. Lindsay's open-enrollment policy in City College is a classic move to change the target audience of public higher education in New York. Police can either undertake policies that are aimed primarily at protecting the safety and property of richer residents or respecting the rights (and protecting the property) of poorer residents.[7] Public transportation also becomes redistribution if it is underpriced and used disproportionately by the poor. In New York, public transportation is less redistributionary than in many other big cities because an unusually large share of New York's residents use public transportation to get to work.

Two final forms of redistribution are the use of debt financing and a variety of regulations. At first glance, this use of debt appears to be a transfer from future city residents to current city residents. Indeed, at the national level, the effect of borrowing influences these sorts of transfers. However, the classic logic of urban economics tells us that the future taxes implied by debt obligations will be capitalized in the value of real estate. As such, the price of borrowing is paid not by future residents (who after all need to be attracted to New York), but rather by current landlords. Thus, borrowing represents a transfer from owners and landlords to current renters. Regulations, such as rent control, can also be a major form of redistribution.

III. The Determinants of the Level of Redistribution

In this section, we give an overview of the determinants of the level of redistribution. We divide the reasons why voters support redistribution to the poor into three broad groups.

First, the voters or groups may be poor themselves. Therefore, supporting redistribution is basic self-interest. Second, the voters may be altruistic and may gain utility from reducing other's poverty. Third, increases in redistribution may be sought because voters believe that poverty induces negative-externality-creating behavior such as crime and riots. Increases in the degree of poverty, the level of altruism, or the fear of crime will all act to increase the desire for redistributing money to the poor.

The primary costs of redistribution are tax payments. The costs of redistribution can be classified into two broad categories. First, there is the series of costs, both direct and indirect, that reduce taxpayer real income even if no household or firm chooses to migrate away from the high-tax city. Second, there are those taxes that affect taxpayers only because they will elicit a mobility response. In other words, in response to these taxes both capital and labor may flee the city. This response will reduce property values and possibly reduce wages. This mobility may also change the ratio of high-skill workers to low-skill workers, which may also be considered undesirable by the median voter.

The direct costs of redistribution include the taxes paid by consumers themselves. These taxes include property taxes (for homeowners), sales taxes, and income taxes. Even in these cases, the incidence of these taxes will not necessarily fall completely on these consumers. Indirect costs include taxes that are not directly paid by consumers. For renters, these taxes include property taxes, which eventually result in higher rents.

The extent to which forms of redistribution have direct costs depends in part on the extent to which federal and state government directly fund the redistribution. Thus, in the case of New York's welfare spending (not Home Relief), the city only spends $.25 on the dollar for its redistribution. As such, the cost of redistribution to the city is much lower than its real social cost because the remainder is being paid by tax revenues shared across the entire country. No observer of federal public housing spending can ignore the fact that powerful local politicians (particularly those in large cities) have been very effective

in gaining generous public housing spending from the federal government. This form of redistribution should be understood not as an exogenous flow of manna from Washington to the cities, but rather as a decision made by city politicians themselves to use their political clout in Washington to go after redistributionary (rather than other) forms of government spending.[8]

A second major long-run cost of local redistribution is to increase the outmigration of households and firms that flee to locations offering higher services per dollar of taxes paid. Since cross-city migration costs are low, taxpayers and firms will leave when localities attempt to redistribute. This will happen any time the representative voter attempts to impose taxes that are unattractive to the marginal resident of the community. Voters have an incentive to recognize that transfer policies will induce migration (Epple and Romer 1991). Local labor demand might fall as employers exit. The tax base would be affected both by employer migration and by the outmigration of richer taxpayers. This dynamic creates the classic negative fiscal externality on the remaining taxpayers. They will need to tax themselves more to maintain the same level of redistribution to the poor. Generous locales will experience outmigration of their tax base and face an inmigration of the poor, who will require more expenditure to maintain the same level of transfers (Borjas 1998). As the rich leave, property values will decline. This lowers homeowner utility levels but raises renter utility levels.

Finally, as the rich leave and the poor enter, the city's average level of human capital is likely to fall. Recent empirical studies have found that local human capital agglomeration increases the attractiveness of the city both as a residential area and as a center for production (Rauch 1993; Glaeser, Scheinkman, and Shleifer 1995). There is some evidence to suggest that these spillover effects are becoming more important over time.

Outmigration by the wealthy in the face of increased local redistribution will anger homeowners but may strengthen politicians whose core constituency are the recipients of local transfers. We call this the Curley Effect. The political leadership may actually prefer to drive away the tax base rather than to attract it. This effect occurs when the leadership is supported by low-income recipients and disliked by high-income taxpayers. Therefore, such leadership may actually like the fact that the city repels its high-income residents, even taking into account that these residents take away revenues as they leave. If the benefits for the political survival of the leadership outweigh the costs of lost revenues, then the leadership will redistribute more rather than less. This type of effect can lead to very segregated cities where the poor receive little local redistribution because the rich have all left. We associate this effect with James Michael Curley not only because he followed a policy of driving the high-income Boston residents (who persistently opposed him) out of the city, but also because he openly proclaimed his desire to see the upper-class Bostonians leave.[9]

NATIONWIDE EVIDENCE ON THE DETERMINANTS OF LOCAL REDISTRIBUTION

As part of a larger project, we have constructed a nationwide data set of all cities with a population greater than 10,000. The 1970 and 1990 data sets are fully discussed in Glaeser, Kahn, and Rappaport (1999). The raw data are from the Census of Governments and the Census of Population and Housing. Our measure of local redistribution is real per-capita local expenditure on public welfare plus housing plus public health net of intergovernmental transfers. Controlling for a city's poverty rate and the city's demographic composition, we explore what factors explain local redistribution.[10] Our regression framework is presented in equation 1.

$$(1) \quad Log(Redistribution) = \sum_i \beta_i X^i_{Location} + \varepsilon_{Location}.$$

In estimating equation 1, we have explored how our results are affected by including state-level fixed-effects. We estimate the equation using ordinary-least-squares and two-stage least-squares regressions.

Building on the previous section's discussion, we focus on six major explanations for differences in city redistribution: (1) poverty and racial effects, (2) home ownership,

(3) the immobility of firms, (4) the immobility of workers, (5) fixed city resources, and (6) the proximity between rich and poor. For use in our subsequent decompositions, we also measure, when possible, if the coefficient estimates have changed between 1970 and 1990. We feel confident in claiming that we have separately identified estimates for 1970 and 1990 using two types of variables: basic poverty effects and city land area.

First, it is natural to believe that the level of redistribution will rise with the level of poverty in the city and with the racial characteristics of the city that often proxy for poverty levels. Our ordinary-least-squares estimate of the effect of poverty is 1.85 in 1990. In 1970, the coefficient is 1.17. These estimates are actually relatively sensitive to the choice of other variables to include. The effects of percentage African-American are .91 in 1990 and 1.54 in 1970. The effects of percentage Hispanic are .56 in 1990 and .96 in 1970. These estimates indicate that, all else equal, if a city's percentage of Hispanic residents in 1990 increased by 10 percentage points, then local redistribution would rise by 9.6 percent.

Homeowners have a greater stake in their city's fiscal health than renters do. Since it is homeowners who suffer when property values decline, it is homeowners who should most fiercely oppose redistribution. We find that the coefficient on home ownership is -1.43. In fact, our range of home ownership coefficients is fairly large, but this figure represents a reasonable midpoint of the different estimates. We do not feel sufficiently confident in our results to argue that we can convincingly measure the change in the effect of home ownership over time.

When there are restrictions on mobility, then the costs of redistributing become lower.[11] Industries that have substantial fixed infrastructure cannot exit easily. For these industries, high taxes may act only to repel new entry. Since most evidence suggests that manufacturing is much more capital-intensive than services (outside of the use of expensive real estate), this argument suggests that the level of manufacturing in a city should increase the level of redistribution. Our best estimate of the effect of

manufacturing is 2. This figure is the average of a fixed-effects estimate of 3 and an ordinary-least-squares estimate of 1. We have also found that the impact of industry presence in 1930 is positive, and we believe that this finding emphasizes the importance of fixed resources in predicting the level of redistribution.

Factors determining the mobility of taxpayers will also be important. Demographic characteristics that are associated with higher levels of mobility should predict lower levels of redistribution. Cities where a large fraction of residents work near their homes should have more redistribution. Cities with an older population, or a population featuring lower levels of education, can redistribute more without suffering sharp outmigration because these demographic groups have low migration rates. Using information on a city's resident age and education distribution, we construct a predicted mobility rate. In estimates of equation 1, this variable has a coefficient of -5.59. Again, we do not believe that we can measure different elasticities for 1970 and 1990.

A second measure of taxpayer mobility is whether the taxpayers both live and work in the city. This variable is one of the most effective measures that we have in predicting the level of redistribution. Our best estimate is that an increase of 10 percent in the number of people who live and work in the city raises the level of redistribution by .3 log points. This effect is robust to a range of instrumental variables estimates.

Proximity might be expected to effect redistribution because proximity could lead to higher levels of either altruism or fear. Our measure of proximity is the number of poor people living within one mile of the average nonpoor person. Our estimate of the importance of proximity is .11.

A final effect that can be used to explain redistribution is the land area of the city. For one, it is more difficult to leave larger cities. Moreover, cities that have more land can be thought of as having more fixed resources to redistribute against. The elasticity of redistribution with respect to land area in 1970 is .34; the elasticity of redistribution in 1990 is .25.

IV. Redistribution to the Poor
in New York City

In this section, we sketch the history of redistribution by the New York City government. The goal is to use the theory outlined in the previous section to address the substantial changes in the level of redistributionary policies in New York City over the past century.

Before the New Deal

Since before the days of Fernando Wood, whose decline (and the subsequent rise of William Marcy Tweed) was related to his aggressive attempts at redistribution, New York mayors have often attempted ambitious redistribution projects. Indeed, New York City engaged in healthy spending on charities and public hospitals at the beginning of the century. In 1912, the city spent $9.3 million, or $1.86 per capita—equal to $125 million, or $25 per capita in current dollars—on charities and public hospitals. All told, New York City spent 7.5 percent of its total budget on these redistributionary functions.

While these quantities are large in objective terms and large relative to spending across all American municipalities with more than 30,000 inhabitants, these numbers are not all that great relative to other big cities. Across cities with more than 500,000 inhabitants, spending on welfare was $1.34 per capita, or 6.4 percent of total spending. Big cities were redistributing more than small cities (in part because they have a greater number of poor people), but New York City was not unusual among progressive-era cities.

Moderate levels of redistribution to the poor in New York City occurred through the Walker administration. As late as 1928, the city was spending 5.9 percent of its budget on charities and hospitals. By comparison, the average city of more than 500,000 inhabitants was also spending 6.1 percent of its budget on these items. New York's economy was doing well and part of the implicit bargain that existed between Tammany Hall and New York's business elite appears to have been moderate spending on redistributional functions.

LaGuardia to Wagner

Moderation in local charity disappeared completely with the advent of LaGuardia and the New Deal. By 1937, the city was spending 24.4 percent of its budget (or $214 per capita, in 1998 dollars) on charity. The other cities with more than 500,000 inhabitants were spending only 14.3 percent of their budgets on these items. More than 66 percent of this spending in New York was classified as general relief. Smaller quantities were targeted toward children or other specific charities.

Surprisingly, these forms of relief were not primarily transfers from either the federal or state governments. Furthermore, these government transfers were targeted to specific New Deal programs rather than to general relief. The 24.4 percent of the budget that LaGuardia was spending based on local revenues far exceeded the New Deal expenditure in New York and represented the lion's share of relief for the poor in New York City during the Depression.

Naturally, this begs the question of why LaGuardia responded to the Depression with so much redistribution or, phrased differently, why voters supported such a redistribution-oriented mayor in New York but not elsewhere. No other big American city came close to being so aggressive in creating poor relief. One explanation is that demand for redistribution rose equally across large cities, but in New York the costs of redistribution were much lower because businesses were less likely to exit. New York was still a manufacturing city with a tremendous industrial base. Transportation was sufficiently expensive to make nearby suburbs tenuous competitors.

The state legislature had already freed up LaGuardia's taxing authority in response to the fiscal crisis of 1933. New York had the lowest home ownership rate of any major city, so increases in property taxes would not affect LaGuardia's voters directly. There are also unique institutional features of New York politics, such as the ascendancy of a reform candidate who needed to create a local and formal support base to combat the still extremely solid support enjoyed by Tammany Hall.

As the economy improved and as priorities changed with the war, New York's level of formal redistri-

Chart 1

Share of New York City Expenditures Spent
on Welfare over Time
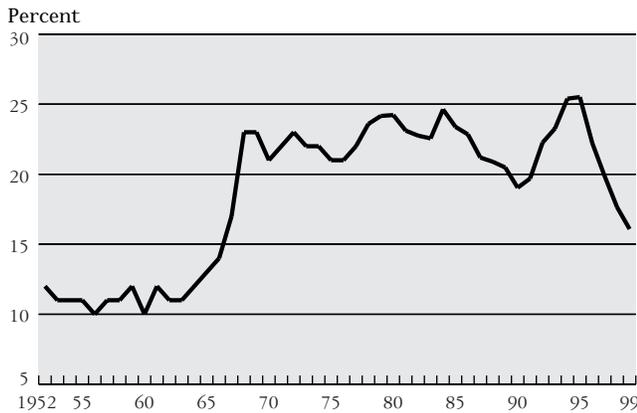
Percent

Source: Citizens Budget Commission (various years).

bution declined. By the early 1950s, spending on welfare was 12 percent of New York City's budget (Chart 1). Of course, this level of redistribution is low relative to the Depression-era heights of redistribution, but it is still high relative to other cities of comparable size. Indeed, this budget share is comparable to that of other cities during the Depression, and much higher than that of other cities during the post-war boom.

While the post-war era saw a general retrenchment of redistribution in the city, that era also witnessed one of the largest single pieces of redistribution in city history—the enactment of rent control. A war-era control on rents, which was eliminated in many other large cities, was maintained (until today) in New York City as renters used their political clout to redistribute from owners to themselves. Given New York's extremely low rates of home ownership, it is not surprising that there was particularly strong electoral support for that type of redistribution in the city.

As Chart 1 shows, the level of formal spending on redistribution rose only slightly under the three Wagner administrations. Between the early 1950s and 1965, the city spent between 10.0 and 12.5 percent of its budget on welfare each year. Business-cycle downturns and the destruction of Tammany Hall in the 1961 election appear to have made little difference in the overall level of this type of redistributional spending.

## THE CRISIS AND ITS AFTERMATH: THE LINDSAY, BEAME, AND KOCH YEARS

The real explosion in the level of redistribution (as a share of spending) occurred in the three years after the election of John Lindsay in 1965 (Chart 1). The share of welfare spending rose from 12.5 percent in 1965 to 23.0 percent three years later.[12]

Naturally, a significant fraction of this growth was related to changes at the federal government level, as shown in Chart 2. Lyndon Johnson's Great Society was in full swing, and the federal government had begun introducing significant incentives to expand the welfare rolls (by paying for a large fraction of overall welfare expenditures). However, New York's increase was far greater than the increase for urban America as a whole. For example, among other large cities, the share of spending on welfare rose from 5.4 percent in 1964 to 8.5 percent four years later. The base level was already below New York's level of redistribution, and the gap increased during the Lindsay years.

The Lindsay years were also marked by a substantial increase in the overall scale of government. Public employment rose by about 25 percent during the early Lindsay years. Increases in employment were particularly high among minority and lower income groups, which suggests that the increases in employment were another

Chart 2

Trends in Intergovernmental Revenue Transfers
to New York City

Millions of dollars
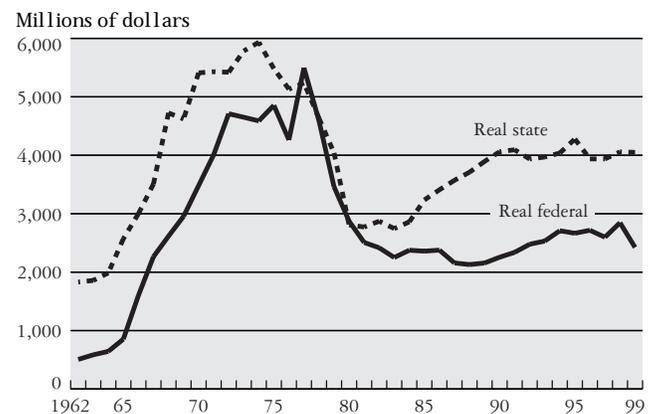
Source: Citizens Budget Commission (various years).

major way in which Lindsay redistributed income through government. Indeed, it is hard to find an area of government that Lindsay did not try to use to better the lives of the city's poorer residents.

New York still had extremely low levels of home ownership, so few residents were worried that changes in the attractiveness of the city would decrease their property values. Furthermore, because rents were so constrained, landlords also had little to lose from decreasing the future attractiveness of New York by borrowing. As discussed above, under normal circumstances, owners will suffer when cities attempt to borrow to finance current expenditures. In New York, where rents are controlled, only future renters pay the costs for these future taxes, and future renters do not vote.

During the early Lindsay years, manufacturing was still strong and the tax base appeared to be immobile enough to withstand heavy redistribution. Suburbanization of residents had occurred, but starting in the 1960s, New York gained from the state the ability to impose an income tax on commuters so that workers could no longer escape the city's taxing authority by moving beyond city lines. New York's uniquely difficult geography made suburban exodus of firms particularly difficult. As a result, it appeared that New York could tax and spend with relatively little impunity from a tax-base exodus. Of course, that did not happen. Between 1969 and 1985, New York City lost more than 400,000 manufacturing jobs.

Furthermore, federal support for the city abated during Republican administrations. If New York leaders had believed that higher levels of government would bail them out during the Rockefeller-Johnson years, certainly any residual of those beliefs were shattered by Ford's pithy response to city requests for aid.

As government continued to grow and as city leaders turned to borrowing rather than attempting to get state approval for higher taxes, the fiscal crisis developed. Ultimately, the city was unable to sell its bonds and the state set up the Municipal Assistance Corporation to oversee the running of the city. Essentially, the corporation led to a real cutback of local democracy. Business leaders on the corporation were given emergency fiscal powers over the city. These leaders cared more about the city's financial health than electoral support from its poorer residents. This focus led to a major retrenchment in the level of redistribution of the city.

Public employment rebounded slightly during the later Koch years, but spending on welfare and welfare rolls declined in the late 1980s (Charts 1, 3, and 4). However, Koch had been elected as the alternative to redistributionary democracy, and essentially he stuck to his initial campaign appeal. While Giuliani is responsible for a much more severe and quicker reduction in welfare rolls, Koch presided over a slow but steady reduction in spending on welfare during his twelve years in office. Although the share on spending declined (in part because of rising city budgets), the number of people on public assistance essentially stayed constant (at close to 800,000) during his administration.

DINKINS AND GIULIANI

The steady reduction in spending on welfare changed radically during the Dinkins years. Although Dinkins never espoused the rhetoric of redistribution used by Lindsay or LaGuardia, his four years in power saw a 50 percent increase in the number of people on the welfare rolls. The share of the budget going to welfare rose by 6 percent during the same period. While this increase is not on the level

Chart 3

The Impact of Local Business Cycles on New York City's Public Assistance Rolls
Trends in New York City Public Assistance Rolls
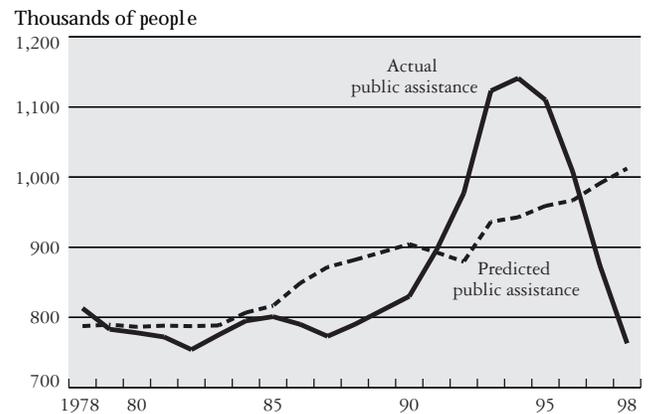
Source: Citizens Budget Commission (various years).

of the changes implemented either by LaGuardia or by Lindsay, it is quite sizable, representing a radical break with the Koch era.

There is little literature on this phenomenon. The contemporaneous accounts stress the business-cycle downturn of the early 1990s. There are actually surprisingly few of these accounts—a Lexis Nexis search on "Dinkins" and "welfare" turned up 126 articles during his tenure. A similar search on "Giuliani" and "welfare" turned up close to 1,000 articles. Chart 3 shows the actual level of redistribution plotted with the level of redistribution predicted by the New York business cycle.[13]

While there is no doubt that actual economic conditions in the city drive some part of the variation in the level of welfare, the intentions of city leadership appear to be far more important. The decision made by the Dinkins administration to be more inclusive in expanding the welfare rolls was the crucial factor in the explosion of redistribution in his administration. Like Lindsay, Dinkins attempted to simultaneously please the business leaders of the city and his poorer constituents. However, by the late 1980s, New York no longer had any real monopoly power over its firms. The city faced a much rougher set of competitors, both locally (such as Stamford, Connecticut) and across America. Local redistribution is likely to have

contributed to declining New York City property values during the Dinkins administration.

Voters responded by electing the most clearly anti-redistributionary mayor in New York's post–Fernando Wood history. During the Giuliani years, government spending has been relatively constant, but there have been radical reductions in redistribution. Increased spending on policing, fire, and schooling have offset reductions in redistribution. As Chart 1 shows, the share of spending on welfare declined almost 7 percent during the Giuliani administration. This change marks a radical change in the general level of redistribution of New York City government.

There are several possible explanations for the popularity of reduced redistribution. First, as discussed earlier, the degree of mobility of firms has increased and as such voters no longer can believe that attempts at redistribution will not affect the economic health of the city. Second, there has been a small but significant increase in the level of home ownership. Third, it is possible that in this knowledge-based economy there is increased importance placed on being around more highly skilled neighbors.

V. Do the Level and the Trend in New York Have a Safety Net?

In Section III, we sketched national findings on the relative propensities of different cities to redistribute income. Here, we focus on New York City. Using the national estimates of the correlates of redistribution and using the characteristics of New York City in 1972 and 1987, we discuss the model's prediction of New York City's level and time trend in redistribution expenditures. The difference in logarithms between New York City and other big cities is 1.16, which is the per-capita redistribution difference that needs to be explained.

$$(2) \quad Excess\ Log\ Redistribution =$$
$$\sum_i \beta_i (X^i_{Location} - X^i_{Average}) + \varepsilon_{Location}.$$

Table 1 examines the potential explanations for redistribution; there are several variables that significantly differ between New York City and the rest of the country. New Yorkers support more spending on welfare in the

Chart 4

Total Expenditures on Redistribution
in New York City over Time

Millions of 1982 dollars
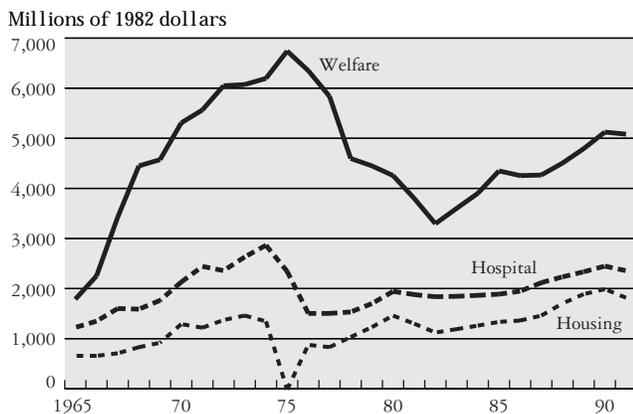
Source: U.S. Census Bureau, Local Government Finances.

THE LEVEL OF REDISTRIBUTION PER CAPITA IN NEW YORK CITY AND OTHER CITIES IN 1990

	New York City	Other Large Cities	Small Cities
Measures of redistribution			
Redistribution expenditure - intergovernmental support	285.03	89.51	15.67
Total redistribution expenditure	1,228.16	246.81	68.59
Intergovernmental expenditure	767.61	133.89	20.38
Welfare - intergovernmental support	-39.07	16.99	2.24
Health - intergovernmental support	378.51	67.91	34.51
Housing - intergovernmental support	121.10	28.02	11.46
Percentage of total expenditure on redistribution	0.28	0.09	0.06
Total redistribution per person in poverty	6,367.97	1,522.20	530.28
Redistribution expenditure per person in poverty	1,477.85	541.42	158.35
Share of employees working for local government	0.12	0.08	0.07
Explanations of redistribution			
Percentage of respondents who believe that the government should spend more on welfare	.53	.45[a]	.45[a]
Percentage of housing stock that is single-detached	0.08	0.39	0.55
Percentage of workers in manufacturing	0.11	0.15	0.18
Home ownership rate	0.29	0.48	0.57
Average population	7,322,564	1,058,008	73,378
Average land area	800	539	80
Percentage of population that is black	0.29	0.28	0.12
Percentage of population that is Hispanic	0.24	0.17	0.10
Poverty rate	0.19	0.19	0.14
Percentage of workers who live and work in the city	92.20	75.50	46.10
Proximity between rich and poor	13,240	3,450	1,573
Percentage of workers who are commuters	21.29	42.10	60.60

Source: Glaeser, Kahn, and Rappaport (1999).

Notes: "Other large cities" are defined as those with more than 500,000 persons. "Small cities" are cities with a population of between 25,000 and 500,000 people. Except for rates or percentages, variables are per-capita dollar amounts.

[a]Results are for the entire nation outside of New York according to the General Social Survey, produced by the National Opinion Research Center.

opinion poll (which we use as a proxy for altruism). New Yorkers have a substantially lower home ownership rate. New York is underrepresented in manufacturing (but this should predict less redistribution, not more). It has more land area, making it more of a local monopoly. It has greater proximity between rich and poor. This variable is measured as the number of poor people living within one mile of the average rich person. Finally, a greater percentage of New York's residential population lives and works within its own border than is the case in the other cities.

Interestingly, New York is not unusual in its poverty rate or in its racial demographics. Large cities form a reasonable comparison group with New York along these dimensions, at least for 1990. New York has a higher percentage of Hispanics, but we have never found a connection between the percentage of Hispanic residents and the level of redistribution.

Table 2 considers these differences formally and shows that we can account for 64 percent of the difference between New York and other cities with our primary explanatory variables. In the table, we list our elasticity estimates and the differences in the levels of the explanatory variables.

There are four variables that explain the majority of the difference between New York and other cities. The most important explanatory variable for New York City is the level of home ownership. About 23 percent of this difference is related to lower home ownership rates in the city. About 14 percent of the gap can be explained by greater proximity between rich and poor in New York City. About 15 percent of the effects can be explained by two variables relating to the mobility of workers. About two-thirds of that percentage are the mobility variables based on resident demographics. About one-third is related to the

A DECOMPOSITION OF THE FACTORS DETERMINING NEW YORK CITY'S REDISTRIBUTION RELATIVE TO OTHER LARGE CITIES IN 1990

Explanation for Local Redistribution Level	Regression Coefficients Estimated Based on Equation 1	New York City's Explanatory Regressor	Average Explanatory Regressor for Other Big Cities	Explanation's Contribution to New York City's Higher Redistribution (Equation 2)
Land area	0.156	6.68	6.03	0.10
Percentage in poverty	-0.121	0.19	0.19	-0.00
Percentage black	1.33	0.29	0.28	0.01
Percentage Hispanic	0.82	0.24	0.17	0.06
Home ownership rate	-1.42	0.29	0.48	0.27
Percentage in manufacturing	2.00	0.11	0.15	-0.06
Population mobility index	-6.67	0.51	0.52	0.10
Percentage of workers who live and work in the city	0.30	4.52	4.31	0.06
Proximity between rich and poor	0.11	9.49	8.02	0.15
Total explained			0.70	
The log differential in New York City versus other big cities' average redistribution level				1.16
Unexplained				0.46

Source: Glaeser, Kahn, and Rappaport (1999).

Notes: Using the 1990 sample from the Census of Governments and the Census of Population and Housing, we use all cities with more than 10,000 people to estimate a multivariate regression based on equation 1. The dependent variable is the log of a city's per-capita redistribution net of intergovernmental transfers. The regression includes all of the variables listed above and state-level fixed-effects. The left column reports the coefficient estimates. The two middle columns report New York City's values for each of these variables and the mean value of the explanatory variables for all other cities whose population is greater than 500,000. "Land area," "percentage of workers who live and work in the city," and "proximity between rich and poor" are all logged. The other variables are percentages. The right column is based on equation 2 in the text. To calculate, we subtract the two middle columns and multiply by the regression coefficient to yield an estimate of how much of the total difference in redistribution between New York City and other big cities can be explained by this variable.

variable that captures living and working in the city. And 10 percent of this difference relates to New York City having more land. Thus, these variables have explained almost 70 percent of the difference. We believe that the remaining difference is best explained by other variables that capture the size of the job base in New York City and the relative immobility of resources in New York in relationship to other cities.

VI. WHY HAS THE LOCAL SAFETY NET IN NEW YORK CITY DECLINED?

To begin to understand why New York City's redistribution level has declined more than that of other cities, we present some basic summary statistics on trends over time (Table 3). Between 1970 and 1990, New York City's per-capita net redistribution level (measured in 1987 dollars) declined from $537 to $285, while the average big city's net redistribution level increased from $65 to $90. Between 1970 and 1990, New York City's home ownership rate and its percentage of blacks and Hispanics increased faster than in other big cities.

We approach the change over time similarly to the way we approached the difference between New York City and other large cities. We allow for one important change: the determinants of redistribution might change over time. Using estimates of equation 1 based on our 1970 and 1990 samples, we are able to measure how the correlation between city attributes and local redistribution changes over time. The first thing that we do is look at a differences-in-differences formulation, where we correct for the mean level of redistribution in all cities and look at the effects of explanatory variables, which are also demeaned.

With this adjustment, the decomposition becomes:

(3) *Change in Excess Redistribution =*

$$\sum_i \beta_{i_i}^{1990}(X_{1990}^i - X_{1970}^i) + X_{1970}^i \sum_i (\beta_{i_i}^{1990} - \beta_{i_i}^{1970}),$$

where all of the explanatory variables have been demeaned.[14] The basic results are presented in Table 4. The change in excess redistribution is .57 (the total reduction for New York City is .63, and the change for other

THE PATH OF REDISTRIBUTION AND OTHER VARIABLES IN NEW YORK CITY AND OTHER LARGE CITIES

	New York City		Other Large Cities	
	1970	1990	1970	1990
Measures of redistribution				
Redistribution expenditure - intergovernmental support	537.38	285.03	65.13	89.51
Total redistribution expenditure	1,491.67	1,228.16	216.59	246.81
Intergovernmental expenditure	857.33	767.61	125.21	133.89
Welfare - intergovernmental support	96.31	-39.07	25.67	16.99
Health - intergovernmental support	418.81	378.51	63.76	67.91
Housing - intergovernmental support	119.22	121.10	1.95	28.02
Percentage of total expenditure on redistribution	0.37	0.28	0.12	0.09
Total redistribution per person in poverty	9,992.45	6,367.97	1,374.53	1,522.20
City redistribution expenditure per person in poverty	3,599.81	1,477.85	392.00	541.42
Share of employees working for local government	0.11	0.12	0.08	0.08
Explanations of redistribution				
Percentage of workers in manufacturing	0.21	0.11	0.21	0.15
Home ownership rate	0.24	0.29	0.49	0.48
Percentage of population that is black	0.21	0.29	0.25	0.28
Percentage of population that is Hispanic	0.10	0.24	0.08	0.17
Poverty rate	0.15	0.19	0.15	0.19

Source: Glaeser, Kahn, and Rappaport (1999).

Note: Except for rates or percentages, all variables are per-capita dollar amounts.

cities is .06). Thus, the change in the level of redistribution is considerably smaller than the difference in the level of redistribution between New York and the other cities.

Following equation 3, the change in the level of redistribution can be decomposed into changes coming from changes within New York (given fixed coefficient estimates) and changes in the coefficient estimates multiplied by initial New York variable values. In general, we will focus only on a single important change in parameter estimates: the sharp decline in the importance of the logarithm of land area.

In Table 4, we have allowed the coefficients to change only for four variables (poverty, area, percentage black, and percentage Hispanic). Our view is that we might be able to estimate changing coefficients for these very basic variables. Our coefficients for the other variables are based on a wide range of different estimation techniques, and we cannot sensibly distinguish the changing importance of these variables over time. Furthermore, several of our variables (such as living and working in the same city and proximity to the poor) are not available for 1970, and we therefore must drop them from the decomposition.

There are four major explanations for the decline in the level of redistribution between 1970 and 1990. First, the level of home ownership rose in New York, and this rise can explain about 22 percent of the decline in redistribution. Second, New York's demographics have shifted toward more mobile residents, and this explains perhaps 12 percent of the decline in redistribution. Third, New York had a substantial decline in manufacturing. This does not show up in our numbers because we have examined New York relative to other cities. If we examined New York relative to the entire United States, however, the decline in the level of manufacturing would be a major factor. The overall decline in manufacturing in New York is equal to .092. With our elasticity of 2, this means that the manufacturing decline explains approximately one-third of the total decline in New York's level of redistribution. However, it explains very little of New York's decline relative to that of other cities.

Finally, there has been a general decline in the effect of land area on the amount of redistribution. We examine this variable as opposed to population density or

A DECOMPOSITION OF THE FACTORS DETERMINING CHANGES IN NEW YORK CITY'S REDISTRIBUTION
RELATIVE TO OTHER LARGE CITIES: 1970-90

| | Regression Coefficient | | New York City's Explanatory Regressor | | Decomposition Based on | |
| | | | | | Middle Term of Equation 3 | Right Term of Equation 3 |
Theory	1970	1990	1970	1990		
Land area	0.34	0.25	3.28	3.29	0.004	-0.30
Percentage in poverty	1.17	1.85	0.03	0.07	0.06	0.02
Percentage black	1.54	0.91	0.14	0.19	0.05	-0.09
Percentage Hispanic	0.96	0.56	0.06	0.16	0.05	-0.02
Percentage homeowner	-1.44	-1.44	-0.41	-0.325	-0.12	0
Percentage in manufacturing	2.00	2.00	-0.061	-0.067	-0.012	0
Population mobility index	-5.59	-5.59	-0.02	-0.0039	-0.087	0
Total explained					-0.06	-0.38
Actual relative change					-0.57	
Unexplained					-0.13	

Source: Glaeser, Kahn, and Rappaport (1999).

Notes: The actual relative change is defined as the percentage change in New York City redistribution between 1970 and 1990 minus the percentage change in other cities' redistribution between 1970 and 1990. The total explained is the sum of the two decomposition terms listed in equation 3. The two left columns report estimates of equation 1 using the 1970 and 1990 samples of the Census of Governments as discussed in Glaeser, Kahn, and Rappaport (1999). The 1990 cross-sectional estimates presented in the table differ from the results presented in Table 2 because the specifications differ. In particular, we do not have data for the variables "live and work" and "proximity between the rich and poor" in 1970. The explanatory regressors are calculated by subtracting out the sample means.

raw population simply because area is more exogenous and represents a further step backward from what we are trying to explain. Changes in the coefficient of land area lead to a total decline of .30, which is more than 50 percent of the total decline. We believe that the declining connection between land area and the level of redistribution is a result of the increased ability of firms and workers to locate and operate in edge cities and suburbs. Improved transportation has meant that even the largest cities no longer have monopoly power over their local residents and firms.

VII. CONCLUSION

In the 1970s, cities with more land area (such as New York) engaged in more redistribution. Today, they do not. Local redistribution can exist only when cities possess a fixed tax base. As transport costs have declined in the global economy, cities have lost the power to redistribute. Ultimately, this may be good for the poor because it may lessen their segregation in central cities. However, in the short run, as local distribution dries up, the higher levels of government may want to step in to eliminate the hardship that may be caused by the decline of the local safety net.

ENDNOTES

1. Taking into account the federal matching program, the state sets a benefit level and then (usually) directly pays for those benefits. In the case of New York City, the sharing pattern has generally been 50-25-25, with the federal government paying for one-half of AFDC payments and the remainder being split between the state and city government (Shefter 1985). In principle, these programs are at the discretion of the states rather than of the cities.

2. The massive swing upward in welfare rolls during the Dinkins years (which was much higher than the economic downturn itself would have predicted) followed by the massive swing downward in welfare rolls during the Giuliani years (which has been much larger than the upturn would predict) are at the very least evidence of the power of mayoral discretion in determining the size of these welfare rolls.

3. After all, New York City was spending almost one-quarter of its budget on general relief during the Great Depression. Today, New York maintains Home Relief, which provides aid for poor people who are not technically qualified to receive welfare payments. In addition, older people who have recently moved to the United States may be eligible for Supplemental Security Income.

4. This discretion over operation is occasionally curtailed when the quality of operation has become particularly low, in which case the federal government may set up an independent housing authority. In all cases, however, the city has a great deal of flexibility in determining the rules surrounding construction itself; these rules may be designed to facilitate redistribution or to limit it.

5. In fact, Duggan (1998) shows that these hospitals are particularly ineffective at reaping the cash benefits from increases in Medicaid relative to their nonprofit and for-profit competitors.

6. The commuter tax of .45 percent of taxable income was recently repealed by the New York State Legislature.

7. Police records by precinct in New York show that the ratio of arrests per crime and the ratio of police per capita across area is hardly constant. The differences in crime rates are not the result of an uneven allocation of resources so much as a lack of response to the high-crime area.

8. Urban politicians have a choice about whether to use their influence to try and secure public housing funds, which primarily serve the city's poorer residents, or highway infrastructure funds, which primarily serve the city's richer residents. The decision to focus on public housing rather than transportation represents a choice made at the local level for redistribution. Naturally, this choice in lobbying is accompanied by local spending on redistribution as well. For example, consider two forms of government transfers to large cities: public housing and highway infrastructure (for example, Boston's Big Dig).

9. One famous Curleyism is his response to a request by a British recruiting agent in World War I to allow the agent to recruit Bostonians of English extraction to fight in Europe (before American entry) by saying "go ahead, take every damn one of them" (Beatty 1992, p. 5). Throughout Curley's term, his policies frequently seemed designed with either no attention to migration effects or to an enjoyment of the fact that these policies would induce residents to migrate out.

10. For an analysis of how demographics affect the composition of the public bundle, see Poterba (1997).

11. To try and capture the presence of fixed resources, which can be taxed without inducing outmigration, we investigate the role of relatively exogenous factors such as state capitals and natural ports. In both cases, it is true that these resources are positively related to the level of redistribution.

12. The data source for these figures is the Citizens Budget Commission, *CBC Pocket Summary*.

13. Our method was to regress the level of redistribution on detrended income in the city and to plot the predicted values from that regression over the 1978-98 period. In fact, there is little powerful connection between the number of welfare cases (or spending on welfare) in New York and the business cycle over this period.

14. Technically, we start by writing:

$$NYC \; Excess \; 1990 =$$
$$\sum_i \beta_i^{1990}(X_{1990}^i - X_{1970}^i) + X_{1970}^i \sum_i (\beta_{i_i}^{1990} - \beta_{i_i}^{1970}) \,.$$

We then subtract excess redistribution in 1970, or

$$\sum_i \beta_i^{1970}(X_{1970}^{NYC} - X_{1970}^{US}) \,.$$

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Earnings Inequality and Central-City Development

Edwin S. Mills

INTRODUCTION

Many papers have shown that U.S. earnings inequality increased substantially from about 1980 to around 1996.[1] Recent and careful studies agree that a basic explanation for increased earnings inequality is the rising returns to human capital resulting from new technology. These rising returns have meant that the relative earnings of some of the best educated, and thus best paid, workers have increased. Inequality has risen while the economy has grown with unusual stability (at least after the 1980-82 cycle) and while substantial growth has occurred in the fraction of adults who are employed. Government data indicate that the earnings of low-income and historically disadvantaged workers rose faster in 1997 and 1998 than those of other workers. The *Economic Report of the President* (U.S. Council of Economic Advisers 1999) attributes the recent trend reversal to extreme tightness in the labor markets. Whether this reversal will continue if labor markets slacken seems doubtful if indeed the underlying cause of growing earnings inequality has been the rising returns to human capital.

It is worth mentioning that income inequality certainly has increased more than earnings inequality. Returns to corporate equities have averaged nearly 20 percent per year during the 1990s. Although more than a third of adult Americans now own corporate equities (including those owned through pension plans), most are still owned by people in the upper quarter of the income distribution. The distribution of physical capital ownership has been more unequal than that of human capital ownership since estimates have been available, and Heckman et al. (1998) provide evidence that rising returns to human capital have induced students to stay in school longer. However, the ratio of stock capitalization to GDP has nearly tripled since the 1980s. The result must have been a rising share of property income in total income (see Hale [1999]). (Of course, capital gains must be included in income.) Although earnings inequality has increased in a few other countries more than in the United States, it is almost certain that when income inequality has increased more here than elsewhere it is because of the astounding performance of U.S. equities during the 1990s.

Thus, the facts are clear: earnings inequality has increased for close to twenty years—until, perhaps, a temporary reversal occurred starting in 1997—and

Edwin S. Mills is Professor Emeritus of Real Estate and Finance at the Kellogg Graduate School of Management of Northwestern University.

income inequality has almost certainly increased more than earnings inequality. Earnings inequality has increased for a sound economic reason: rising returns to human capital at least in part have been related to technical change. It is patent that governments should encourage, not discourage, technology and the resulting high returns to human capital. How taxes should be levied on high earnings (relative to low earnings) and on earned income (relative to property income) is beyond the scope of this paper. But research during the last decade or two should have convinced everyone that all taxes affect economic behavior.

INEQUALITY AND METROPOLITAN STRUCTURE

Everyone knows that U.S. metropolitan areas have suburbanized massively since World War II. In fact, during most of the last century and in every metropolitan area, suburbanization has increased in every part of the world that has been studied (see Cheshire [forthcoming] and White [forthcoming]). Although residences are more suburbanized than businesses, both sectors have suburbanized rapidly and substantially.

The causes of suburbanization have been studied extensively. Agreement is widespread on the major causes, but not on their relative importance (see Mieszkowski and Mills [1993]). First, there is metropolitan growth: large metropolitan areas are more suburbanized than small ones. Second, there are high and rising incomes: high-income metropolitan areas are more suburbanized than low-income metropolitan areas, and high-income residents are more suburbanized than low-income residents, at least in the United States and in the few metropolitan areas elsewhere for which requisite data are available. Third, residential suburbanization leads to business suburbanization and vice versa, with the former sequence being stronger than the latter (see Carlino and Mills [1987]). Manufacturing is the leading example of an important business sector that has suburbanized (and exurbanized) in advance of residents. Retailing and consumer services follow consumers to the suburbs. Business services have suburbanized less than most business sectors, and mostly to suburban subcenters

that are smaller versions of central business districts, or CBDs (see White [forthcoming]).

Finally, and most controversially, there is the predominance of poverty, minorities, crime, poor schools, and alienation in central cities. The fact that such characteristics are anathema to the upper middle class should not be news to anyone. But that does not make the case for such characteristics as causes of suburbanization.

First, large numbers of poor and alienated minorities in central cities are predominantly a U.S. phenomenon, and suburbanization has taken place in virtually all other countries. Second, numbers matter. Suppose that the alienated minority is a small fraction of the metropolitan population—then presumably little suburbanization would result from their presence in central cities. Alternatively, suppose that alienated minorities are half the population in a metropolitan area in which two-thirds of the metropolitan population would live in the suburbs even if there were no minorities. Then it seems likely that about the same two-thirds would live in the suburbs even if half the population were alienated minorities.

In any case, retreat of nonpoor whites to the suburbs cannot achieve its putative goals if alienated minorities are as large a fraction of suburban residents as they are of central-city residents. Some circumstances must keep the alienated minorities in the central city. Poverty, suburban land use controls, and racial discrimination in suburban housing and employment are viewed as reasons that minorities have remained in central cities in postwar U.S. metropolitan areas. The latter two acts have been illegal for more than thirty years, but certainly still exist in attenuated degree (see Yinger [1995]). There is indeed evidence that suburbanization has been greater in U.S. metropolitan areas where the fraction of central-city residents that are minorities has grown (see Mills [1992]), but I believe that the numbers of the poor and minorities have had stronger effects on who has suburbanized than on how many residents have suburbanized.

During the last half century, high-income whites have led the march to the suburbs, followed by whites of decreasing places in the income distribution. There is

some evidence (see Mills and Lubuele [1997]) that minorities have followed whites to the suburbs in substantial numbers since about 1980, also led by their highest income members. My judgment is that the remaining racial discrimination in suburban housing—and probably in employment—is more a matter of class than of race, as minorities are disproportionately low income.

I conclude this section with brief comments on income levels of suburban relative to central-city residents. Many writers bemoan evidence that central-city residents have become poorer relative to suburban residents. The observation is correct, but not very relevant. Suppose, as is approximately true, that the highest income residents suburbanize first, followed by residents in decreasing order of income. Then the ratio of suburban to central-city incomes will be greatest when the smallest and largest fractions of residents live in the suburbs. When only a small fraction of the metropolitan population has suburbanized, the average income in the central city approximates that in the entire metropolitan area, whereas the average income in the suburbs is that of the metropolitan area's highest income residents. When nearly all of the metropolitan area's residents live in the suburbs, the average income in the suburbs approximates that for the metropolitan area, whereas the average income in the central city is that of the metropolitan area's poorest residents. At both extremes, the ratio of suburban to central-city incomes is high.

Depending on the income distribution across a metropolitan area, the ratio will be smallest when about half of the residents live in each place. Since about two-thirds of metropolitan area residents now live in the suburbs, the suburban-to-central-city income ratio inevitably increases as more people suburbanize. That is true even if all of the metropolitan area residents' incomes are unchanged as suburbanization proceeds. That the average earnings of the worst paid 20 percent of workers have fallen relative to those of the best paid 20 percent is an important social fact. But it is not implied by the rise in suburban to central-city earnings as suburbanization proceeds, because the population bases in the two places are shifting.

EFFECTS ON CENTRAL-CITY DEVELOPMENT

It has been indicated that employment has suburbanized along with population during the last half century. About half of metropolitan employment, along with two-thirds of residents, is now located in the suburbs.

At least qualitatively, the reasons for business concentration in metropolitan areas, and especially in CBDs and suburban subcenters, are now well understood. The only advantage that metropolitan areas and their business centers have over other locations is the proximity that they afford for diverse economic activities.[2] Large size, crowding of activities, substitution of structural capital for land in real estate development, and a high-quality transportation and communication system imply that the costs of moving people, goods, and messages among businesses and between businesses and residences are lower in large metropolitan areas than elsewhere.[3] The most dramatic example is CBDs, where the advantages of face-to-face communication justify production on land that may be 100 times as expensive as land fifteen to forty miles away. Urban economists use the term "agglomeration economies" to describe this phenomenon, but it suggests a mystique that may disguise a prosaic notion. Agglomeration economies have been measured repeatedly in U.S. metropolitan areas and in a few metropolitan areas elsewhere. Evidence suggests that a doubling of a metropolitan area's size increases the area's total factor productivity by 5 to 15 percent (see White [forthcoming] and Eberts and McMillen [forthcoming]).[4]

An important reason for business suburbanization is that modern transportation and communication technologies have reduced the costs of moving people, goods, and messages over considerable distances. A second reason is that CBDs have become large enough to exhaust the advantages of location there. For example, nearly half of the one million jobs located in the city of Chicago are in its CBD, and 200,000 are located within about a mile of the periphery of O'Hare Airport, by far the metropolitan area's largest subcenter, but not entirely in the city.

As noted, retailing and consumer services locate in the suburbs mostly because their customers and, to

some extent, their employees, live there. Furthermore, manufacturing has suburbanized and exurbanized largely because most of its inputs and outputs are shipped by road, and the suburbs and rural areas now have easy access to other places by modern expressways—in most cases easier access than central-city locations. In addition, modern manufacturing technology requires relatively few employees, freeing manufacturing from locations near a metropolitan area's large labor pool. The notion that manufacturing can be induced to return to central cities is a fantasy of large-city mayors.

The foregoing paragraphs explain most of the pervasive reasons for business suburbanization, and have nothing to do with central-city poverty, minorities, or alienation. Nevertheless, most observers, myself included, believe that employment in most central cities has decreased more than can be accounted for by the aforementioned causes. During the quarter century that ended in 1996, jobs located in the city of Chicago fell 15 percent, while total metropolitan area jobs increased 29 percent. If the city's employment had remained constant, 200,000 more jobs would now be there. During the same quarter century, the city's population declined 18 percent, while the metropolitan area population increased 10 percent. (As is true for the country as a whole, employment per capita increased both in the city and, especially, in the entire metropolitan area.) Fragmentary evidence indicates that since 1996, jobs located in Chicago and some other central cities have increased.[5]

Conditions that have changed recently may provide insight into the dynamics of central-city employment change during the last thirty to forty years. What has happened recently? First, the entire economy now has tighter labor markets than it has had for about thirty-five years. Businesses may be locating in central cities for the same reasons that U.S. businesses have been locating in Mexico and East Asia, such as the availability of many kinds of workers at wages that cannot be matched in most of the U.S. economy. Employing central-city minorities, however, presents problems: many are poorly educated, many cannot speak or read English well, and many have little or no work experience. These problems are also faced in Mexico and other developing countries, and perhaps U.S. firms are learning to cope with them better than previously.

Second, and important in Chicago and other old centers of heavy industry, is the reform of brownfields liability. For a quarter century, the Environmental Protection Agency administered a law that imposed unlimited liability on anyone who owned, developed, produced, or even financed production on sites that had been polluted in earlier years, in some cases even before there were environmental laws. Needless to say, significant parts of central cities have remained unused for many years as a result. At last, cities have been permitted by federal legislation to remove or limit the liability of developers or producers for environmental damages that occurred before their involvement with a site. Of course, many conditions surround this provision. Nevertheless, the removal or limitation of liability for damages that developers were not responsible for and could not estimate has resulted in a large influx of firms that want to redevelop brownfields (see Arthur Andersen LLP [1998]). I do not know how important better brownfields remedies are likely to be, but the Chicago effects are certainly helped by the fact that other available sites may be thirty to fifty miles from the CBD. In addition, as indicated above, potential workers are available near brownfields that may not be available elsewhere in tight labor markets. Brownfields redevelopment in Chicago is being carried out mostly for business projects, but by no means mostly by manufacturing firms.

Third, everybody knows that crime rates have fallen in the 1990s, especially in central cities, more than can be accounted for by demographic changes. (Most serious crimes are committed by males between sixteen and thirty years of age, and their numbers fell during the 1990s.) Nobody who has ever tried to help businesses locate in central cities can doubt that among the deterrents are fear of arson, theft, vandalism, and attacks on female employees on the way to and from work. It is merely facing the facts to observe that about half of the black males in the high-crime-age range are under the supervision of the criminal justice system (see Freeman [1996]). It is also merely facing the facts to observe that blacks have often been

discriminated against by the criminal justice system just as they have been discriminated against by housing and employment markets (see Thernstrom and Thernstrom [1997]). These issues are much too complex to analyze here, but decreases in employment discrimination and crime rates have presumably made businesses more willing to locate in central cities. Presumably, the steadily improving educations of minority groups, to some extent motivated by rising returns to human capital, have also increased businesses' willingness to locate in central cities.

CENTRAL-CITY ECONOMIC DEVELOPMENT PROGRAMS

What about central-city economic development programs? Here I can report only pessimism. During the last two or three years and for the first time in a decade or so, developers have wanted to build office buildings, hotels, and a substantial number of dwellings in many central cities. I first illustrate responses in Chicago, since this is the only evidence yet available. I then suggest what I believe to be rather obvious directions for local government policies to promote central-city economic development.

The Chicago city government generally recognizes that prosperity requires it to improve the human capital of its residents, especially by upgrading its public schools from their dire straits of a few years ago. Yet it has consistently gone against this principle by downzoning residential densities in its highest income neighborhoods. About 4 percent of the city's population lives in the city's highest income census tracts. These are within a mile or so of Lake Michigan and stretch from the CBD about five miles north. Residential zoning in that area now permits densities of only about half of those permitted in 1950. The city fears that additional high-rises in that area would create "intolerable congestion." This claim is dubious, given that off-street parking has long been required of developers, that the area is well served by public transit to the CBD, and that those zoned out of the near north area are the ones most likely to live in the north shore or western suburbs, from which most CBD workers commute ten to twenty-five miles on congested expressways. Presumably, some of the city's job loss has occurred because business services

have increasingly decided that having locations in suburban subcenters is better than requiring their employees to make the trip to the CBD.

Chicago's low-income residents presumably have no direct interest in low-cost housing for high-income residents on the near north side. But the city government has an interest in the taxes that high-income residents pay—in the form of making the city a desirable place for high-income people to live and in the jobs that high-income residents create.[6]

Turning to direct local government effects on businesses, city (and all of Cook County) taxes on business real estate are about three times as high per dollar of market value as those on single-family dwellings. City business (including many nuisance) taxes are higher than those in suburbs outside Cook County, but I suspect that high taxes are no more harmful than the business development strategies to which they lead. Most communities, including most especially the city of Chicago, seek nonresidential ratables precisely because they generate more tax revenues relative to costs of the government services that they receive than do dwellings. This leads communities to "bid" for businesses by offering them "incentives" of an enormous variety: tax increment financing, temporary relief from taxes, relaxation of land use controls, subsidized financing, and so on. If a developer wants to build a high-rise commercial structure in Chicago, he or she will need a couple of years and much high-priced legal, environmental, political, public relations, financial, and accounting talent to obtain the needed permissions, and will end up with permission to build at no more than half or two-thirds the density first proposed.[7]

Some studies conclude that economic incentive programs result in net job creation and some conclude that they do not. However, almost no studies take account of the fact that state and local governments must balance their budgets, so that subsidies to some businesses require higher taxes on other groups, with offsetting effects (see Bartik [1991] and Mills [1997]).

None of the above antidevelopment strategisms is peculiar to Chicago. Undoubtedly, some other central cities are worse and some are better. And many suburbs are no

better. A few small, high-income suburbs do not permit businesses to locate in their jurisdictions on any terms. A few low-income inner suburbs, mostly in Cook County in the Chicago area, are desperate for businesses and nearly give away the farm to seduce them to locate there. But in most metropolitan areas, central cities have lost jobs in competition with their suburbs while the suburbs have gained them.

How many jobs and how much tax revenue have central-city antidevelopment actions cost the central cities? No one can possibly know. The qualitative and disparate nature of many actions makes quantitative estimates nearly impossible. I suspect that Chicago, although larger than most, is typical of many central cities in the country. Press accounts persuade me that at least Trenton, Newark, New Orleans, Detroit, Philadelphia, and Washington, D.C., have had worse antibusiness policies during most recent decades—to use a few striking examples.

What are appropriate economic development strategies for central cities? I believe the answer is obvious. Start with the axiom that central cities are in permanent and intense competition, not only with their suburbs, but with every other metropolitan area in the country and with numbers of metropolitan areas in other countries that increase every year or so. A second axiom is that generous earnings will continue to accrue mostly to workers with substantial human capital. The conclusion is that central cities should do everything they can to increase the supply of and demand for human capital within their borders. The only alternative is to place the emphasis on handouts, which are politically attractive in important respects but result in neither substantial incomes nor self-sufficient residents.

Recent emphasis on human capital makes it nearly inevitable that local governments will try to entice businesses that they think will attract, improve, or retain human capital in the labor force. Local governments have a long history of attempts to attract "winners" among businesses. They have established various kinds of technology parks, preferably near colleges and universities, believing that they could outguess the market as to what businesses would thrive in their communities. Many were mostly vacant for many years until local governments sold or leased them to any businesses that would occupy them. State and local governments wasted taxpayers' money to subsidize the attraction of businesses to the community. Fads have come and gone for high-tech, software, biotech, venture capital, and other ill-defined business groups. In the most successful development programs, governments identified a trend and called it a policy, but mostly governments identified the previous decade's winners and wasted taxpayers' money to attract them after their employment growth spurt had abated.

Local governments cannot outguess markets as to what businesses will thrive in their communities. Business location decisions are among the riskiest and, when successful, best rewarded business decisions. Local governments have neither the expertise nor the incentive to make location decisions wisely. These strictures apply as much to attempts to promote businesses dependent on human capital as to attempts to promote any other kinds of business developments.

The best economic development policy would be to adopt a neutral pro-business policy. That sounds innocent, but it contrasts vividly with many central-city government attitudes toward businesses in which they are regarded as public enemies, as geese to be plucked, as servants of government officials from whom campaign contributions can be obtained, or as places where government officials' relatives can get jobs. A pro-business policy should entail removal of all unneeded regulations. Local governments should have a few transparent and important requirements that all businesses must follow, modest taxes, and nothing else for business policies. They should relax or remove zoning restrictions on businesses and housing.

Regarding human capital development, local government policies must start with improvements in elementary and secondary education. Everybody should know that children in poverty reach ages four or five a couple of steps behind other children. This has to do with family structure and neighborhood conditions in poverty areas. There really is not much that local governments can do about these things other than to enable poor children to improve their prospects through better education. Many

children in low-income neighborhoods are difficult to educate. Nevertheless, public schools in the poor areas of many large central cities are of poor quality. Improvements require higher quality and more dedicated teachers and administrators. Many school programs have shown that expecting children to succeed and providing good learning opportunities produce good results.

The fact that the children in poor neighborhoods are difficult to educate does not mean that nothing can be done. Opposition to reform by teachers' unions is only part of the problem. In big cities, the education bureaucracy is politically powerful, mostly because it is a strong lobby that influences many voters. Charter schools are a big help, but the best reform would be a comprehensive voucher program in which public schools (as with private schools) have to attract enough students to pay their costs, including rental costs of facilities, or they would have to sell or rent the facilities to private schools. It would then be possible to promote competitive schooling with almost no construction of new facilities. Private schools would have to comply with nondiscrimination rules, as they do now, and with elementary state requirements on educational quality. They should also be eligible for whatever special assistance for handicapped children that public schools can receive.

There would be little danger that private schools would skim off the best students, leaving public schools with those who are most difficult to educate. In some large cities, private schools already skim off many of the best students. At a minimum, a good voucher program would enable them to dip down further into the student quality distribution. Many private schools would make special efforts to attract students with poor backgrounds. Public and private schools anywhere in a metropolitan area should be eligible and encouraged to enroll students with vouchers from anywhere in the area. Vouchers would have to be sufficient to pay for a decent education, but schools should be allowed to set tuition at levels exceeding the vouchers' value and to grant needs-based scholarships. A voucher program would have to be state-authorized.

A high-quality educational system does not entail focusing just on students who can become scientists, doctors, and lawyers. There are many kinds of human capital, and students should be able to experiment with several kinds. High-quality instruction can teach most students to read, write, and do arithmetic by the time they are in the third grade, although some now spend twelve years in public school without learning those skills. All students should be enabled to become comfortable with elementary computer operations. Students must be held to reasonable standards and must be able to perceive that educational and business opportunities await them if they succeed.

Of course, the streets should be safe. Most Americans do not appreciate the close connection between illegal drugs and street crimes. Not only have we imprisoned 1 percent of the adult population, but also many prisons are predominantly inhabited by drug offenders. In my view, illegal drugs have filled and corrupted the prisons (in some, these drugs can be bought almost as easily as on the public streets) and have infiltrated the police and courts as well as many local governments. Illegal drugs are also a major reason for street gangs, just as prohibition was a major cause of criminal activity in the 1920s, with similar consequences.

The war on drugs is not showing signs of success. Because of this, it is my belief that illegal drugs should be available at about cost, and in modest quantities, upon convincing an appropriate medical authority of need. By taking the profit out of drugs, we would reduce crime and corruption and probably addiction, since it would undercut the profitability of sales promotion by providers of illegal drugs, and would place users under the supervision of medical professionals. It would also reduce perceived racial discrimination in the criminal justice system. Illegal drugs are almost as easily available in many suburbs as they are on central-city streets. But middle-class offenders rarely go to jail; they are placed in rehabilitation programs, put on probation, or kept out of prison through legal maneuverings.

Finally, if central cities increase the supply of human capital through better education and a better criminal justice system, and increase the demand for human capital through better pro-business policies, they should also take steps to retain their best educated and best

paid residents. Reduced business regulations would enable businesses to serve the needs of residents better throughout the income distribution. Reduced controls on residential development would enable relatively high-income residents to live where and how they wish.

Many central cities could also dramatically improve their transportation systems at little or no cost (under present arrangements, the federal government would pay for much of the cost) to enable both city and suburban residents to move around cities more easily. Bus systems should be opened to private companies. (It is done successfully and with considerable savings in many places.) Operation of fixed-rail transit systems should be contracted to private businesses. Construction of highways in central cities is unjustified on both economic and political grounds. But the capacity of city streets and roads could be increased through: carefully designed systems of reverse-direction streets and lanes, sequenced traffic lights, much higher charges for on-street parking (coupled with decontrol of private off-street parking facilities), better traffic law enforcement and, by federal action, much higher and more reasonable motor vehicle fuel taxes (the substantial revenues from which should revert to local governments in exchange for agreements to reduce distorting property taxes).

Local governments must, as must all governments in our imperfect democracy, respond to the wishes of their constituents. In recent years, partly because of pervasive regulation, central-city governments have spent too much of their energies arguing over minor concessions to this group or that group. Probably more important, they dissipate too much of their resources on stadiums, convention centers, hospitals, and other business investments that would be better left to the private sector. I believe that they should at least undertake serious taxpayer education, debates, and election campaigns on long-run issues related to economic development. Nothing that federal, state, or local governments can or at least should do will reverse the trend of suburbanization. Recent national debate about "controlling urban sprawl" will further divert resources to unproductive uses and will spawn more unproductive regulations.

ENDNOTES

1. See Heckman et al. (1998) and U.S. Council of Economic Advisers (1999). Different authors employ different measures of earnings inequality, but virtually all careful studies show that the worst paid 20 to 35 percent of workers have experienced smaller earnings increases than other workers. Earnings inequality has increased not only for workers as a whole, but also within racial, gender, and sectoral groups.

2. This is not quite true. Metropolitan areas are located on relatively flat land with better access to water for their needs than other places. Location on navigable waterways is still of some importance, but most intermetropolitan movement now takes place by motor vehicles, trains, and airplanes, and is not very dependent on geographical conditions.

3. The statement is true even if travel in CBDs and in some sub-centers is slow, as it is. The relevant measure is the cost of movement between origin and destination. That cost is low even if travel is slow, provided that origin and destination are near each other. Even if communication is by modern electronic means, facilities are best in large metropolitan areas.

4. Intrametropolitan transportation and communication inputs are of course among the relevant inputs. Increasing total factor productivity is reported partly because the most costly transportation input, time spent traveling, is unmeasured.

5. Population and employment data in these paragraphs are from Gaquin and Littman (1998), Woods and Poole (1997), and the Illinois Department of Employment Security (1997).

6. There is direct evidence on the jobs issue. The northern end of Michigan Avenue contains one of the world's finest walkable shopping areas (including seven fine vertical department stores and dozens of boutiques), about ten of the city's finest hotels, and a booming office development sector. Nobody knows how much the prosperity of the area depends on the high-income residents of the near north, but it must be considerable. Zoning densities can easily be verified from city zoning maps.

7. A couple of years ago, a developer proposed a mixed-use project for one of the prime undeveloped sites in the city, just north of the Loop and near the mouth of the Chicago River; the city, with the mayor's approval, finally authorized the project, which was downsized by about a third because of the "congestion" that it would have created. When asked if the city did not think that the extra jobs and taxes would be missed, a city official said he "hadn't heard any complaints from the developer."

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Commentary

James M. Snyder, Jr.

The papers by Edward Glaeser and Matthew Kahn and by Edwin Mills are both provocative and deserve close attention. Mills' paper is broad, sweeping, and mostly prescriptive. Income inequality and earnings inequality have increased in the United States over the past twenty years. Should cities do anything about this trend, or in response to it? If so, what? Glaeser and Kahn's paper is somewhat more narrowly focused, and mostly descriptive. What explains the variation we see in the level of redistributive spending across cities? In particular, can we explain why New York City spends so much more than other cities, and why it spends much less today than it did in 1970?

What connects the two papers? One common theme is the problem posed by mobile resources. Cities cannot tax mobile industries or factors, and should not try. If they do, these industries and factors will simply move elsewhere. Drawing on the results from a companion paper (Glaeser, Kahn, and Rappaport 1999), Glaeser and Kahn show that greater resource mobility, variously measured, does in fact sharply reduce the amount of

James M. Snyder, Jr., is a professor of political science and economics at Massachusetts Institute of Technology. The views expressed are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

redistribution. They also find evidence that mobility has increased significantly over the past twenty years. If the trend continues, then cities will be hard-pressed in the future to finance redistributive programs even at the levels they do today. This should please Mills, who argues: "Central cities should do everything they can to increase the supply of and demand for human capital within their borders. The only alternative is to place the emphasis on handouts, which are politically attractive in important respects but result in neither substantial incomes nor self-sufficient residents."

I will now make a few detailed remarks about each paper, and then return to the issue of mobile resources.

Mills argues that the primary long-run policy goal of each city should be to increase the overall human capital of the city's residents. The operational principle to achieve this goal was cited above: increase the supply of and demand for human capital inside the city borders. The strategies should include: (1) a "neutral pro-business policy"—no unneeded regulations, modest taxes, and transparent policies—to attract businesses; (2) a comprehensive school voucher program, to improve the quality of city schooling; (3) the legalization of drugs, to reduce crime (Mills' statement: "It is my belief that illegal drugs should be available at about cost, and in modest quantities, upon convincing an appropriate medical authority of need.");

(4) the reduction of controls on residential development, to retain high-income residents; and (5) the privatization of urban mass-transit systems. (The federal government should also play a role, by sharply increasing fuel taxes.)

One may quarrel with each of the specific proposals. For example, the few school voucher programs that exist have produced ambiguous results (for example, there are raging academic debates over both the Milwaukee and Cleveland experiments), and the legalization of drugs is such a political nonstarter that it may be better to focus on alternative policies, even if one prefers legalization (only 10 to 15 percent of the U.S. population supports the legalization of all drugs, and only about 25 percent supports the legalization of marijuana). Overall, however, the set of policies seems reasonable.

A more fundamental question is: Why should we want cities to make the maximization of their residents' overall human capital their primary goal? What about other goals? Mills argues in particular that slowing the rate of suburbanization should definitely *not* be a policy goal, at least not explicitly: "Nothing that federal, state, or local governments can or at least should do will reverse the trend of suburbanization. Recent national debate about 'controlling urban sprawl' will further divert resources to unproductive uses and will spawn more unproductive regulations." This conclusion does not seem so obvious once we step back and ask why we want to have cities in the first place. One of the main reasons is to exploit "agglomeration economies." As Mills notes, total factor productivity rises with city size, at least to a point—doubling city size increases total factor productivity by 5 to 15 percent. Conversely, if cities shrink too much, then overall productivity will fall. This suggests that "maintaining city size" ought to be an explicit goal, at least for many small and medium-sized cities. While not identical, the goals of maintaining city size and "slowing the rate of suburbanization" are similar, suggesting that in some cases it might be reasonable for cities to make slowing the rate of suburbanization an explicit goal.

Glaeser and Kahn use the results from an earlier paper (Glaeser, Kahn, and Rappaport 1999) to explain the high level of redistributive spending in New York City compared with other large cities, and also to explain the sharp decline in this spending that occurred between 1970 and 1990. Their analysis identifies three key factors—home ownership, "altruism," and resource mobility.

In their earlier paper, the authors also found a strong, positive relationship between city *population* and redistributive spending. In the current paper, however, Glaeser and Kahn ignore the effects of population. This is an important omission, since the coefficients they use in their analysis of New York City are from regressions that include population as a regressor, and in which the effect of population is large and robust. Since New York is by far the largest city, population presumably accounts for a noticeable share of the city's high level of redistribution.

Glaeser and Kahn justify ignoring the population with one remark: New York City is "not an outlier once you control for its tremendous population, but that would be close to assuming the conclusion." It is not clear why accounting for population is "close to assuming the conclusion," since the empirical relationship that Glaeser, Kahn, and Rappaport found between population and redistribution is clearly not a tautology. Do they mean that population *alone* can account for the difference between New York City and other large cities? If so, do the combined effects of population and other variables imply that New York City actually does *less* redistribution than predicted? Or, do they mean that population, *together with* the other variables, can account for all of the difference? Does the population effect swamp the effects of other variables? Furthermore, do the changes in population help account for the changes in redistribution levels over time?

Another interpretation of the claim that accounting for population is close to assuming the conclusion is that there does not appear to be a reasonable way to interpret the finding that population affects redistribution. Glaeser and Kahn do not know of a plausible mechanism by which population per se will positively affect the level of redistribution, or a variable for which a plausible mechanism exists and for which population is a good proxy. They therefore suspect that the relationship between population and redistribution is spurious. If that relationship is spurious, however, then it is also hazardous to place too

much confidence in the estimated coefficients of the *other* variables in their regressions. Moreover, the correct interpretation of variables such as "land area"—which plays such a huge role in explaining the change in New York City's redistribution between 1970 and 1990—seems nearly as nebulous as that for population. To compound the difficulties, land area and population are highly correlated —data from the U.S. Census Bureau's 1994 *County and City Data Book* reveal that the correlation between the logs of the two variables is more than 67. All of this suggests that a large measure of caution is warranted before accepting Glaeser and Kahn's estimates. (Confidence intervals around their point estimates would be especially useful.)

One possible explanation for the positive relationship between population and redistribution is that cities face an "implicit" matching rate for intergovernmental transfers. There may be an "effective" matching rate, even for project grants with no explicit matching requirement, as cities that exert more of their own effort are better able to justify the need for assistance from higher levels of government. Data from the 1994 *County and City Data Book* reveal a strong, positive association between the level of per-capita intergovernmental transfers to a city and the per-capita revenue raised by the city itself. This holds even after controlling for a variety of other variables, such as income, home ownership rates, racial and ethnic composition, age of the housing stock, and state fixed-effects. This suggests the existence of an implicit matching rate.

Why might the implicit matching rate be smaller for larger cities? A few reasons come to mind. First, there is some evidence that a city's skill and capacity in grantsmanship are important determinants of which cities receive federal grants (for example, see Rich [1989]). Larger cities have larger bureaucracies and are engaged in a greater number and variety of public projects; therefore, they have greater capacity and possibly greater skill. Second, larger cities might be favored by Democratic presidential, senatorial, and gubernatorial candidates, and also by a disproportionate number of Democratic representatives in the U.S. House of Representatives and the state houses, because big-city votes are crucial for these candidates' electoral success. Since the Democratic Party was in the

majority nationally and in a great majority of states until quite recently, the winning Democratic candidates would have been in a good position to deliver on their promises to cities. Finally, the "matching" might be driven by a variation in the ideological dispositions of local officials—liberal mayors and city councils will want to spend more of the locally available resources on government, and they will also be more vigorous at seeking intergovernmental transfers. Local ideology appears to matter considerably in determining the allocation of federal aid (for example, see Saltzstein [1977]), and larger cities tend to have more liberal leaders than smaller cities do.

Glaeser and Kahn conclude that "cities have lost the power to redistribute" because taxable resources have become more mobile. Which are the most mobile and least mobile resources and sectors? Have there been any changes in relative factor mobility over time? These are important questions for the (remaining) city officials who want to engage in what (little) redistribution they can.

Manufacturing seems to pose a puzzle here. On the one hand, Glaeser and Kahn argue that manufacturing is one of the less mobile sectors, since it involves large amounts of fixed capital—at least, manufacturing is not as mobile as many service industries. The estimates in Glaeser, Kahn, and Rappaport (1999) are consistent with this hypothesis—cities with a larger percentage of workers in manufacturing have higher levels of redistribution. On the other hand, Mills notes that manufacturing industries were often among the first to leave the cities for the suburbs: "Manufacturing is the leading example of an important business sector that has suburbanized (and exurbanized) in advance of residents. . . . Business services have suburbanized less than most business sectors." This suggests that manufacturing is actually highly mobile. Other evidence supports this view. For example, in her study of public school expenditures, Ladd (1975) found that the effective tax rate on commercial property is greater than that on manufacturing property, suggesting that the manufacturing sector is more mobile than the commercial sector.

Is manufacturing a relatively immobile or relatively mobile sector? One possibility for reconciling these diverse findings is to consider manufacturing assets as part of

the "nonvoting tax base." Voters will want to tax the nonvoting base heavily if they can, and cities do in fact tax commercial and manufacturing property at higher rates than owner-occupied housing. If the total taxable property associated with each manufacturing job is much greater than that associated with each nonmanufacturing job, then the total effective nonvoting tax base might be increasing in the percentage employed in manufacturing. This will be true even if manufacturing is more mobile than other sectors and manufacturing property must be taxed at a lower rate than other property, provided that the taxable property associated with manufacturing jobs is large enough relative to the property associated with other jobs.

Finally, New York City and other major cities must be concerned about the relative mobility of the banking, financial, insurance, and business services sec-tors. These are especially important industries in New York City, accounting for about 15 percent of all jobs and 27 percent of all wages in 1993 (the securities industry alone accounted for about 14 percent of all wages). Being service industries that employ a relatively low amount of fixed capital, one might imagine that they are quite mobile. However, it may be that these are among the *least* mobile sectors. As an empirical matter, Mills notes that "business services have suburbanized less than most busi-ness sectors." As a theoretical matter, these sectors might be relatively immobile because they might be among the sectors that benefit the most from the "agglomeration economies" and "knowledge spillovers" that cities are supposed to produce.

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SOCIAL INDICATORS IN NEW YORK CITY

Paper by
  Marcia K. Meyers and Irwin Garfinkel

Commentary by
  Howard Chernick

Social Indicators and the Study
of Inequality

Marcia K. Meyers and Irwin Garfinkel

As we near the close of the twentieth century, communist regimes have collapsed and the productivity of capitalism is universally acclaimed. In all the Western democracies, welfare state institutions are being challenged. The challenge is, arguably, the most fundamental in the United States. Proposals to privatize public education and old-age insurance are now mainstream. The 1996 Personal Responsibility and Work Opportunities Reconciliation Act represents the most recent, and is likely to be the most influential, change in public policy for the poor. By eliminating the historical entitlement to welfare, and devolving responsibility for welfare programs to the states, the Personal Responsibility Act dramatically changes the nature, level, and locus of government responsibility for the poor. Other policy changes—such as the creation of the Children's Health Insurance Program and Child Care and Development Block Grant—have expanded resources and state-level discretion for the provision of support.

Supporters of the retrenchment and devolution of federal programs predict that these changes will improve

Marcia K. Meyers is the associate director and Irwin Garfinkel the chair of the New York City Social Indicators Survey Center of Columbia University. The views expressed are those of the authors and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

the fortunes of the most disadvantaged Americans and help close the growing gap between the rich and the poor. Critics predict that these same changes will harm the poor and increase inequality. The disagreement stems, in part, from different expectations about the intermediate impact of devolution on government, community, and family systems. Some observers argue that government has displaced support from the family, community, and voluntary sectors; they expect government retrenchment to enhance the capacity and contribution from these nongovernmental systems. Others argue that government has a unique capacity to support disadvantaged populations and to promote greater equality in economic and social outcomes; they fear that government retrenchment will create a level of need that will overwhelm private systems and force individuals to turn to unreliable and unacceptable alternatives.

Efforts to confirm or disprove predictions such as these are creating new opportunities, along with new challenges, for scholars who are interested in questions about economic security and equality. New opportunities are arising with the "natural experiments" that are created as state and local governments revise, redesign, and reduce a variety of income assistance and social service programs. New challenges are arising as analysts attempt to track the rapidly changing policy landscape and collect data with which to evaluate the impact of the changes.

The New York City Social Indicators Survey (SIS) project represents one effort to track the consequences of policy reform and devolution for inequality and well-being in the largest and most diverse city in the United States. The project uses a telephone survey to collect data from a repeated cross-sectional sample of the entire city population. The survey will collect detailed information on families' economic resources, assets, external support, and health and well-being. By analyzing these data by population and over time, we hope to address questions that are at the core of current debates about inequality in the United States: How great is inequality? Does income inequality exaggerate, or reflect, inequality in material and social living conditions, health, and well-being? Is inequality on these dimensions growing or shrinking? And what effect have devolution and social policy "reform" had on the magnitude of income and other forms of inequality?

In the following sections, we present first-year findings from the project. We begin with an overview of the issues that motivated the project and a brief summary of our measures and data-collection methods. The next sections use data collected in 1997 to tell the story of income and outcome inequality in the city—first, in terms of comparisons between the well-being of New Yorkers and the rest of the U.S. population; second, in terms of the well-being of poor and economically secure residents of the city. We conclude by describing future research plans for the Social Indicators project.

BACKGROUND

The New York City Social Indicators Survey demonstrates the use of social indicators—repeated, population-based measures of economic, social, and health outcomes—to answer questions about inequality and well-being. Social indicators were widely embraced in the 1960s, fueled by the recognition that social and health policymakers needed better tools for monitoring and reporting on social and health conditions (Carley 1981). Government agencies and academic institutions took advantage of a vastly improved capacity for data collection and storage to amass information on a variety of social and economic processes and outcomes. Analysts hoped to use these data to document trends and

progress toward increasing well-being and reducing inequality in income, health, and other outcomes. These efforts largely disappointed their sponsors' highest hopes. Social indicators based on aggregate data—such as poverty rates, infant mortality, or child abuse and crime victimization reports—proved to be both insufficiently sensitive, as measures of policy impact, and overly aggregated, as indicators of the well-being of populations at the subnational level (Andrews 1989; Bulmer 1989; Johnston 1989).

A number of factors have combined to fuel a resurgence of interest in the use of social indicators to track well-being and inequality. Dramatic changes in welfare, health, and social policies are raising questions about whether these reforms will reduce or exacerbate the trend toward greater inequality of income and of outcomes across groups. Meanwhile, the devolution of social and health policies downward, to lower levels of government, and outward, to new government and private entities, has increased the need for reliable measurement of outcomes at the subnational level.

Even as demand for more and better data on income and other outcomes has grown, however, traditional measures and approaches have come under growing criticism. Existing outcome data—available from public administrative records and household surveys—are limited in terms of *what* is measured, *how well* it is measured, the extent to which various measures can be *aggregated* at the individual and household level, and the possibilities for *desegregating* these analyses to policy-relevant geographic areas.

MEASUREMENT AND DATA ISSUES

Disagreements begin with the question of what to measure. The most widely used indicator of economic well-being and inequality is household income relative to need, measured in terms of the federal poverty threshold. As a measure of income, the official poverty measure, based on current before-tax cash income, is criticized for both over- and underestimating family resources (Citro and Michael 1995). The poverty measure overestimates resources because it fails to adjust for nonelective expenditures—such as taxes, medical costs, and work expenses—that reduce disposable income. At the same time, by excluding in-kind transfers

such as Food Stamps or housing assistance, the poverty measure underestimates resources that directly improve economic living conditions. The threshold used in the official definition of poverty has also been criticized. Based on a formula established in the 1950s, the threshold is variously criticized for failing to reflect changes in consumption patterns, differences in the rate of inflation for essential expenditures such as housing, and geographic differences in the cost of living (Ruggles 1990; Citro and Michael 1995). Calculations of both income and the threshold are also highly sensitive to measures of prices, and some analysts argue that current measures overstate inflation and the extent and growth of poverty and inequality since the 1960s (see Mayer and Jencks [1995] and Mayer [1997]).

Even if these measurement problems can be solved, many analysts argue that income poverty will still be a poor indicator for tracking the underlying dimensions of economic security and inequality. Using data from a Chicago survey, Mayer and Jencks (1988), for example, find that a family's official income-to-needs ratio (poverty) explained only 24 percent of variance in the amount of material hardship they experienced on dimensions as basic as hunger, housing adequacy, and medical care. The poverty measure may be an especially flawed indicator of the effectiveness of government efforts to improve economic well-being and reduce inequality. Since the mid-1960s, the major growth in government anti-poverty spending has been for in-kind benefits—through Food Stamps, Medicaid, and housing programs—and for other social service and human capital programs. It is argued by many that, while these programs have made important contributions to the well-being of poor families and may have helped close the gap in material security between the poor and the nonpoor, their success has been underestimated because the income poverty is not sensitive to changes in material well-being (for example, see Mayer and Jencks [1988] and Jorgenson [1998]).

In light of these problems, some scholars have recommended replacing income measures with measures of household expenditure or consumption. Household-level surveys typically find that reported consumption is higher than reported income, and analysts using consumption or expenditure data typically find lower rates of poverty and inequality across households—suggesting that noncash resources may in fact help close some of the gap in cash income between poor and nonpoor households (Cutler and Katz 1992; Slesnick 1993). Consumption measures also capture differences across families who, while they have similar incomes, have quite different consumption needs. Consumption studies comparing the welfare and working poor, for example, reveal that the latter are often *worse* off (at the same income level) because they have higher nonelective expenses such as transportation, child care, and private medical insurance (Passero 1996; Edin and Lein 1997).

Even more direct indicators of economic well-being are provided by various measures of material conditions. Using eight national surveys, Federman et al. (1996), for example, demonstrate the worst material well-being of poor—relative to nonpoor—children by comparing the groups on dimensions ranging from housing quality to crime victimization, disabilities, hunger, and the presence of books and computers in the home. While direct measures such as these cannot resolve the normative issue of how much material inequality or distress is "too much," they can begin to give concrete meaning to the magnitude of the difference between groups and trends over time. Mayer and Jencks (1995) and Mayer (1997), for example, have argued that while differences in material circumstances of poor and nonpoor children remain large, inequality in some measures of material well-being has actually declined in magnitude over time. Using multiple data sources, they find that between 1969 and 1989, while adjusted incomes declined for the poorest families with children, some measures of concrete well-being—such as housing crowding, housing quality, and access to health care—actually improved. Other measures—such as home ownership, access to a car, and neighborhood safety—declined during the same period.

A final measurement issue concerns the use of outcomes other than economic well-being to estimate the gap between advantaged and disadvantaged individuals. Economic resources and material deprivation are important indicators of well-being and inequality in their own right.

They are useful predictors of other outcomes as well, because poor individuals, particularly children, have far worse prospects than nonpoor individuals on a range of outcomes, from physical health to educational attainment and socioemotional functioning (Duncan and Brooks-Gunn 1997). Even the best measures of economic well-being are imperfect proxies for these outcomes, however. To track well-being and inequality on health, developmental, social, and other outcomes, it is critical to measure these outcomes directly. We would ideally like across-group and over-time data not only on economic and material circumstances, but also on outcomes such as health, disabilities, educational success, socioemotional adjustment, mental health, and family functioning.

These outcomes are arguably the most important indicators for evaluating well-being and inequality. They may also be the best measures of the impact of public programs, from health insurance to preschool, that are designed to improve the life chances of "at-risk" individuals. They are also the most difficult and expensive indicators to measure and track. As a result, existing individual-level outcome indicators have a number of important limitations.

One of the most severe limitations is that of the data. By far the largest source of data are the administrative records of government programs. These records provide a wealth of information that has been used in recent years to describe the characteristics and circumstances of individuals in public welfare, mental health, child welfare, and other public systems. Although vast, these administrative data are typically quite limited, both by the sample observed (including only individuals who receive government services) and by the type of information collected (designed for program management rather than for tracking individual outcomes). One consequence can be compromises in data quality—data that are either insensitive measures (not reflecting the construct they are intended to measure) or biased by missing data or nonrepresentative samples (Brown and Corbett 1997). Poor data quality has created substantial problems, to use some recent examples, when receipt of an intervention has been substituted for the underlying condition (such as using child-abuse reports as a proxy for child maltreatment); when trends in the data

have unclear or ambiguous meaning (for example, recent declines in Food Stamp and Medicaid caseloads); or when data have been available only for a nonrandom subset of the population of interest (for instance, in the use of state employment tax records to measure employment among welfare exiters).

Household-level surveys are the primary alternative to administrative data, and a number of population surveys conducted at the national level collect data on individual outcomes ranging from economic security (such as the Current Population Survey) to material well-being (such as the American Housing Survey and the Survey of Income and Program Participation), neighborhood quality (such as the National Crime Victimization Survey), child adjustment and family functioning (such as the Panel Study of Income Dynamics and National Longitudinal Survey of Youth), and health (such as the National Maternal and Infant Health Survey).

National surveys are a rich source of information about how individuals and households are faring. But single-purpose surveys remain severely limited for the purpose of tracking *multiple* outcomes simultaneously at the individual level. For example, in order to answer the question "What does it mean to be poor in America?" Federman et al. (1996) drew upon eight different national surveys. Although useful, this analysis is still limited because, as the authors point out, surveys that address only one or a few aspects of well-being cannot be used to understand either the correlations across various dimensions of well-being or the accumulation of risk factors at the individual level. This is a particularly severe limitation as studies of inequality move beyond simple income comparisons. To understand what it means to be poor, for example, or how the poor are faring relative to the nonpoor, it is important to understand whether a single indicator of hardship (such as hunger or housing adequacy) represents a household-level choice about the allocation of limited resources, or whether it is one aspect of an accumulation of hardship across multiple dimensions. With a few notable exceptions, population surveys do not provide this range of measures.

The use of national surveys to study inequality and well-being is often further limited by sample size. Large

population samples, or specialized subsamples, are needed to compare well-being across groups, and samples of some of the most vulnerable groups—such as families with young children, or low-income workers, or insecurely housed individuals—are often too small for this purpose. Opportunities to link outcomes to policy variation are also limited, because most national data sets do not have sufficiently large or representative samples for the geographic areas in which policy is now being formulated—the state, county, and even local levels.

THE NEW YORK CITY SOCIAL INDICATORS SURVEY

What is needed for the study of policy reform, well-being, and inequality—and what the New York City Social Indicators Survey is designed to provide—is micro-level outcome data that measure a range of critical outcomes, over time, across the entire population, and within a single policy jurisdiction. The SIS will be administered every two years, using a repeated cross-sectional sampling design. The SIS measures family and individual well-being on a wide range of economic and noneconomic dimensions.

We begin with *individual and family assets*—the human, financial, and social resources that individuals accumulate starting in childhood. They are a critical component of well-being because they constitute not only the wealth of the present but also "capital" for the future. The SIS measures include human assets (health and disability, educational achievement), financial assets (net worth, debt, home ownership, equity), and social assets (access to capital in an emergency, reliance on neighbors, neighborhood support for children).

Because the well-being of children is a particularly important indicator of social health and welfare, the SIS includes a wide array of *child outcome* indicators. These are supplemented by measures of parenting practices and family routines that are predictive of child outcomes. Specific measures include child outcomes (child health and disability, child socioemotional development, child school progress, adolescent risk behaviors) and parenting practices and organization of family routines (supervision of children,

familiarity with children's friends, organization of family meals, reading to children).

Human assets and child outcomes provide good indicators of well-being in the present and children's development of human capital for the future. But New Yorkers live in the present. SIS indicators of family *living conditions* describe the immediate life circumstances of families and their members. These measures cover both economic conditions (income, difficulty paying utility bills, income-related hunger) and social conditions (housing quality and crowding, crime victimization, neighborhood quality and safety).

Individuals and their families are never entirely self-sufficient. All rely on some forms of *external support* to assure their well-being, and the availability and quality of these supports are important factors in security and well-being. The source of support—from government, family, community, or the workplace—has other implications for both the adequacy of support and for families' patterns of reliance. To capture these dimensions, the SIS includes additional measures of institutional support (health insurance coverage, quality and safety of children's school, use of formal child care) and financial and concrete assistance with child care, educational, medical, housing and food needs from government, family, community programs, and government.

The SIS will be used to collect these measures from a random sample of all New York City households on a biannual basis. Each data set will be a fully representative cross-section of the city's population; over time, samples may be combined to increase the sample of small subpopulations. The data will be used in a variety of ways to describe, track, and analyze well-being and inequality in the city over the coming years.

METHODOLOGICAL ISSUES

In 1997, the first round of SIS data was collected from a random sample of 2,224 New York City households, using random digit dialing techniques. The sample was designed to be representative of all families in the city. We have used statistical methods to correct the final sample for potential sampling biases. We have corrected for the underrepresentation of households that do not have

regular phone service by giving extra weight to those who have intermittent service. Other biases, including disproportionate participation by more highly educated respondents, have been corrected by post-stratification weighting using U.S. Census Bureau data. Some limitations in the representativeness of the sample could not be overcome. Most notable is the exclusion of individuals who could not be interviewed in English or Spanish. Of all households within the random sampling frames who were determined to be eligible for the survey, nearly half (48 to 49 percent) refused to participate. Although this may cause some unmeasured biases in the final sample, once the data are correctly weighted, the sample very closely approximates Census Bureau data for the city on major demographic and economic characteristics.

Some specific characteristics of the New York City Social Indicators Survey influence the comparability of its data to other data sources. First, we consider respondents to be partnered whether or not they are legally married to their domestic partners. Estimates from the survey may therefore show higher rates of two-adult and two-parent families than estimates based on other definitions and data sources. Second, we count all individuals in our survey as part of a family. Individuals without partners or resident children are treated as a "family of one," even if they are sharing a residence with other non-nuclear family members (such as adult children) or nonrelated adults (such as roommates). This definition differs from the one used in many statistics relying on Census data (such as the poverty rate) that are based on households that count all adults and children related by blood or marriage who share a residence. For extended families sharing a residence, the SIS definition does not assume shared resources. Our unit of analysis will therefore count fewer resources and may produce higher estimates of financial hardship for these families. Finally, the respondent for the survey is always a randomly selected adult in the family unless there are resident children, in which case we select the primary caregiver for those children. Our adult respondents are therefore more likely to be female than those in other data sources.

FIRST-YEAR FINDINGS

The inaugural report of the New York City Social Indicators Survey provides a first look at the well-being of New Yorkers using a wide array of measures. Like the Dickens novel, *A Tale of Two Cities*, we find that for some New Yorkers this is the best of times and for others it is perhaps the worst of times. In a city as full of contrasts as New York, the story is inevitably even more complex than this. The story of New York City in 1997 is not a tale of two cities, but a tale of many cities.

NEW YORK CITY AND THE UNITED STATES

We find both good news and bad news about two of the most fundamental human assets of New Yorkers: health and education (Table 1). The news about health is good. More than three-fourths of adults report either good or excellent health. Even more encouraging is the finding that more than 90 percent report their children's health to be good to excellent. Comparable data from nationally representative surveys suggest that New Yorkers are about as healthy as Americans are on the whole.[1]

With respect to education, there is less cause for cheer and, in fact, cause for worry. The good news is that the majority of New York children are at or above the grade level for their age. Although children seem to be doing pretty well in school on average, the fact that as many as 16 percent are falling behind or in special education is cause for concern. Even more worrisome is the fact that school achievement declines steadily with age. While 88 percent of New York children under age ten are at grade level, only 79 percent of those between ages fifteen and eighteen are doing as well. The large number of New York children who are falling behind as they approach graduation is consistent with indicators of educational achievement among adults in the city. The proportion of New York adults with college or post-graduate degrees is about the same as the national average of 22 percent.[2] But almost one-third of the New York City adults in our survey had only a high school education and about the same proportion had not completed high school—a rate much higher than the national dropout rate of 19 percent.[3]

Due to small sample sizes and measurement difficulties, our data on financial assets must be interpreted cautiously. Even the most sophisticated surveys of wealth tend to understate the true value of financial assets, and the simple measures used in this survey are likely to undercount wealth even more. Respondents who refuse to answer sensitive questions about their family finances exacerbate the problem. Keeping in mind these limitations, the SIS begins to paint a portrait of inequality in the city.

Table 1

SOCIAL INDICATORS FOR NEW YORK CITY, 1997

Indicator	Response	Percent	Indicator	Response	Percent
Adult's health is...	Excellent	30	Family...	Owns home	26
	Good	46		Rents home	67
	Fair	19		Is just "staying there"	8
	Poor	5			
			Family income relative to poverty line...	More than 10 times poverty	5
Adult has condition that...	No limiting condition	81		Between 4 and 10 times	22
	Limits work	10		Between 2 and 4 times	24
	Prevents work	9		Between 1 and 2 times	20
				At or below poverty	29
Adult's highest education is...	College degree or more	21			
	Some post–high school	19	Due to (lack of) money, utility bills were...	Always paid on time	82
	Only high school/GED	31		Sometimes late	17
	Less than high school	30		Utilities shut off	1
Child's health is...	Excellent	63	Due to (lack of) money, family members...	Never went hungry	94
	Good	30		Sometimes went hungry	7
	Fair	5			
	Poor	1	Family's housing is...	Not substandard	84
				Substandard	16
Child has disability that limits...	No limiting condition	94			
	Activities a little	3	Rooms per person in family housing...	2.2 or more	33
	Activities a lot	3		Between 1 and 2.2	55
				Less than 1	12
Child is...	At or above grade level	84			
	Below grade level	16	Adult rates neighborhood as...	Very good	29
				Pretty good	36
Parent reports child has...	No behavior problems	42		Only fair	27
	At least one problem	29		Poor	9
	Two or more problems	29			
Family could borrow from a relative or friend...	At least $10,000	20	Walking in neighborhood at night, adult feels...	Very safe	30
	$1,000 but not $10,000	31		Somewhat safe	43
	$100 but not $1,000	33		Somewhat unsafe	14
	Not even $100	16		Very unsafe	13
Family's total assets are...	$100,001 or more	16	In prior year, family members were...	Not crime victims	89
	$5,001 to $100,000	21		Robbed or burglarized	11
	$1 to $5,000	19			
	$0 or negative	44			

Source: Garfinkel and Meyers (1999).

In terms of the good news, it is noteworthy that 16 percent of New York families report a net worth, including home equity and other forms of wealth, of more than $100,000. Many New York families are clearly doing very well. This good news is tempered, however, by the fact that comparable data for the country as a whole indicate that as many as 30 percent of all families have assets in excess of $100,000.[4] The worst news about the financial assets of New Yorkers is the very large proportion of families who have zero or negative net worth. Forty-four percent of families report no assets. One-half of these families have no net worth and the other half owe more than they own. This proportion is much higher than the 12 percent of all U.S. families that report zero or negative wealth,[5] suggesting that on average, New York families lag well behind the rest of the country in their accumulation of assets.

One important factor in the gap between New York and the rest of the country are the much lower rates of home ownership in the city. Home equity is the most common form of wealth for U.S. families, but nearly three-quarters of New Yorkers do not own their homes. This is more than twice the national average of 35 percent.[6]

Access to capital from family and friends is a form of social asset. In small amounts, loans from family or friends may be a critical form of support when families face a financial crisis or need to make a routine transition such as a residential move. In larger amounts, such loans can provide opportunities for starting small businesses and other forms of investment. About half of New York families believe they have access to at least a small financial cushion of at least $1,000; 20 percent have access to $10,000 or more. In sharp contrast, as many as 16 percent of families do not believe they could borrow even $100 in an emergency.

Given the growth of income inequality, some observers have described New York City as "hollow in the middle." Our indicators of human, financial, and social assets suggest that the city may be better described as "bloated at the bottom" by the large number of families who lack basic education and who have failed to accumulate any financial wealth. Indicators of current economic well-being tell a very similar story.

At the top of the income distribution, 5 percent of New Yorkers live in families with incomes greater than ten times the federal poverty level—the same proportion that is observed in the nation as a whole.[7] But the 29 percent of New York families with incomes that fall below the federal poverty threshold is nearly twice the 15 percent of U.S. families who fall below the threshold *when we apply the same definition of family resources* to Census Bureau data. In comparison to conventional Census Bureau estimates that count all household income, the New York City Social Indicators Survey measures family income by counting only the resources of nuclear family members (respondent, spouse/partner and dependent children); this calculation overestimates poverty by approximately 4 percentage points. Nevertheless, the evidence that New York City is bloated at the bottom is unambiguous.

Rates of income poverty correspond closely to compromises in living conditions. The rate of income-related hunger is twice as high in the city as it is in the nation.[8] Given its scarcity, it is not surprising that housing inadequacies are even more acute than hunger in the city. Housing problems are also considerably more common in New York City than in the nation as a whole. The good news is that the large majority of New York families live in housing that is not considered substandard or over-crowded. But 16 percent of New York City families do live in housing with major structural problems or utility breakdowns.[9] Twelve percent of families also live in dwellings that have less than one room per household member. This is four times the national average.[10]

Physical security is one of the distinguishing features of a civil society and a powerful indicator of the quality of life. That crime rates have dropped substantially in New York City in recent years is certainly good news.[11] The SIS reveals that 11 percent of New York City families were victims of a robbery or burglary in the prior year, only slightly higher than the national average of 9 percent.[12] Whether that is good or bad news is unclear. By international standards, the United States continues to have very high crime rates. However, 30 percent of adults interviewed for the survey report that they feel very safe walking in their neighborhood at night and

another 43 percent consider themselves at least somewhat safe. This is encouraging news about the city. And it provides further evidence that the experience of crime for New Yorkers may not be dramatically different from that for Americans more generally: In response to a similar question in a 1997 Gallup poll, 61 percent of U.S. residents indicated that they were not afraid to walk near their homes at night.[13]

The well-being of New Yorkers depends not only on their economic resources but also on the security and quality of a variety of external supports. Some of these supports—such as health insurance—are provided by both government and market institutions. Others—such as schools—are provided through an even more diverse combination of public, community, and religious institutions. While New Yorkers describe themselves as generally satisfied with many of these institutions, there appear to be serious problems of access and quality in some areas.

Health insurance coverage is one of the most important external supports for families and, for New Yorkers, one of the most problematic. Slightly more than two-thirds of New York families were fully insured for the whole year through either private health plans or government programs such as Medicaid and Medicare. In nearly one-quarter of families, some or all of the family members lacked insurance when contacted. In another 9 percent, at least one family member had gone without insurance at some point in the prior year. These figures are considerably higher than the 14 to 15 percent of U.S. residents who are uninsured at a point in time, and the additional 6 to 7 percent of adults who lack insurance for at least one month out of the year.[14]

However, the problem of obtaining health insurance appears to be much more acute for New Yorkers than the quality of the coverage they obtain. Among those who have some kind of health insurance coverage, about half describe themselves as very satisfied with their plan and another third are at least somewhat satisfied. New York parents are even more positive about the school their child attends. About two-thirds of parents agree that their child's school is safe and provides a good education; another one-quarter somewhat agree.

THE POOR AND NONPOOR: INEQUALITY OF INCOME AND OF OUTCOMES

Taking the "average" temperature of New York tells us that the city is different from the rest of the country. On average, its residents are poorer in income and assets, less well educated, less likely to be homeowners, more likely to be living in overcrowded housing, less likely to have health insurance, and less positive, overall, about their neighborhoods. But New York is not a city of averages; it is a city of diversity and extremes. The myth of America as a melting pot has been pervasive. The New York City Social Indicators Survey documents a different reality: In terms of assets, living conditions, and experience with the city's institutions, the diverse groups of New York City do not melt together, but remain far apart.

Some of the starkest differences are revealed when we compare New Yorkers who differ by income. Over one-quarter of all New York families have incomes at or below the federal poverty threshold and another one-fifth are near-poor, with incomes between one and two times the poverty threshold. Slightly more than one-quarter of families, in contrast, might be considered "affluent," or at least economically secure, with incomes at least four times the poverty threshold. Inequality between these families is great, not only in income, but in measures of well-being ranging from living conditions to the accumulation of assets.

In terms of human assets, the poor and near-poor of New York are struggling indeed (Table 2). The respondent in one-third or more of these families reports fair to poor health; one-quarter also report a work-limiting disability. The gap between rich and poor is vast: The odds that a poor adult is in poor health are more than eight times those of an affluent adult; his or her odds of being disabled are more than ten times greater. Educational disadvantage is also highly concentrated. In half of poor and near-poor families, one or both adults lack the equivalent of a high school education.

It is difficult to sort out the causal sequence linking adults' human assets and poverty. Poor health and education may be a consequence of income poverty and restricted opportunity; they are also an important contributing factor to low earnings and poverty. In the case of

SOCIAL INDICATORS BY INCOME RELATIVE TO POVERTY

Indicator	Percentage Poor	Percentage Near-Poor	Percentage Middle Class	Percentage Affluent	Odds Ratio: Poor versus Affluent
Respondent in fair to poor health	35	43	11	6	8.0
Respondent disabled	28	22	10	4	10.2
Any adults without high school	51	51	13	6	15.4
Child in fair to poor health[a]	8	8	5	5	1.6
Child disabled[a]	13	9	6	6	2.3
Child not at or above grade level	33	10	7	7	6.6
Child has behavior problem(s)[a]	38	26	25	22	2.1
Zero or negative assets	69	44	35	25	6.7
Could not borrow $100	33	11	8	4	10.9
Hunger in prior year	11	4	N.A.	N.A.	N.A.
Late utility payments in prior year	25	24	N.A.	N.A.	N.A.
Overcrowded housing	23	12	6	4	6.5
Substandard housing	27	14	N.A.	N.A.	N.A.
Family members victims of crime[a]	11	8	12	8	1.3
Property (break in)	4	2	7	7	0.5
Personal (robbery)	7	7	6	2	4.3
Feel unsafe in neighborhood	36	40	21	13	3.8
Rate neighborhood fair to poor	49	38	31	16	5.1
Adult(s) lacks health insurance	26	23	19	18	1.6
Child(ren) lacks health insurance	20	30	11	6	4.0
Parent rates child's school as poor	22	24	16	12	2.1
Preschool child not in formal care	81	53	57	51	4.3
Memo:					
Unweighted number	287	220	406	435	
Percentage weighted	30	20	24	27	

Source: Garfinkel and Meyers (1999).

Note: Unless otherwise noted, group differences are statistically significant at the 95 percent confidence level.

[a]Group differences are not statistically significant at the 95 percent confidence level.

children, however, the significance of compromises in human assets is much more straightforward. It cannot be argued that children's poor health or education cause their income poverty. Compromises in children's human assets are much more clearly a consequence of poverty and, perhaps more importantly, a predictor of economic difficulties in the future.

On the whole, children in poor New York families are much healthier than adults. Children are also much less likely to be disabled than adults. It is good news that as many as 85 to 90 percent of poor children are in good health and free from activity-limiting problems. This suggests that children in poor families may not have paid as great a price as adults in terms of their health status. Whether this bodes equally well for the future depends on how well these children fare as they age. Here the news is not so reassuring.

The prevalence of childhood physical health, mental health, and learning problems generally increases with age. The jump is particularly sharp during the school years, when children are identified for special services within the school system. National data show, for example, that 2 percent of children under age three have identified disabilities, and the proportion rises steadily with age until it reaches 6 percent of school-age children and 9 percent of adolescents (Aron, Loprest, and Steuerle 1996). A similar pattern is evident in the New York data (Table 3). Among all children, the proportion with some form of health problem or disability increases substantially from early childhood to adolescence. This increase would be expected, as health and learning problems are manifested and diagnosed throughout childhood.

What should not be expected is that as the prevalence of childhood difficulties grows, so too does the gap between the advantaged and disadvantaged. Translated into the language of odds, among children under age six, the odds that a poor child is disabled or in bad health are about the same as those of an affluent child; among older children, the odds of disability and health problems are nearly two to three times greater among poor children.

Poor children's school performance and behavioral adjustment are also far behind those of their more affluent peers (Table 2). On the whole, children in New York are doing pretty well. Problems are highly concentrated, however, among children in the poorest families. In comparison to affluent children, the odds that a poor child is behind at least one grade are more than six times greater; the odds that he or she has adjustment problems are two times greater. Like health, school and behavior problems are worse among older children, and the difference between advantaged and disadvantaged children is wider. By age seventeen, the odds of being behind a grade are more than six times greater for poor children than for affluent children, and the odds of having behavior problems are more than three times greater.

These data show that poor adults and children in New York are lagging far behind their richer counterparts in terms of human assets. We should not be surprised to

find that poor families are also far behind in the accumulation of any financial assets. Over two-thirds of poor New York families report zero or negative assets. Families at the bottom of the economic ladder are also poor in terms of access to resources that might help them weather a financial crisis or routine transition, such as a move or the start of a new job. One-third of the poorest families do not have access to even $100 in emergency funds. This is a sobering reminder of how disadvantage accumulates: Poor families are disadvantaged not only in their own resources but also in their ability to get, or give, financial help to kith and kin.

Financial insufficiency translates into a number of compromises in the economic and living conditions of the poorest New Yorkers. Food insufficiency is highly concentrated among the poor, affecting 11 percent of families. One-quarter of the poor have faced difficulty with utility payments. About one in four poor New York families is also living in overcrowded housing and 27 percent live in housing that had serious structural, plumbing, or heating problems.

Income is less predictive of crime victimization. The SIS suggests that the much-heralded drop in the crime rate has benefited most New Yorkers. While the poor are somewhat more likely than the rich to have been crime victims in the prior year, their overall odds of victimization are not much greater than those of other families. Differences are evident, however, in the type of victimization. Poor families are only about half as likely as rich families to have been subject to property crime in the form of having their homes broken into. Their odds of having been the victim of a robbery, in contrast, are four times greater. Given these differences, it is not surprising that one-third of the poorest New Yorkers feel that their neighborhoods are unsafe and one-half rate their neighborhoods negatively.

We would hope that public services and supports would offset these income-related forms of inequality. The evidence for this, however, is not reassuring. In fact, the poorest families are often the most disadvantaged in the adequacy of institutional supports as well.

This is most notable in children's health insurance. Children in 20 percent of the poorest families lack health

Table 3
CHILD OUTCOMES BY POVERTY BY AGE

Outcome	Percentage Poor	Percentage Affluent	Odds Ratio: Poor versus Affluent
Child disabled			
Age zero to five	3	3	1.0
Age six to seventeen	20	9	2.6
Child in fair to poor health			
Age zero to five	5	5	1.0
Age six to fourteen	10	5	1.7
Memo:			
Unweighted number	287	435	
Percentage weighted	30	27	

Source: Garfinkel and Meyers (1999).

Note: Group differences are statistically significant at the 95 percent confidence level.

insurance; their odds of going uninsured are four times greater than those in the most affluent families. It is not the poorest families, however, but the near-poor families who fare the worst in this dimension, with a full 30 percent unable to insure their children. The problem remains most acute for these families at the margin of self-sufficiency, who often fall between the cracks of public programs and employment-based insurance. Poorer families also do much worse than their affluent counterparts in terms of educational resources for their children. Parents in 22 percent of the poorest families rate their children's school as unsafe and/or providing poor education, in comparison with only 12 percent of parents in the most affluent families; children in more than 80 percent of the poorest families are not in formal child care, in contrast to 50 percent of their counterparts in affluent families.

CONCLUSIONS

Taken together, these findings help explain why New York, on "average," is so different from the rest of the country. The United States has more economic inequality than virtually all other Western industrialized nations; and among U.S. cities, New York City appears to be the most unequal. Great inequality is not a new phenomenon for the country or the city. The dramatic pulling apart of rich and poor is new, however. In the last twenty years, as the rich have gotten richer, economic and social policy changes have left the poor further and further behind. New York stands out among U.S. cities as being the most unequal and as experiencing the greatest rise in inequality during this period (Larin and McNichol 1997).

Whether this inequality matters—whether it is or should be a shared concern for all New Yorkers—depends in part on its concrete manifestations. It is not a surprise that the poorest New Yorkers are worse off in their economic and social living conditions. It may not be surprising that the poorest New Yorkers are also worse off in terms of their health and educational attainment. Evidence of inequality in socially controlled external supports and services—from schools and health insurance to police protection—is more surprising and less defensible. Even if

we are no longer surprised by the existence of inequality and hardship, the concrete manifestations and the magnitude of the difference between rich and poor New Yorkers remain shocking.

LOOKING AHEAD

A major contribution of the New York City Social Indicators Survey is to provide a rich description of the well-being of New Yorkers and of the magnitude of income and concrete inequality in the city. With each cross-sectional sample, we will use the data to compare well-being across groups that differ by demographic characteristics, family structure, income, and other features. Over time, we will be able to track whether well-being is converging or diverging for these groups—that is, whether inequality is increasing or declining. Because the survey includes a variety of measures of individual- and family-level well-being, ranging from the economic to the interpersonal and social, we will be able to track inequality on multiple dimensions simultaneously and to analyze the accumulation of advantage—and disadvantage—at the individual level.

Our ambitions go beyond description, in that we hope to link changes in well-being and inequality to changes in public policies. One key to this analysis is the collection of data from a large representative sample of households within a single "policy jurisdiction." The household level data in the SIS will be supplemented by detailed information on changes in social policies and programs in New York City and New York State.

Isolating the effects of policy change from other factors that are likely to influence well-being and inequality—such as changes in the local economy and job market—will present the greatest methodological challenge. We will capitalize on several features of the SIS design to strengthen our ability to make causal interpretations. The collection of data from repeated cross-sections of the entire population will allow us to compare the situations of individuals and families with those of similar respondents in a different policy context. For example, to isolate the effects of changing welfare eligibility rules and administration, we will use the population sample to identify families who are

eligible for welfare in 1999 and families who are *in*eligible in 1999 but who *would have been* eligible under the 1996 rules. Differences in the economic strategies and well-being of these two groups will provide insight into the effect of eligibility rule changes.

The challenges of measuring well-being and inequality are vast. The opportunities to contribute to our understanding of these issues are also great. The SIS project represents one effort to push beyond the limitations of current data sources in order to collect the data necessary to answer questions not only about *whether* America is becoming more or less unequal, but about what inequality *means* in concrete terms and how government policies affect its magnitude and consequences.

ENDNOTES

1. Authors' calculation, based on the U.S. Bureau of the Census, Current Population Survey, 1996-97.

2. Authors' calculation, based on the U.S. Bureau of the Census, Current Population Survey, 1996-97.

3. Authors' calculation, based on the U.S. Bureau of the Census, Current Population Survey, 1996-97.

4. Authors' calculations, based on the U.S. Census Bureau's Current Population Survey (CPS), Asset Ownership of Household Report, 1993. Measures of assets in the CPS are more extensive than those in the New York City Social Indicators Survey, so the magnitude of the difference between the United States and New York City may be exaggerated in these comparisons. The low levels of home ownership in New York City are consistent with the conclusion that a small proportion of New York families has assets above $100,000.

5. Authors' calculations, based on the U.S. Census Bureau's Current Population Survey, Asset Ownership of Household Report, 1993.

6. American Housing Survey, 1995 (Table 2-1).

7. Authors' calculation, based on the U.S. Bureau of the Census, Current Population Survey, 1996-97.

8. U.S. Department of Agriculture Nationwide Food Consumption Survey (NFCS): Decennial Survey, 1977-80; Supplemental Low-Income Survey, 1987-88; U.S. Department of Agriculture Continuing Survey of Food Intakes by Individuals (CSFII), 1985-86, 1989-91. For U.S. households, food insufficiency (measured as family members going hungry) remained steady, at 2 to 4 percent, between 1977 and 1991.

9. American Housing Survey, 1995. Nationwide, 7.5 percent of occupied homes have structural problems (holes in floor, open cracks in the interior, exposed wiring); 5.0 percent have inadequate heating; 1.5 percent lack some or all plumbing facilities.

10. American Housing Survey, 1995 (Table 2-3). This survey uses more than one person per room as a measure of overcrowding; the New York City Social Indicators Survey measure is based on rooms per person.

11. New York State Division of Criminal Justice Services, *Criminal Justice Indicators by Percent Change: New York City, 1995-96.* New York experienced a 3 percent drop overall in reported crime, a 17 percent drop in burglaries, and a 16 percent drop in robberies during this period.

12. Authors' calculations, based on the 1994 General Social Survey (GSS). The GSS asked if the respondent was the victim of burglary or robbery; the New York City Social Indicators Survey asks whether the family was victimized. This may inflate our figure relative to the national data.

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Commentary

Howard Chernick

The New York City Social Indicators Survey (SIS), directed by Marcia Meyers and Irwin Garfinkel, both of the Columbia University School of Social Work, will prove to be an invaluable tool in assessing the well-being of New York City's residents and in evaluating policy initiatives that affect that well-being. The survey complements the Current Population Survey (CPS), up to now the only annual survey of the economic and social characteristics of the resident population of New York City. Meyers and Garfinkel are to be highly commended for undertaking this project.

Although the SIS sample size is somewhat smaller than that of the CPS—1,500 households versus about 2,000—the SIS range of questions is broader. By providing more detailed information about economic and social well-being in a particular area, the survey will amplify our understanding of national trends in the well-being of the population. Although not reported in the first survey, the sample also includes about 750 households in the New York City metropolitan area living outside the city. Comparisons between city and suburban residents will be particularly useful in evaluating metropolitan and state-wide policy issues. In these comments, I focus on issues of

income measurement, perceptions of the quality of public services, and suggestions on ways in which the survey could be used to address some important policy issues.

INCOME POVERTY

Nationally, poverty has become more concentrated in central cities, with poverty rates rising relative to the rest of the country. In the 1990s, poverty rates in central cities were more than double the rates in the suburbs of metropolitan areas (18.8 percent versus 9.0 percent in 1997). Although central-city poverty rates have declined since their peak of 21.5 percent in 1993, they remain stubbornly high. The SIS finds that the national pattern of high rates of central-city income poverty is magnified in New York City, where reported income poverty rates for families are 29 percent. When we add to families below the poverty line those with incomes that are less than two times the poverty rate, we see that the survey finds an extraordinary 50 percent of the sample to be income-deprived.

The question is, how accurately do these alarming rates of poverty and near-poverty reflect the extent of material deprivation among New Yorkers? The SIS poverty rate is higher than the U.S. Census Bureau estimates, mainly because the SIS definition of the income-sharing unit is more restrictive than the Census definition. The SIS counts only the resources of nuclear family members,

Howard Chernick is a professor of economics at Hunter College. The views expressed are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

whereas the Census definition includes all those in the household who are related by blood or marriage. This choice was undoubtedly made in an effort to maximize the accuracy of income reporting in the SIS. However, due to the high cost of housing and the importance of immigration, the extent to which extended families share living quarters and resources is probably greater in New York City than elsewhere in the country. Hence, the SIS choice of income-sharing unit may overestimate the extent of material deprivation by underestimating the extent of household resources available to nuclear families. The relatively high cost of housing in New York City also means that there are probably relatively more unrelated individuals sharing living quarters. Since these households are sharing housing costs, income poverty measures may again overstate real deprivation. These conjectures on housing are supported by a comparison of the ratio of income poverty to crowded housing in New York City and the rest of the nation. While the ratio of substandard housing to poverty is similar in New York City and the nation, crowded housing conditions are much more prevalent in New York City. To address these definitional issues, I would urge the authors to make some effort to collect and report income information on a household as well as a family basis.

Discussions of urban problems frequently focus on the declining income of central-city residents relative to those in the central city's suburbs. The paper by Edwin Mills argues that the ratio of central-city to suburban income levels is primarily a function of the extent to which central-city residents have relocated to the suburbs, rather than the income-generating possibilities of the city labor market. Mills notes that if center-city residents are more likely to move to the suburbs as their income rises, then the ratio of income in the suburbs to income in the city will be highest when the proportion of the metropolitan area living in the suburbs is very low and very high. A priori, the relative level of central-city incomes should be a function both of the rate of exit from the city to the suburbs of households at different income levels, and the longitudinal pattern of income growth of those who

remain in the city. The SIS offers an opportunity to explore the relative role of the Mills hypothesis by asking people about their income and location in previous years. This type of inquiry will also help to illuminate the perennial policy question of the extent to which residents are benefiting from job creation in New York City.

PUBLIC SERVICES

By asking a wide range of questions related to well-being, the survey offers an opportunity to evaluate the quality of public services in New York City, and the extent to which the public sector compensates or offsets highly unequal private-market outcomes. For example, it is noteworthy that rates of poverty remain high in New York City, even as public assistance rolls have declined dramatically—at a rate of about 8,000 cases per month during 1997. Medicaid rolls have not declined by nearly as much as public assistance caseloads. In 1997, 23.4 percent of the New York City population was Medicaid-eligible. Nationally, some 21 percent of the population lacked health insurance, compared with 30 percent in New York City. However, the national poverty rate (using the SIS definition) was 15 percent. If the national ratio of poverty to health insurance coverage was to prevail in New York City, then more than 40 percent of the population would lack health coverage. The fact that lack of health insurance is not as great, relative to income poverty, as it is in the rest of the nation suggests that the greater rate of Medicaid availability in New York City helps to weaken the link between income poverty and access to health care.

The SIS results on the perceived quality of public schools are also interesting. Overall, only 14 percent of parents definitely agree that their children are not getting a good education. However, 47 percent of all adults rate public schools as only fair or poor. To know how well New York City is doing in education, it would be useful to compare these evaluations with similar evaluations in other school systems. As a further research suggestion, it would be extremely interesting to combine parent evaluations of the quality of education with information on spending for individual schools.

Blacks are much more likely than Hispanics or whites to feel that their children are not getting a good education. Some 28 percent of blacks disagree or somewhat disagree with the statement that their children are getting a good education, as opposed to 18 percent of (nonimmigrant) Hispanics and 5 percent of whites. The difference between Hispanics and blacks is noteworthy, given that income and poverty rates are similar between the two groups. It suggests that perceptions may differ depending on prior experiences, and that different groups may be more or less willing to criticize the level of public services received. Among native blacks, the SIS finds that 33 percent are below the poverty line. The close correspondence between the overall rates of income deprivation and the perceived low quality of public schools suggests that in at least one crucial public service, New York City is not very effective in offsetting the adverse effects of low income.

As a last point, one suggestion for future use of the survey would be to track the relationship between city tax policies to reduce tax burdens on the poor (for example, the city's proposed Earned Income Tax Credit) and the economic conditions of low-income families.

To conclude, the SIS is a well-designed survey, providing much useful information on the social condition of New York City residents. The repeated snapshots that the SIS will provide in the future will be particularly useful for studying the effects of policy changes.

SOCIAL POLICY IMPLICATIONS

Commentaries by
  Katherine McFate
  Timothy Smeeding

General Commentary

Katherine McFate

This conference is about inequality, not poverty alleviation. Presumably, this is because we believe that too much inequality is a problem in and of itself. We care about inequality because when the social distance between the top and the bottom is too great, the trickle-down benefits of economic growth become more questionable, and so growth becomes a less effective mechanism for improving the circumstances of those at the bottom. We care about economic inequality because we worry that too much of it may undermine the legitimacy of our economic system or the functioning of our political institutions. We fear that too much inequality may fragment society, encouraging the rich to exit public space and institutions and setting in motion centrifugal dynamics that undermine social cohesion. I will come back to this point about inequality because I think it underlies the impetus for this conference and has not been adequately addressed in the discussions. But first, let me review the policy implications of the sessions.

Katherine McFate is an associate director of The Rockefeller Foundation. The views expressed are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

HEALTH

There is a vast literature on the relationship between income and health outcomes that was noticeably absent from today's discussions. That literature tells us that access to health care providers (whether one has insurance or not) is a very small part of the correlation between income and health. Rather, diet, risk behaviors (such as smoking), stress (including being a low-status person in a hierarchical society), and other factors are most strongly associated with low-income status and with poor health. This literature holds in western European countries, where health coverage is universal. On the rural/urban divide discussed today, an emerging—although still contested—literature is linking low-income, often minority, communities to environmental pollution. This link is present in both urban and rural areas—brownfields sites in central cities and waste disposal and pollution in rural areas. However, this link has not yet been included in most of the data that demonstrate the links between income and health. When it is, the correlations are likely to become stronger.

HOUSING

James Orr and Richard Peach, and Joseph Gyourko and Joseph Tracy, suggest that the quality of housing purchased by low-income people has increased, but that the poor pay more (too much) of their income for housing than they did

in the past. The simple explanation for this is that we have regulated substandard housing out of existence—the result is that the poor have safer but more expensive housing, and less money available for other goods. This makes it more difficult for low-income people to accumulate a down payment and buy a home. Christopher Mayer tells us that home ownership is not necessarily a good thing for poor people—it ties them to a place, where jobs may not exist, and may overcommit their limited financial resources. Having just spent half a day with officers of the Fannie Mae Foundation, I can tell you the argument for home ownership: Not only does it make people feel that they have a "stake" in a community, home ownership represents a vehicle for saving and potential wealth accumulation for this generation and the next. It can be a vehicle for the cross-generational accumulation of assets (educational as well as financial, if parents use home equity to finance their child's college education). If the mobility demands of the labor market and changing real estate and credit conditions are making home ownership a less desirable goal for low-income people, then perhaps we should reexamine the assumptions behind the policies that promote home ownership across all income groups. There is something a little disturbing to me about the idea that home ownership may be good for the rest of us, but not for the poor.

CRIME

The general point of Steven Levitt's paper—that high-income people have been less successful sheltering themselves from crimes against their person than from crimes against their property—seems plausible. Statistics do show an increase in the incidence of assault, robbery, and murder by strangers—but without information on the income of murder victims, this work can only be suggestive.

EDUCATION

The relationship between income inequality and educational inequality is, I think, at the core of our concern about the long-term social impacts of inequality. Americans believe in starting-gate equality: if you work and study hard, you should be able to have a good life. We believe in the importance of getting a good education. For an individual,

education is the ticket to a good income and future mobility. But where American society tends to fall short is in providing a "good education" for the bottom 20 to 30 percent of the income distribution. I want to note that tests show that the bottom 25 percent are getting a better education than they were thirty years ago—they are learning more. *But they are not acquiring cognitive skills at the rate the economy demands, and they are not skilling up as quickly as the children in families in the top 20 percent—your kids*. The relative *rates* at which skills and income are accumulated seem critically important.

Children who have an educated, high-income mother have an educational advantage over children who do not. Nothing that we do inside the public schools seems to make that advantage go away. But huge differences in school quality and resources can *exaggerate* the advantage of higher income kids. In fact, probably every parent in this room is doing whatever he or she can to increase their child's educational advantages. As we in the top 20 percent do everything possible to increase the rate at which our kids accumulate knowledge, we are feeding future inequality—if we do not also support very strong, deliberate policies to *increase the rate* for those at the bottom as well.

The school financing reform paper by Thomas Downes and David Figlio gets at this phenomenon. It suggests that reforms that attempt to equalize financing across districts may actually improve outcomes for children in the bottom 25 percent of the public schools and equalize education accumulation in the public schools. However, the paper also suggests that these reforms are not really reducing overall inequality because children in the top 20 percent of the income bracket just "opt out" and go to private schools (where they may accumulate education at an even faster rate). The rapid accumulation of disposable income by people in the top 20 percent of the income distribution (often two-income professional families) allows and encourages them to pay for the privatization of schooling for their children and the development of a two-tiered schooling system.

If we care about inequality—if we think that a *growing spread* (particularly in education and income) between the top and the bottom is a problem—then we

cannot just focus on raising the bottom. We may want to *slow the rate of accumulation* of income and education for the top 20 percent as we try to speed the rate of accumulation for those at the bottom. If the top 20 percent have to pay more for their homes and spend more of their disposable income to get (added) educational advantages for their children, this may be good in that it will make some people more reluctant to choose the opt-out/private-school approach. Even better might be policies that demand that high-income privatizers pay the public schools for the privilege of opting out—in the form of, say, a tax of 50 percent of the direct costs of their child's private school fees to the public systems that they abandon. Such a tax could be a hefty incentive for parents to stay in and make the public schools better, or it would provide more resources to speed the accumulation of knowledge among those left behind.

However, this cannot be very effective as a local policy. As the papers on urban governance presented here demonstrate, cities and states are not appropriate governmental units for redistribution because of the exit option. So we are forced back to relatively straightforward questions about how our national tax and transfer systems feed inequality—an important topic that we tend to ignore at these kinds of conferences. If we care about inequality, then we have to look at distributional policies that affect all of us, not just policies that affect those in the lowest tiers of the economy.

General Commentary

Timothy Smeeding

I would like to divide my comments into two parts. First, I will offer a few general reactions to the conference papers. I will then discuss the policy implications suggested by the papers and my summary.

REACTION TO THE PAPERS

First, I am left with the strong impression that there was no disagreement with the fact that economic inequality has increased in the United States over the past twenty years. In fact, income, earnings, total compensation, and wealth inequality have all risen significantly over this period. According to the latest U.S. Census Bureau figures, income inequality has continued to increase at least through 1997, while poverty rates (properly measured using income concepts that include tax-related benefits and near-cash benefits) have finally begun to decrease. In combination, these figures suggest that a moderation and even a decline in poverty rates must be tempered by the fact that the incomes of the well-to-do have increased more than those of the rest of the population, including the poor. Moreover, recent studies and surveys, such as the one by Gottschalk (1997), indicate that income mobility has not increased

Timothy Smeeding is the director of the Center for Policy Research of Syracuse University. The views expressed are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

enough to compensate for increased inequality, and in fact it might have decreased through 1995. If so, then much of the recent run-up in inequality is permanent, not transitory. Policy should address these permanent differences if they produce poor social outcomes.

This brings us to the first question posed by the conference papers, What problem are we concerned with—poverty alone, or inequality more generally? Many researchers see poverty as the only issue to be addressed by policy (for example, see Feldstein [1998]), while others even go so far as to defend the strong positive effects of inequality (Welch 1999). But the papers at this conference tend to indicate the opposite—that is, that inequality itself produces bad outcomes for society. The papers suggest the following relationships:

1. Increased levels of crime, poor health, mortality, poor schools, and poor housing are associated with higher levels of inequality across cities, states, and nations. Poor urban areas tend to have larger levels of negative outcomes than do rural areas, thus indicating some independent negative agglomeration effect of concentrations of poverty in central cities.

2. Social cohesion, trust, and civic engagement all vary negatively with inequality across these same geographic dimensions. These results may also reflect themselves more in central-city areas, where

crime is relatively higher, access to justice is lower, and there is less upward mobility than there is in better-off neighborhoods.

3. Local and national provision of public goods such as health care and schooling vary negatively with respect to economic inequality. This result suggests that in areas with greater levels of inequality, the median voter is less likely to support social expenditures on goods such as health care and schools.

Given these associations, my final observation from this collection of papers is that we are lacking a clear theory of how increased inequality is linked to poor outcomes. For all of the correlation shown in these papers—and in other related papers in epidemiology, sociology, political science, and economics—there is precious little in the way of modeling the mechanisms by which higher levels of inequality produce the poor social outcomes about which we care. The median voter hypothesis may be one such mechanism, but there may also be others.

POLICY IMPLICATIONS

The call for researchers and modelers to isolate the linkages between economic inequality and poor social outcomes should proceed, but policy does not have to wait for such research to move forward. We know that recent economic developments have produced a clear set of economic winners and losers. The papers at this conference suggest that we know who these winners and losers are. Economic theory would count rising real incomes and rising real inequality as a net social and economic gain, if the winners could compensate the losers. Then, the next step would be to move from theory to practice, and to the winners actually compensating the losers.

Our record-setting economic expansion has produced good job opportunities for almost everyone, while at the same time resulting in budgetary surpluses at the federal, state, and local levels of government. As a result, the timing could not be better for policies designed to reduce economic inequality by increasing economic opportunity for the upwardly mobile and rewarding the social behaviors that we approve of as a society.

But leadership, particularly at the federal level, is required to take advantage of opportunities to make permanent many of the cyclical gains that low-income groups are just beginning to enjoy. If we succeed in helping the disadvantaged to help themselves, there will be less dependence on government assistance in the future and greater levels of self-insurance among lower income groups. However, this success depends upon human infrastructure investments and upon rewarding those who engage in socially approved behavior.

Policies that seem to fit this rubric and flow from these papers fall into three groups:

1. *Policies that improve economic mobility through the investment in public goods (education and health care) to enhance human capital.*

   Clearly, policies that provide a more equal opportunity for educational attainment are within our grasp. A "leveling up" of educational opportunity is called for in our lowest income school districts. Federal help in the form of support for universal preschools and better child care for low-income mothers would also help. Also, the health problems that pervade among the poor in general—and those in central cities in particular—call for greater provision of and access to good curative and preventive health care. Some of these actions are already under way but need reinforcement at all levels of government—particularly in older central cities and older suburbs.

2. *Policies that reward socially acceptable actions and provide economic mobility by increasing incomes and assets.*

   The Earned Income Tax Credit (EITC) rewards those who work and have children. It provides the means to make discrete jumps in well-being because of its one-time nature and generosity (Smeeding et al. 1999). Twelve states already have their own EITCs, which further increase the generous EITC offered by the federal government to families with two or more children. The federal EITC should be integrated with refundable child tax credits, which in turn should be expanded to low-income earners. Such an expansion will reduce work-related penalties for married couples and further strengthen upward mobility. Personal saving is another virtuous activity that the

American public is willing to subsidize. Asset-based policies such as universal savings accounts and individual development accounts can be recommended as policies that reward those who set aside money for socially useful purposes, such as first homes, education expenses, and business start-up costs. Easing asset tests in means-tested programs such as Food Stamps and Temporary Assistance to Needy Families is another way to encourage saving by low-income families. However, policies that encourage home ownership should not be tied to specific neighborhoods or city areas. Rather, those who earn and save should be able to decide how to allocate resources within the ground rules of asset-building policies.

These policies can be initiated, expanded, and improved upon within the current economic and social climate and should be vigorously pursued.

3. *Policies that aid the immobile and the truly disadvantaged.*
Although few of the conference papers spoke of those left behind (Wolfe and Geronimus being the most prominent exceptions), it is clear that the worst-off of the poor are increasingly made up of persons with diminished health status, physical disabilities, and shortcomings in mental acuity. These persons are increasingly living in older central-city areas—where the large national decline in welfare caseloads has been occurring least rapidly. Here, we must reinvent ways to support the least fortunate members of society who are not able to take advantage of the opportunities and policies for promoting upward mobility that are suggested above. Such support would include continued medical and social service assistance for the mentally ill and substance abusers, and better opportunities to blend work and income transfer for the disabled and for low-skilled single parents. These are attributes that a rich society can afford, without having to go down the slippery slope of increased welfare dependence that we have just begun to escape.

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CONFERENCE PARTICIPANTS

Stephanie Aaronson
Columbia University

Donald S. Allen
Federal Reserve Bank of St. Louis

Linda Barr Gale
Mayor's Office of Health Policy

Paul B. Bennett
Federal Reserve Bank of New York

Marianne Bertrand
Princeton University

David M. Blau
University of North Carolina

Elizabeth Brainerd
Williams College

Stephen Cameron
Columbia University

Stephen G. Cecchetti
Federal Reserve Bank of New York

Howard Chernick
Hunter College

Theodore M. Crone
Federal Reserve Bank of Philadelphia

Allison L. C. DeCerreno
New York Academy of Sciences

Richard Deitz
*Federal Reserve Bank of New York,
  Buffalo Branch*

Thomas A. Downes
Tufts University

Lisa Dunn
*New York City Economic
  Development Corporation*

David N. Figlio
University of Florida

John L. Fox
Phipps Houses

Irwin Garfinkel
Columbia University

Arline T. Geronimus
University of Michigan-Ann Arbor

Edward L. Glaeser
Harvard University

Elyse Golob
*New York City Economic
  Development Corporation*

Ingrid Gould Ellen
New York University

Erica L. Groshen
Federal Reserve Bank of New York

Joseph Gyourko
University of Pennsylvania

Becky Himlin
*Neighborhood Housing Services
  of New York City*

Marjorie Honig
Hunter College

David Howell
The New School

Jennifer Hunt
Yale University

Christopher Jones
Regional Plan Association

Chinhui Juhn
Federal Reserve Bank of New York

Robert Kaestner
Baruch College

Matthew E. Kahn
Columbia University

Sanders Korenman
Baurch College

Steven D. Levitt
University of Chicago

Anne Li
New Jersey Community Loan Fund

Christine Lidbury
*New York City
  Independent Budget Office*

Ronnie Lowenstein
*New York City
  Independent Budget Office*

Christopher J. Mayer
University of Pennsylvania

William J. McDonough
Federal Reserve Bank of New York

Katherine McFate
The Rockefeller Foundation

Ronay Menschel
Phipps Houses

Marcia K. Meyers
Columbia University

Keith Miller
Niagara University

Edwin S. Mills
Northwestern University

Mary Grace Mullen
*New York City Department of Youth
  and Community Development*

Linda Myers
*New York City Office
    of the Comptroller*

Derek Neal
University of Wisconsin-Madison

William Nelson
New York City Housing Partnership

Martha J. Olson
Citizens Committee for Children of New York

James A. Orr
Federal Reserve Bank of New York

Brian O'Shauhnessey
New York State Labor Religion Coalition

Dimitri B. Papadimitrou
Bard College

Richard W. Peach
Federal Reserve Bank of New York

Keith Phillips
Federal Reserve Bank of Dallas

Julie E. Press
Temple University

Marta Ramos
Banco Popular of Puerto Rico

Carol Rapaport
Federal Reserve Bank of New York

Cordelia Reimers
Council of Economic Advisers

Richard W. Roper
Roper Group

Michael Schill
New York University

Amy E. Schwartz
New York University

Rashid Shikh
New York Academy of Sciences

Timothy Smeeding
Syracuse University

James M. Snyder, Jr.
Massachusetts Institute of Technology

Kevin Thurm
*U.S. Department of Health
    and Human Services*

Alair Townsend
Crain's New York Business

Joseph Tracy
Federal Reserve Bank of New York

Robert Triest
Federal Reserve Bank of Boston

Marcia Van Wagner
*Office of the State Deputy Comptroller
    for New York City*

Barbara L. Walter
Federal Reserve Bank of New York

Eric Wanner
Russell Sage Foundation

Barbara L. Wolfe
University of Wisconsin-Madison

Edward Wolff
New York University

Madeline Zavodny
Federal Reserve Bank of Atlanta

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