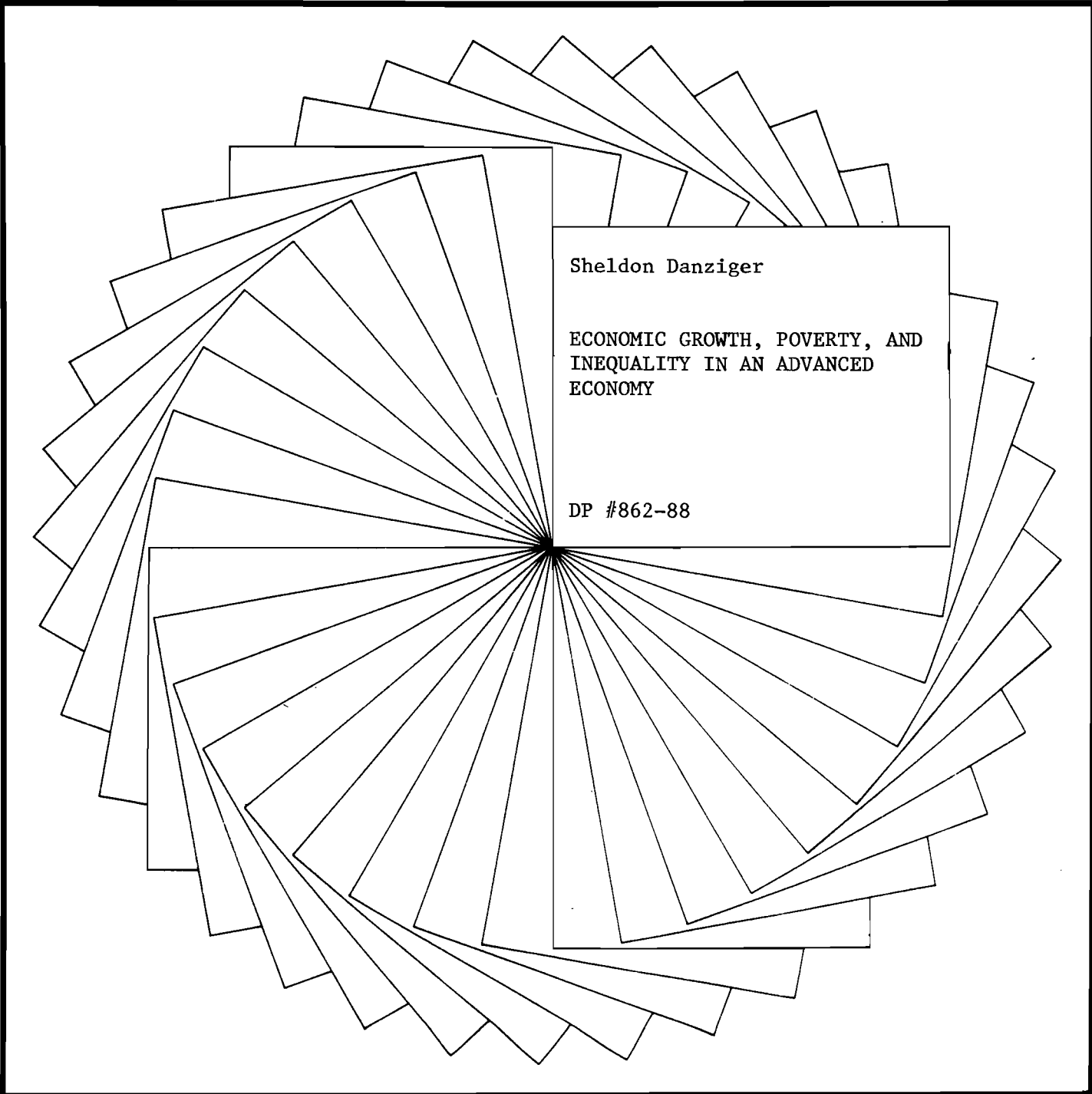




# Institute for Research on Poverty

## Discussion Papers



Sheldon Danziger

ECONOMIC GROWTH, POVERTY, AND  
INEQUALITY IN AN ADVANCED  
ECONOMY

DP #862-88

Institute for Research on Poverty  
Discussion Paper no. 862-88

**Economic Growth, Poverty, and Inequality in an Advanced Economy**

Sheldon Danziger  
Institute for Research on Poverty  
University of Wisconsin-Madison

May 1988

This paper was originally prepared for a conference sponsored by Progetto Milano, Istituto Regionale di Ricerca della Lombardia. The paper was written while the author was Visiting Scholar at the Institute of Public Policy Studies, University of Michigan. It draws on work in progress with Peter Gottschalk, Professor of Economics, Boston College. Support from the Graduate School Research Committee of the University of Wisconsin is gratefully acknowledged. Any opinions expressed are those of the author alone and not of the sponsoring institutions.

## **Abstract**

This paper examines the effect of economic growth on poverty and on inequality. It discusses trends in the level and distribution of U.S. family income, analyzes the conceptual links between economic activity, inequality, and poverty, and then presents empirical results illustrating why the effects of economic growth in the 1970s and 1980s differ from those in the more immediate post-World War II era. Since the early 1970s, most of the poverty-reducing effects of growth in mean income have been offset by increases in inequality. In the absence of an unexpected increase in the rate of economic growth or unforeseen changes in inequality or in the growth of government transfers, it seems unlikely that economic growth will substantially reduce poverty or inequality in the near future.

An Appendix describes U.S. measures of poverty.

## **Economic Growth, Poverty and Inequality in an Advanced Economy**

### **I. INTRODUCTION**

The economic record of the past 15 years in the United States, and in many industrialized countries, differs markedly from that of the immediate postwar period. Unemployment rates have been higher, real income growth has been slower, and inequalities within and between various demographic groups and regions have increased.

Ten years ago, academic conferences and papers examining the historical record in the United States discussed "The Fading Effect of Government on Inequality" (Reynolds and Smolensky, 1978) and more ideologically inclined scholars asked, "How Much More Equality Can We Afford?" (Browning, 1976). The conventional wisdom was that poverty had been declining rapidly and inequality had been relatively stable. Today, after a decade of stagnation, two back-to-back recessions, and a budgetary retrenchment, attention is directed to such issues as "The Shrinking Middle Class" (Bradbury, 1986), "A Surge in Inequality" (Thurow, 1987), "Cycles of Deprivation and the Underclass Debate" (Wilson, 1985) and "The Impact of Budget Cuts and Economic Conditions in Poverty" (Danziger and Gottschalk, 1985). Despite a robust recovery, poverty remains high and inequality is still increasing.

It is ironic that the following statement, written in 1920 by Hugh Dalton, can serve as an introduction to this paper:

The question whether the inequality of income is increasing or decreasing in modern communities is one of the most important questions in economics. Many writers have attempted to answer it,

but their answers do not generally carry much conviction. To determine whether, under modern conditions, inequality tends to increase or decrease, involves the enumeration of a large number of distinct and conflicting tendencies and the weighing and balancing of them one against the other (quoted in Brady, 1951, p. 4).

More than sixty years after Dalton, we still attach normative significance to the trend in inequality, often cannot agree as to what the trend actually has been, and rarely understand its underlying causes. What is common to all of these studies is the failure of analysts to do much more than describe trends and then to advocate a policy response that fits the data and their personal views. That is, the degree of inequality and its trend are a topic of intense policy interest, but of little economic understanding.

I want to illustrate this point with respect to the question, prominent in the literature at least since Kuznets (1955), "What is the effect of economic growth on inequality?" and, because of the special focus on poverty in the United States, "What is the effect of economic growth on poverty?"

This paper is organized as follows. The next section discusses trends in the level and distribution of family income in the United States. It is followed by a section which analyzes the conceptual links between economic activity, inequality, and poverty and points out some factors that limit the inequality-reducing effects of economic growth. The paper then presents some empirical results which illustrate why the effects of economic growth today differ from those in the post-World War II era.

## II. TRENDS IN FAMILY INCOME INEQUALITY AND POVERTY IN THE UNITED STATES

To appreciate recent trends in family income inequality and poverty, it is useful to contrast this experience with that of the 1950s and 1960s. As the data in column 1 of Table 1 and Figure 1 reveal, median family income adjusted for inflation grew by about 40 percent between 1949 and 1959 and by about 40 percent between 1959 and 1969. Poverty, as officially measured, (column 2) dropped by about 10 percentage points and the income share of the bottom 40 percent of families (column 3 and Figure 2) increased by 0.8 percentage points during each decade. In fact, between 1949 and 1969, real year-to-year changes in the median (not shown) were positive 16 times, unchanged twice, and negative only once. The period since 1969, especially since 1974, is in marked contrast. Real median family income in 1985 was at about the same level as in 1969, poverty as officially measured was higher, and the income share of the bottom 40 percent was lower than at any time in the postwar era. Since 1969, there have been 8 positive year-to-year changes in the median, two years of no change, and 6 years of negative changes. And unemployment (column 4) throughout the 1980s has been high by historical standards.

Macroeconomic conditions since the early 1970s have refuted two key assumptions that guided antipoverty policy and views about economic growth and inequality. Conventional wisdom held that poverty could be alleviated against a background of healthy economic growth because the business cycle could be controlled. This was a reasonable assumption in the mid-1960s, as median family income growth had been positive for each year from 1958 to 1969. It was also believed that in an economy with low unemployment rates and with antidiscrimination policies and education and

Table 1

Family Income, Poverty, Inequality, Unemployment, and  
Government Transfers, Selected Years, 1949-1985

Year	Median Family Income (1985\$) (1)	Official Poverty Rate <sup>a</sup> (2)	Income Share of Bottom 40% of Families (3)	Unemployment Rate (4)	Cash Transfers Per Household (1985\$) (5)
1949	\$14,021	34.3% <sup>b</sup>	16.4%	5.9%	\$ 832
1954	16,678	27.3 <sup>b</sup>	16.6	5.5	1059
1959	19,993	22.4	17.2	5.5	1676
1964	22,783	19.0	17.1	5.2	2060
1969	27,680	12.1	18.0	3.5	2465
1974	28,145	11.2	17.5	5.6	3249
1979	29,029	11.7	16.8	5.8	3626
1985	27,735	14.0	15.5	7.2	3693

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60.

<sup>a</sup>Percentage of all persons living in units with income below the official poverty thresholds (see Appendix).

<sup>b</sup>Estimate based on unpublished tabulations from March Current Population Surveys by Gordon Fisher, U.S. Department of Health and Human Services.

Figure 1  
MEDIAN FAMILY INCOME  
(\$ 1967)

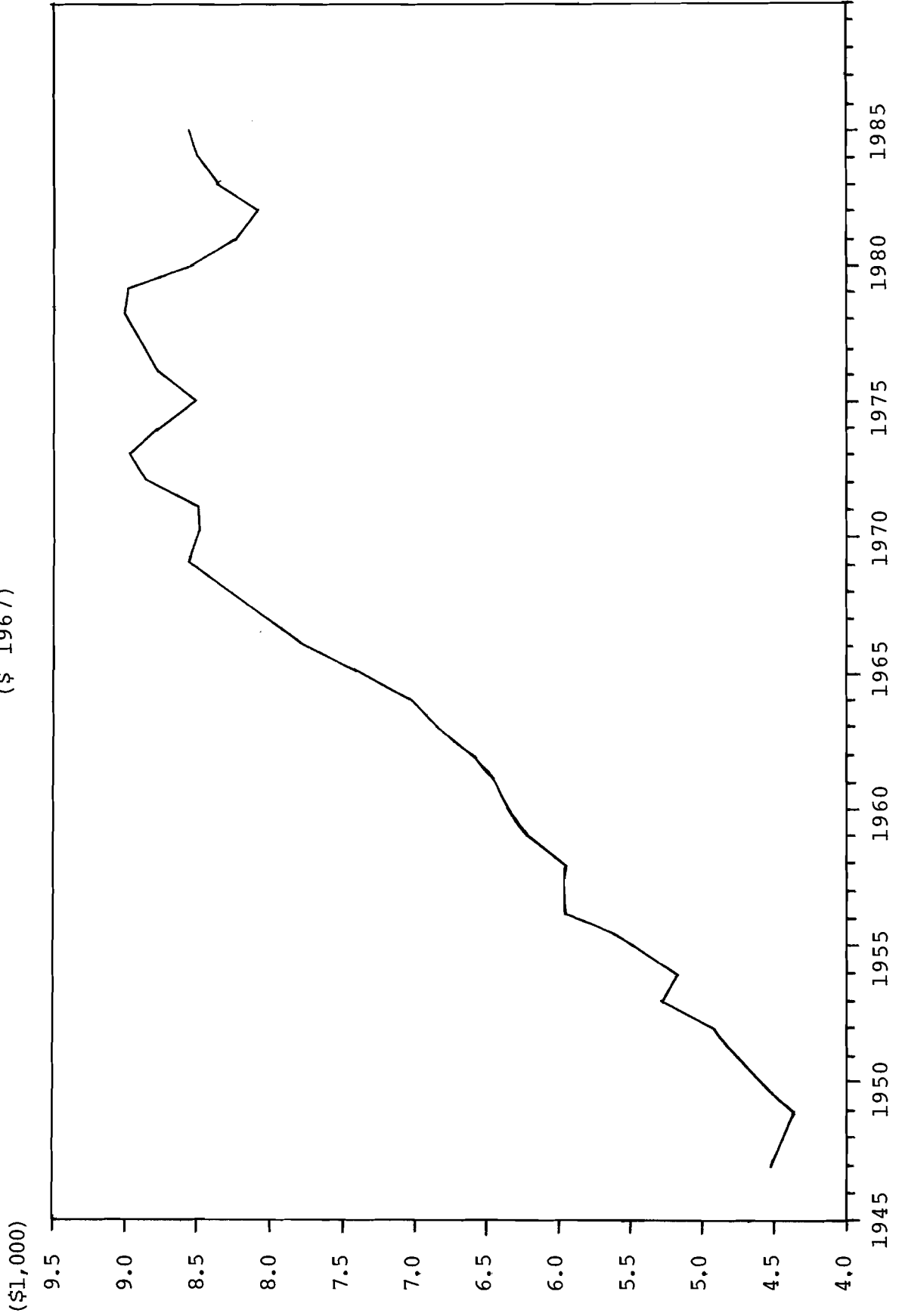
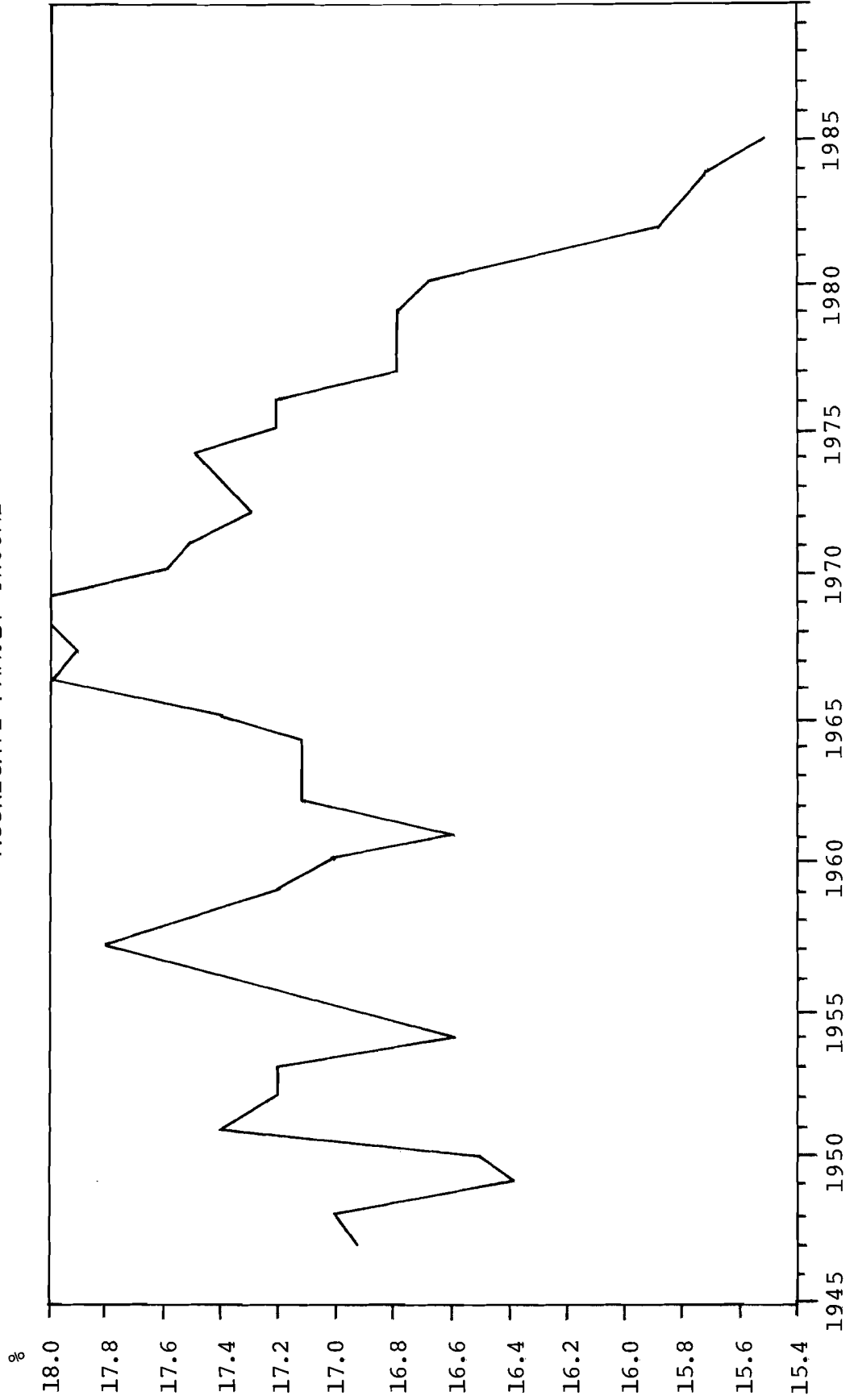




Figure 2  
SHARE OF BOTTOM 40 PERCENT OF  
AGGREGATE FAMILY INCOME



training programs in place, everyone--rich, poor, and middle class--would gain. At a minimum, it was expected that economic growth would be proportional and that all incomes would rise at about the same rate. At best, income growth for the poor would exceed the average rate, and poverty and inequality would continue to fall as they had in the prior decades.

Instead, despite the increase in government income transfer payments (column 5), poverty and inequality increased as growth faltered. But it would be incorrect to conclude from Table 1 that government transfers have been ineffective in reducing poverty and inequality. Most government transfers in the United States are targeted on the elderly, and, as the data in Table 2 indicate, the elderly experienced both an above-average income increase and a reduction in inequality during the period when aggregate income growth slowed. For the elderly, per capita income growth was fastest for the lowest quintile, and slowest for the top quintile. In contrast, the bottom quintile of households with children were actually worse off in 1985 than in 1967--their per capita income fell by 16.23 percent. Inequality among households with children increased, with the greatest income gains going to the highest quintile.

What are the underlying economic relationships among poverty and inequality, economic growth and government transfers? The simple story which emerges from this brief review of the data is that the early period of poverty and inequality reductions was due to strong economic growth, declining unemployment rates, and large increases in government transfers. All three factors contributed to decreasing poverty and inequality. The recent increases in poverty and inequality seem to result

Table 2  
Mean Per Capita Income of Quintiles of Households  
(1985 Dollars)

	1	2	3	4	5	Mean
<b>Nonelderly Families with Children</b>						
1967	\$2,070	\$4,348	\$6,054	\$8,172	\$13,680	\$6,864
1973	2,343	5,150	7,258	9,735	16,128	8,123
1985	1,734	4,529	7,096	10,139	17,784	8,256
% Δ 1967-1985	-16.23	+14.16	+17.21	+24.07	+30.00	+20.28
<b>Elderly (65+) Households</b>						
1967	1,954	3,623	5,200	7,987	18,889	7,531
1973	2,855	5,013	6,832	9,909	22,508	9,424
1985	3,455	5,799	8,243	12,198	25,852	11,110
% Δ 1967-1985	+76.82	+60.06	+58.52	+52.72	+36.86	+47.52
<b>Other Nonelderly Households</b>						
1967	3,231	8,260	12,075	16,637	28,402	13,721
1973	4,024	9,658	14,194	19,641	33,778	16,259
1985	3,624	9,342	14,326	20,433	36,743	16,894
% Δ 1967-1985	+12.16	+13.10	+18.64	+22.82	+29.37	+23.13
<b>All Households</b>						
1967	2,173	4,760	7,192	10,844	21,535	9,301
1973	2,744	5,951	8,774	13,121	26,674	11,453
1985	2,499	6,099	9,508	14,491	28,713	12,262
% Δ 1967-1985	+15.00	+28.13	+32.20	+33.63	+33.33	+31.84

Source: Computations by author from March Current Population Survey Computer tapes.

Note: Each household is counted once. Quintiles are computed separately for each demographic group for each year. These three categories are mutually exclusive. Price adjustment is via the Consumer Price Index.

from offsetting factors. The rise in unemployment rates and the slowdown in growth were partially offset by increases in government transfers. Nonelderly households that receive little in the way of government transfers and are most affected by market conditions fared much worse than elderly households that receive relatively large amounts of transfers and are mostly insulated from market conditions.

While the facts are clear, popular explanations for the disappointing economic performance abound. Let me merely list some of the factors that have been advocated as the primary causal factor by one or more analyst. My own view is that each has probably been important, but that we do not have enough evidence to carefully apportion the blame.

- **Demographic changes.** The baby-boom generation surged into the labor market, as did wives. The economy created many new jobs, but wage rates were often low. The ratio of female to male wages did not rise despite the occupational and experience gains by many women. Divorce rates increased as did the percentage of children born out of wedlock.
- **Oil price shocks.** These price changes first caused rapid inflation and severe economic dislocations in oil-importing areas of the nation; then, deflation and dislocation in oil-producing areas.
- **Changes in industrial structure.** Manufacturing employment declined; employment in service industries increased. International competition and an aging domestic capital stock both contributed to these changes.
- **Disincentives due to government programs.** Because government benefits increased at the same time employment opportunities decreased, some workers who would have taken low-wage jobs dropped out of the labor force and drew on government benefits instead.

Such simple stories, while plausible, ignore the inherent difficulty in separating the impact of demographics, changes in macroeconomic conditions, and growth in income transfers on poverty and inequality reduction. I now turn to a more rigorous attempt to account for changes in

the level and distribution of income. My approach does not deal with all of the factors just mentioned. Rather, I focus on the effects of macroeconomic activity.

### III. CONCEPTUAL LINKS BETWEEN ECONOMIC ACTIVITY, INEQUALITY AND POVERTY

The degree to which changes in economic activity affect the level and distribution of income depends crucially on the underlying economic process generating the change in economic activity. While declines in cyclical unemployment and economic growth both lead to increased economic activity, they have different impacts on inequality and poverty. Each reflects changes in conceptually different underlying processes which generate the income distribution.

Cyclical Unemployment. Changes in economic activity arising from reduced cyclical unemployment have two important features. First, the mean of the income distribution unambiguously increases when cyclical unemployment decreases. Not only is the sign unambiguous, but the annual rate of increase is very rapid compared to annual increases in the mean associated with economic growth. For example, real mean family income grew by 3.3 percent between 1983 and 1984 and by 2.6 percent between 1975 and 1976, two sets of years of strong cyclical recovery from recessions. By contrast, real median family income grew by only 4.9 percent over the entire decade between 1969 and 1979. Since these are two years of close to full employment, this increase primarily reflects economic growth.

Reductions in cyclical unemployment also reduce the spread of the income distribution, leading to further reduction of inequality and

poverty. The countercyclical change in the spread of the income distribution is consistent with economic theory. If employers share in the cost of training or screening, then they will find it to their advantage to institute a seniority-based layoff policy. The first to be laid off will be those in whom the firm has the least investment. These workers, who are either newly hired or working in firms which offer little training, are likely to be in the lower tail of the earnings distribution.

Thus, while there may still be substantial disagreement about the role of economic growth in reducing poverty, we know of no one who would seriously question the primary importance of tight labor markets in reducing poverty rates for persons able and willing to work. It is unambiguous that both the location and spread of the income distribution change in a poverty-reducing direction as a result of decreases in cyclical unemployment.

This discussion has emphasized increases in cyclical conditions. But, by definition, cycles are independent of the secular trend, and thus have a downside during which poverty and inequality increase. To the extent that economic policies can dampen the business cycle, they can moderate cyclical swings in poverty and inequality. But only secular changes can lead to permanent changes in the level and distribution of income.

Economic Growth. As long as the fruits of economic growth are taken in the form of higher income, economic growth will be accompanied by increases in the mean of the income distribution. However, poverty will not necessarily decrease if growth is accompanied by a sufficiently large, offsetting increase in inequality. Unfortunately the impact of

growth on inequality is not nearly as clear, either theoretically or empirically, as its impact on the mean of the distribution.

Growth and the distribution of income are the joint results of a complicated set of underlying economic processes, reflected in changes in supplies of and demands for factors of production. Arguments that inequality is necessary for growth or that growth necessarily reduces inequality ignore the process generating growth and inequality simultaneously. Any correlation between these two variables is likely to be spurious--it is not growth per se, but how that growth is achieved, which determines inequality.

Technological change and increases in the supply of labor or capital offer two routes to economic growth. They are, however, not on equal footing. Since the amount of labor or capital cannot be increased indefinitely, only technological change can offer a permanent increase in the rate of growth of output. The two also differ in the ways in which they affect the distribution of income.

Technological change may increase or decrease inequality. The initial impact of technological change is to alter the demands for labor and capital. This in turn changes prices, which may call forth a supply response as workers flow to those jobs for which demand and, hence, wages are greater.

While technological change may increase the demand for all skill classes, this is by no means necessary. The result may be an increase in both economic growth and poverty. For example, a labor-saving technological change may lower the demand for low-skilled workers. The resulting decrease in wages of those at the bottom of the distribution

will have two effects--some workers will drop out of the labor force, while others will be induced to gain skills in response to the drop in the relative wages of unskilled workers. Whether or not poverty increases depends on the relative magnitude of these two changes.

Since it is by no means simple for government to alter the rate and form of technological progress, public policy has tended to focus on the intermediate goal of increasing the quantity and quality of labor and capital. Inasmuch as taxes reduce the supply of labor and capital, government may be able to raise the rate of economic growth by undertaking policies which increase the return to savings, education, and work.

These policies will increase average incomes; however, it is not clear what effect increases in demands for labor and capital will have on the shape of the distribution. Again the result depends on the form of the policies. For example, incentives to increase the rate of capital formation may increase both growth and poverty. The increased demand for capital will be accompanied by an increase in demand for high-skilled workers and a decrease in demand for low-skilled workers if capital is complementary with high-skilled workers and substitutable for low-skilled workers. Poverty will increase unless the labor-upgrading response to the resulting increase in the wages for high-skilled workers more than offsets the decreased wages for those who remain unskilled.

Williamson and Lindert (1980) review the evidence offered by American economic history. They show that the correlation between economic growth and inequality is weak. The nineteenth century was marked by rapid increases in output and in inequality. However, in the first half of the



twentieth century a similarly rapid growth in output was accompanied by a trend toward income equalization. This demonstrates that simultaneous increases in output and inequality are more than a theoretical possibility, even in an industrialized country. In fact, some authors have suggested that the increased employment in "high-tech" industries in recent years has had similar effects.

There are at least two other factors which currently limit the inequality-reducing effects of economic growth in the United States. The first, the demographic composition of households, is likely to have similar effects in other advanced economies. The second arises from the fact the U.S. poverty line is fixed in real terms, so that the line falls as a percentage of real income.

Demographic Factors. While an improvement in macroconditions can raise the earnings of poor households with an able-bodied head, it alone cannot raise incomes or eliminate poverty for households whose heads have weak attachments to the labor force. There are simply too many low-income households that cannot benefit directly from improved labor market conditions.

For example, in 1979, the last cyclical peak, almost two-thirds of households defined as poor by the official definition were headed by a person who was elderly, a student, disabled, or a woman with a child under 6 years of age. Given today's social norms, these heads of household can be classified as not expected to work. Indeed, almost all of them did not work during this year of relatively low unemployment. While these families will not gain directly from growth, they may benefit indirectly if a portion of the increased tax revenues resulting from growth are distributed through antipoverty programs.

The proportion of poor households not expected to benefit from economic expansion is not only large, but growing. In 1939, when poverty rates were much higher, less than one-third of poor household heads were classified as not expected to work by this definition. From a purely demographic standpoint, it was easier to reduce poverty through growth of the economy in the 1940s and 1950s than it is today.\*

**Nonlinear Relationship between Growth and Poverty.** Another factor limiting the impact of growth on poverty is that poverty, as officially measured in the United States, is simply the cumulative distribution of income up to a fixed line. As long as this poverty line falls to the left of the mode (the location of the most frequently occurring values) of the income distribution, fewer and fewer people will be taken out of poverty as the distribution shifts to the right. This results from the decreasing density of the distribution as one moves away from the mode. For example, the poverty line for a family of four was almost 80 percent of mean family income in 1949, but only about 40 percent in 1985. Suppose that all incomes increased by 2 percent a year for several years. All those households with incomes within 2 percent of the poverty line would exit poverty in each successive year, but the number leaving poverty would diminish each year. Thus, even if there were no changes

---

\*This discussion is based on the assumption that demographic changes are exogenous. But if some portion of the demographic change is endogenous, then these conclusions must be modified. For example, some part of the increased tendency of the elderly to head their own households is due to their rapid income increases. Thus, rapid growth reduced poverty and inequality directly by raising incomes, but also led to offsetting changes that operated through increases in the total number of households. Similarly, slow growth in the recent period has contributed to rising poverty and inequality, but its effects have been mitigated by the increased labor force participation of wives and their resulting fertility declines, which were undoubtedly partially caused by the reduction in economic growth.

in the demographic composition of the poor or in the shape of the income distribution, there would still be diminishing returns to economic growth. Of course, measures of relative poverty and inequality are not affected by this factor.

In summary, the debate over the role of economic growth in reducing poverty has tended to lump all forms of increased economic activity together. We argue that the source of increased economic activity is crucial. Decreased cyclical unemployment unambiguously decreases poverty, but pure economic growth has an ambiguous impact. Since theory leaves us with this ambiguity, I now turn to some empirical tests.

#### IV. EMPIRICAL PATTERNS

Secular Growth.\* Using data from the Censuses of Population of 1950 through 1980, I first review the relationship between poverty and the location and shape of the income distribution. Since the effects of cyclical swings become less important over these ten-year periods, I interpret these changes in poverty as reflecting secular changes. Because 1969 and 1979 were both cyclical peaks, this interpretation is particularly appropriate for the last decade covered.

I analyze data for households headed by men aged 25 to 64. Relative to other households, they have the strongest attachment to the labor force and the smallest reliance on government transfers. They are, therefore, the group most likely to benefit directly from economic

---

\*This section is drawn from Danziger and Gottschalk (1986).

growth. A focus on prime-aged men also provides a rough correction for demographic change by excluding households headed by women, who have above-average poverty rates and represent an increasing proportion of all households.

Because the poverty line varies with family size, poverty will fall if family size declines, even if household income is constant, ceteris paribus. To control for the decline in family size that has occurred, I analyze the ratio of a household's income to its poverty line (the income-to-needs ratio).

The first three rows of Table 3 show the mean and log variance of the income-to-needs ratio and the official poverty rate in each of the Census years. The log variance is an inequality measure which is sensitive to changes in the lower tail of the distribution. Note, however, that it measures only one aspect of change in the shape of the distribution, since it does not reflect changes in other moments.

Rows 3 and 1 show that poverty declined when the mean increased and that the declines in poverty and the increases in the mean became successively smaller with each passing decade. At this superficial level, it seems that a rising tide was indeed lifting all boats. Such bivariate relationships do not, however, hold other factors constant.

The observed change in poverty over each decade is decomposed into one component associated with shifts in the mean (row 4), and another with changes in the shape (row 5). The following thought experiment illustrates this decomposition. First, suppose that every household experienced the average increase in income in relation to needs. There would be no change in inequality and, as the distribution shifted to the

Table 3

Secular Growth and the Trend in the Official (Posttransfer) Poverty  
Rates for Households Headed by Men Aged 25-64,  
Selected Years, 1949-1979

	Year			
	1949	1959	1969	1979
1. Mean income/needs <sup>a</sup>	1.600	2.408	3.330	3.789
2. Variance ln(income/needs) <sup>a</sup>	.738	.771	.627	.730
3. Poverty rate	33.1%	16.2%	7.7%	7.1%
Change in poverty rate due to: <sup>b</sup>				
4. Change in mean	--	-13.8%	-6.1%	-1.3%
5. Change in shape (inequality of income)	--	-3.1%	-2.4%	+0.7%
6. Percentage-point decline in poverty due to a one percent increase in the mean, holding inequality constant <sup>c</sup>	-0.77	-0.28	-0.12	-0.09

Source: Computations by author from computer tapes of the 1950, 1960, 1970 and 1980 Census of Population.

<sup>a</sup>Because the poverty lines are adjusted for changes in the Consumer Price Index (CPI), income/needs ratios are fixed in real terms. Poverty in 1949 is derived by adjusting the official lines back from 1959 using the CPI in the same way that they have been brought forward to the present.

<sup>b</sup>The percentage-point difference between the poverty rates over any decade equals the sum of rows 4 and 5 in the column for the latter year.

<sup>c</sup>Defined as the percentage point difference between the actual poverty rate in each year and a rate that results from increasing each household's income-to-needs ratio in the base year by 1 percent.

right, poverty would drop. The difference between the initial-year poverty rate and this simulated rate gives the change in poverty when inequality is held constant.

Second, the effects of changes in inequality are obtained by comparing this simulated distribution to the actual distribution in the later year. By construction, the means of the two distributions are the same. However, if the actual distribution is less equal than the simulated distribution, changes in the shape will have increased poverty. By definition, the actual change in poverty over the decade is the sum of these two partial effects.

Row 4 of Table 3 shows how poverty rates would have changed if all households had experienced the average growth in the income-to-needs ratio. A rising mean was the primary cause of the reduction in poverty over the thirty years. However, the antipoverty effect of growth in the mean decreased in each successive decade (row 4), primarily because of the falling rate of secular growth (row 1).

In addition, the antipoverty effect of growth declined because of the nonlinear relationship between growth and poverty. Row 6 shows the percentage-point decline in the poverty rate associated with a 1 percent increase in the mean, holding inequality constant. As poverty declined from 33.1 to 7.1 percent between 1949 and 1979, this measure of the anti-poverty effect declined from -0.77 to -0.09 percentage points. Thus, a given percentage increase in the mean removed a much smaller number of households from poverty as the poverty rate declined.\*

---

\*If a distribution is unimodal, a constant absolute increase in the mean will by definition yield a declining percentage point change in poverty. Row 6 shows that a constant percentage increase in the mean also has a declining impact. In fact, the elasticity--the percentage decline in poverty with respect to a constant percentage increase in the mean--also declines (data not shown).

Row 5 shows the impact of changes in inequality, holding the mean constant. The changes in poverty due to changes in inequality were much smaller than those due to growth in the mean (compare rows 4 and 5). However, between 1969 and 1979, two years of comparable unemployment rates, the change in the shape of the distribution was poverty-increasing, and offset roughly half of the poverty-decreasing effect of the rising mean.

Differences by Race and Region. What has happened in recent years? To answer this question, Table 4 presents a similar analysis using Current Population Survey data for the period 1969-1984 for households headed by white and black males in each of the four census regions. In this table, poverty is measured prior to the receipt of government transfers. During this period there were some very large mean income increases in some regions in some subperiods, as well as some income declines (see columns 1 and 4). For example, between 1969 and 1973, the mean income-to-needs ratio for blacks grew by almost 20 percent in the North Central and Southern regions, while the mean grew very slowly for blacks in the West. Between 1979 and 1984, real income declined significantly for whites and blacks in the North Central region and for blacks in the West.

The results of the thirty-year period are confirmed: when growth of the mean is rapid, ceteris paribus, poverty falls rapidly (columns 2 and 5). But in almost all cases, poverty-increasing changes in the shape of the distribution after 1969 were greater than the poverty-reducing changes in the mean. The only exception is for blacks in the South. Over the 1969-1979 period, income growth was so rapid there that it

Table 4

Simulated Percentage-Point Change in Pretransfer  
Poverty Rate Due to Changes in the Mean and Shape  
of the Distribution of Income/Needs<sup>a</sup>, Male  
Household Heads, Ages 25-64

Region	Whites			Blacks		
	Growth of Mean <sup>b</sup> (1)	Change in Poverty Due to Changes in: <sup>c</sup>		Growth of Mean <sup>b</sup> (4)	Change in Poverty Due to Changes in: <sup>c</sup>	
		Mean (2)	Shape (3)		Mean (5)	Shape (6)
<b>Northeast</b>						
1969-1973	8.7%	-0.59%	+0.80%	6.5%	-0.94%	+0.37%
1973-1979	2.3	-0.19	+1.75	-1.8	+0.68	+6.89
1979-1984	4.5	-0.36	+2.51	4.5	-0.34	+1.31
Total, 1969-1984	16.3	-1.14	+5.06	9.3	-0.60	+8.57
<b>North Central</b>						
1969-1973	10.2	-0.91	+0.99	21.0	-3.09	+3.20
1973-1979	2.8	-0.17	+0.98	2.3	-0.40	-0.38
1979-1984	-5.6	+0.57	+3.51	-5.9	+1.51	+9.43
Total, 1969-1984	6.9	-0.51	+5.48	16.5	-1.98	+12.25
<b>South</b>						
1969-1973	13.3	-1.71	+1.02	18.6	-6.43	+1.69
1973-1979	1.3	-0.11	+1.53	17.3	-6.01	+0.74
1979-1984	5.3	-0.77	+2.28	3.2	-0.50	+1.78
Total, 1969-1984	20.9	-2.59	+4.83	43.5	-12.94	+4.21
<b>West</b>						
1969-1973	6.7	-0.66	+1.49	2.6	-0.82	+5.96
1973-1979	3.5	-0.26	+0.47	11.3	-0.98	+3.00
1979-1984	-0.3	+0.08	+2.57	-8.5	+0.54	-0.65
Total, 1969-1984	10.1	-0.84	+4.53	4.5	-1.26	+8.31

<sup>a</sup>The percentage-point difference in the actual poverty rate over any period equals the sum of the columns "change in mean" and "change in shape."

<sup>b</sup>Defined as 100 times the later year mean of income/needs less initial year mean divided by initial year mean. Because the base is different for each subperiod, the total change for 1969-1984 does not equal the sum of the changes for the three subperiods.

<sup>c</sup>The actual changes in poverty between 1969 and 1984 by race and region were as follows. For whites, poverty increased from 4.91 to 8.83 percent in the Northeast; from 5.34 to 10.31 percent in the North Central region; from 9.58 to 11.82 percent in the South; and from 6.94 to 10.63 in the West. For blacks, poverty increased from 11.82 to 19.77 percent, from 12.39 to 22.66 percent, declined from 31.90 to 23.16 percent, and increased from 10.95 to 18.00 percent in these four regions.



offset the poverty-increasing changes in the shape. Note also that all 16 rows for whites (column 3) and 14 of 16 rows for blacks (column 6) have positive signs, indicating poverty-increasing changes in the shape. Again, this is in stark contrast to the poverty-reducing changes in the shape that characterized the 1949-1969 period (see row 5 of Table 3).

Black poverty has been somewhat more responsive to changes in the mean than has poverty among all persons because black poverty is at a higher level (i.e., because of the nonlinear relationship between growth and poverty) and because black incomes have grown somewhat faster than average.

Differences by Race and Sex. While the results in Tables 3 and 4 are based on a simulation methodology, Table 5 uses a more complex methodology to disentangle the antipoverty effects of market income and transfer income. The methodology, fully described in Gottschalk and Danziger (1985), focuses directly on the relationship between changes in poverty and changes in the joint distribution of market income and transfer income. Poverty is viewed as changing because of shifts in the level and distribution of each income source. These shifts can be described by changes in the means, variances, covariances, and higher-level moments of the distribution of market and government transfer income.

For expositional simplicity, changes in poverty for nonaged families with children are attributed in Table 5 to three factors: changes in mean market income, changes in mean transfer income, and changes in the shape of the distribution. The first row shows the actual percentage-point changes between 1968 and 1983 in poverty rates for the four family types. During this period poverty declined for nonwhites, but rose for whites.

Table 5

Decomposition of Official Poverty Rate for Nonaged White and  
Nonwhite Heads of Households with Children, 1968 to 1983

	Persons Living in Households Where Head Is:			
	Nonwhite		White	
	Male (1)	Female (2)	Male (3)	Female (4)
1. Actual percentage-point change in poverty <sup>a</sup>	-2.8	-2.5	3.8	3.6
Percentage-point change in poverty due to change in:				
2. Mean market income	-8.0	-6.7	-1.5	-0.5
3. Mean transfer income	-2.1	2.9	-0.5	2.7
4. Shape (inequality of income)	7.3	1.3	5.8	1.4

Source: Computations by authors. See Gottschalk and Danziger (1985) for discussion of methodology.

Note: In each column, the sum of rows 2, 3, and 4 equals the actual percentage-point change. The actual percentage-point change is the difference between the 1983 and 1968 poverty rate for each demographic group.

<sup>a</sup>Between 1968 and 1983, the official poverty rate declined from 23.4 to 20.6 percent for nonwhite males and from 65.8 to 63.3 percent for nonwhite females; the rate increased from 6.6 to 10.4 percent for white males and from 39.6 to 43.2 percent for white females.

Row 2 shows the impact of changes in mean market income on the poverty rate of each subgroup. Increases in mean market income were much more important for nonwhites--the poverty rates for nonwhite males and females would have decreased by 8.0 and 6.7 points, respectively, as a result of changes in mean market income. The corresponding figures for whites are only 1.5 and 0.5 points.

Row 3 shows the impact of income transfers. For females, the antipoverty effect of changes in transfers during this period is similar among whites and nonwhites. Both would have experienced an almost 3-percentage-point increase in poverty solely as a result of their reduced real cash transfers. For males, transfers rose over this period. The poverty-reducing impact of increased transfers is considerably higher for nonwhites (-2.1 points) than for whites (-0.5 points).

Row 4 shows the importance of increased inequality of income within each demographic group. Consistent with the results in Tables 3 and 4, these data show that increased inequality was important for all groups, but especially important among both nonwhite and white men. Since income transfer growth for the nonelderly has been virtually halted in the United States by the budgetary retrenchment of the 1980s, it is unlikely that transfers can offset the tendency toward inequality that has accompanied the slower economic growth of recent years.

#### IV. SUMMARY

I have emphasized that there are limits to the antipoverty and inequality-reducing effects of improved economic conditions in an

advanced economy like that of the United States. First, because only about a third of poor households have heads who are expected to work, most poor households will not benefit directly from improved labor market conditions. Nonetheless, even when the empirical work focused only on those most likely to be affected by changes in macroconditions (Tables 3 and 4), it was shown that the effects of a rising mean have been offset by increases in inequality during the 1970s and 1980s. These inequality increases have been well-documented, but their causes have not been fully understood.

Economic growth has been the primary source of poverty reduction in the past. However, in the absence of an unexpected increase in the rate of economic growth or an unforeseen change in patterns of inequality or in the growth of government transfers, it seems unlikely that growth will substantially reduce poverty or inequality in the near future. The discussion of policy changes that might affect the income distribution--tax policy, industrial policy, education policy--is beyond the scope of this paper.

**APPENDIX:****THE MEASUREMENT OF POVERTY IN THE UNITED STATES**

The federal government's official measure of poverty provides a set of income cutoffs adjusted for household size, the age of the head of the household, and the number of children under age 18. (Until 1981, sex of the head and farm-nonfarm residence were other distinctions.) The cutoffs provide an absolute measure of poverty that specifies in dollar terms minimally decent levels of consumption. For 1985, the lines ranged from \$5156 for a single aged person to \$22,083 for a household of nine or more persons. The threshold for a family of four was \$10,809.

The official income concept--current money income received during the calendar year--is defined as the sum of money wages and salaries, net income from self-employment, Social Security income and cash transfers from other government programs, property income (e.g., interest, dividends, net rental income), and other forms of cash income (e.g., private pensions, alimony). Current money income does not include capital gains, imputed rents, government or private benefits in kind (e.g., food stamps, Medicare benefits, employer-provided health insurance) nor does it subtract taxes, although all of these affect a household's level of consumption.

The official poverty cutoffs (see Appendix Table A) are updated yearly by an amount corresponding to the change in the Consumer Price Index (CPI) so that they represent the same purchasing power each year. According to this absolute standard, poverty will be eliminated when the incomes of all households exceed the poverty lines, regardless of what is happening to average household income.

Appendix Table A

Official Poverty Line Compared to Median Family Income, Selected Years, 1949-1985

Year	Poverty Line for a Nonfarm Family of Four <sup>a</sup> (1)	Median Family Income <sup>b</sup> (2)	Ratio of Poverty Line to Median Family Income (3)	Consumer Price Index (1967 = 100) (4)	CPI-X (1967 = 100) (5)
1949	\$2417	\$3107	.78	71.4	71.4
1959	2973	5417	.55	87.3	87.3
1964	3169	6569	.48	92.9	92.9
1969	3743	9433	.40	109.8	108.3
1974	5038	12,902	.39	147.7	142.8
1979	7412	19,587	.38	217.7	203.6
1985	10,989	27,735	.40	322.7	293.1

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, various issues.

<sup>a</sup>Current Dollars; the farm/non-farm distinction was eliminated in 1981. The official series only goes back as far as 1959. The 1949 poverty line is derived by extrapolating back from 1959 with the Consumer Price Index in the same way that it has been brought forward from 1959 to the present.

<sup>b</sup>Current Dollars; unrelated individuals are not included in this median.

Income poverty is a complex concept, and different types of poverty thresholds and income concepts are appropriate for different purposes. An absolute perspective, such as the official U.S. measure, focuses on those with incomes that fall short of a minimum (fixed) level of economic resources. On the other hand, relative indicators emphasize not only the household's own level of resources, but how its position compares to that of others. A relative definition draws attention to the degree of inequality at the lower end of the income distribution. Those whose incomes fall well below the prevailing average in their society are regarded as poor, no matter what their absolute incomes may be. A relative poverty threshold, therefore, changes at about the same rate as average income. One common proposal defines the poor as those with less than half of the median income.

Column 3 of Appendix Table A suggests how the official poverty line would vary if it were to be adjusted for changes in median family income rather than prices. In 1965, the official line for a four-person family was 46 percent of the median. In 1986, 46 percent of the median would have been meant a poverty line of \$13,551 for a family of four rather than \$11,203.

On the other hand, problems with the Consumer Price Index (CPI) during the 1970s suggest that the official lines would now be lower if they had been "more appropriately" adjusted for price changes. Until 1981, the CPI reflected the costs of purchasing a home in such a way that changes in prices faced by the poor, who typically do not purchase homes, were overstated. The CPI-X series shown in column 5 of Appendix Table A shows the price changes that would have been used to update the poverty

line if the post-1981 CPI had been in effect since 1965. Multiplying the official line by the ratio of the column (5) index to the column (4) index yields a 1986 line of \$10,176.

Appendix Table B shows the trend in poverty for all persons for selected years from 1967 to 1985. Because the CPI-X rose less than the CPI, the CPI-X poverty lines and poverty rates are below the official rates for all years after 1967. Similarly, because the relative poverty measure is a constant percentage of median family income whereas the official line falls as a percentage of the median, the official rates are below the relative rates. Since the official line is roughly midway between these two alternative lines, I conclude that it provides a reasonable benchmark.



## Appendix Table B

## Trends in Poverty Among All Persons, Selected Years, 1967-1985

Year	Official Measure (1)	Official Measure with CPI-X Adjustment (2)	Relative Measure (3) <sup>a</sup>
1967	14.3%	14.3%	n.a.
1972	11.9	11.4	15.7%
1977	11.6	10.7	15.5
1982	15.0	13.2	17.8
1985	14.0	12.3	18.0

<sup>a</sup>Defined as 44 percent of the ratio of (family income/poverty line) in each year. See Plotnick and Skidmore (1975) for details.

### References

- Bradbury, Katherine L. 1986. "The Shrinking Middle Class." New England Economic Review, September/October, pp. 41-55.
- Brady, Dorothy S. 1951. "Research on the Size Distribution of Income." In Conference on Research in Income and Wealth, pp. 2-55. National Bureau of Economic Research Studies in Income and Wealth, vol. 13. New York: National Bureau of Economic Research.
- Browning, Edgar. 1976. "How Much More Equality Can We Afford?" Public Interest, Number 43, pp. 90-110.
- Danziger, Sheldon, and Gottschalk, Peter. 1985. "The Impact of Budget Cuts and Economic Conditions on Poverty." Journal of Policy Analysis and Management, 4 (Summer), 586-593.
- Danziger, Sheldon, and Gottschalk, Peter. 1986. "Do Rising Tides Lift All Boats? The Impact of Secular and Cyclical Changes on Poverty." American Economic Review, 76 (May), 405-410.
- Dooley, Martin, and Gottschalk, Peter. 1984. "Earnings Inequality among Males in the United States: Trends and the Effect of Labor Force Growth." Journal of Political Economy (January), 59-89.
- Gottschalk, Peter, and Danziger, Sheldon. 1985. "A Framework for Evaluating the Effects of Economic Growth and Transfers on Poverty." American Economic Review, 74 (March), 153-161.
- Kuznets, Simon. 1955. "Economic Growth and Income Inequality." American Economic Review, 45 (March), 1-28.
- Plotnick, Robert, and Skidmore, Felicity. 1975. Progress against Poverty: A Review of the 1964-1974 Decade. New York: Academic Press.

Reynolds, Morgan, and Smolensky, Eugene. 1978. "The Fading Effect of Government on Inequality." Challenge, July/August.

Thurow, Lester. 1987. "A Surge in Inequality." Scientific American, 256 (May), 30-37.

Williamson, Jeffrey and Lindert, Peter. 1980. American Inequality: A Macroeconomic History. New York: Academic Press.

Wilson, William Julius. 1985. "Cycles of Deprivation and the Underclass Debate." Social Service Review, 59 (December), 541-559.