Institute for Research on Poverty
Discussion Paper no. 1166-98

The Twentieth Century Record of Inequality and Poverty in the United States

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July 1998

This research was partly supported by the Institute of Business and Economic Research of the University of California at Berkeley and the Public Policy Institute of California. We thank Deborah Reed for her comments.

Abstract

When the twentieth century is viewed as a whole, no clear trend in income inequality emerges. Inequality was high and rising during the first three decades and peaked during the Depression. It fell sharply during World War II and remained at the lower level in the 1950s and 1960s. From the 1970s through the mid-1990s inequality steadily increased to levels not seen since World War II, though well below those during the first three decades.

The rate of poverty exhibited a long-run downward trend from about 60–70 percent in the earlier years of the century to the 12–14 percent range in recent years, with considerable fluctuation around this secular trend.

Changes in inequality were produced largely by demographic and technological changes, the growth and decline of various industries, changes in patterns of international trade, cyclical unemployment, and World War II. The primary drivers of the rate of poverty were economic growth and factors that produced changes in income inequality, particularly demographic change and unemployment.

Public policy has reduced the market-generated level of inequality, but since 1950 has had little effect on the trend in inequality. Prior to 1950, the growth of government, and particularly the introduction of a broadly based income tax during World War II, coincided with and partly produced the sharp downward shift in inequality of that era. Government had little effect on poverty rates until 1950. Public income transfer programs have reduced poverty rates appreciably in recent decades. Since World War II, when they have been on a large enough scale to matter, changes in tax and transfer policy have tended to reinforce market-generated trends in inequality and poverty rather than offset them.

The Twentieth Century Record of Inequality and Poverty in the United States

> The recent history of Western nations reveals an increasingly widespread adoption of the idea that substantial equality of social and economic conditions among individuals is a good thing. The roots of egalitarian thought are deep in Western civilization.
>
> —Robert Lampman, *Ends and Means of Reducing Income Poverty,* 1971

INTRODUCTION

The beginning of the twentieth century saw an unusually high level of interest in the economic well-being of the working poor. The Bureau of Labor Statistics in Washington, DC, the Statistics Bureau in Massachusetts, and the Heller Commission in San Francisco were doing the first quantitative studies of U.S. workers' living standards. Robert Hunter, inspired by Europeans such as Booth, Rowntree, and Engel, was soon to give us the first important sociological study of poverty. The upper end of the income distribution was the object of no less scrutiny, as the Progressives fixed their attention on the monopolies and the new class of rich industrialists and professionals, who, they believed, wielded disproportionate political and economic power.

As the century draws to a close, there is renewed attention to these same issues. After two decades without economic progress for the working class, accompanied by highly visible accumulations of financial wealth by the top 1 percent, the routine publication of an income distribution report by the Census Bureau or a Congressional committee has turned into a political event. Article upon article detailing the recent rise in inequality must make it seem unprecedented to all but the most knowledgeable specialists. In fact, with regard to inequality at least, we are probably replaying the statistical record of a century ago.

While Robert Lampman is undoubtedly correct that "The egalitarian question is different for every generation" (1957, p. 235), inequality in the distribution of income and wealth and special concern for the welfare of persons in the lower tail of those distributions are persistent claimants of attention

from citizens, statesmen, and scholars. Since the emergence of capitalism and the beginnings of economics as a discipline, the distribution of well-being has contended with the sources of economic growth for primacy of attention. Although many lament the consequences for growth that concern with equality may generate, this concern will not go away. Equality and fairness are as closely linked in our minds as growth and progress.

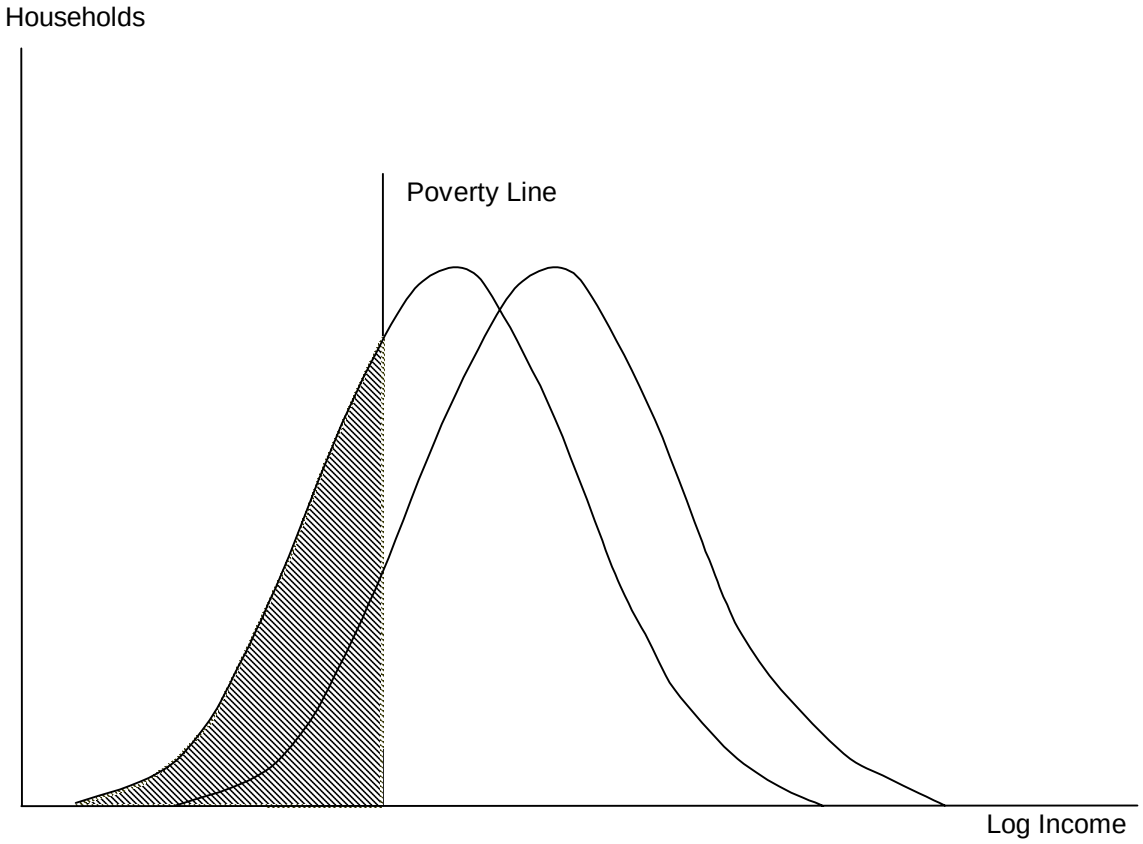
In this article, the "poverty rate" (or "incidence of poverty") measures the proportion of the population with incomes below a particular level fixed in real terms—a poverty line or poverty threshold. "Inequality" refers to the way income is distributed among the whole population. Income is typically before-tax cash receipts including cash transfers and excluding capital gains.

While poverty and inequality may be highly correlated over a short period, they are distinct concepts. Figure 1 illustrates the distinction. A measure of income inequality characterizes the shape of the depicted distribution. The poverty rate corresponds to the area under the curve to the left of the poverty threshold. If the shape of the distribution is invariant, that is, if inequality does not change, the poverty rate would nevertheless fall as economic growth shifted the distribution rightward. This is the story, in gross terms, of the past century: While there has been no clear overall trend in inequality, or in the distribution of economic well-being, the average level of well-being has risen and the poverty rate has declined.

That we do not observe a clear overall trend in inequality should not lead us to conclude that nothing happened during the course of the century to affect inequality. The literature suggests that wars, economic growth, business cycles, technological advances, demographic changes, the opening of the economy, and changes in public policy have altered the shape of the U.S. income distribution during the twentieth century. The same forces, though with different relative importance, are also the main drivers of the long-run decline in poverty and of fluctuations around this trend. Public policy has both shaped and been shaped by the historical record. Since World War II, when the fisc has been large enough to

Figure 1

Income Growth and Poverty Reduction, Inequality Unchanged



matter, public policy has reduced poverty and inequality in each year. Policy changes over time, however, have tended to reinforce market-generated trends in inequality and poverty rather than offset them. These conclusions are, on the whole, robust to alternative ways of measuring inequality and poverty.

The historical analysis of both inequality and poverty is complicated by the lack of long, strictly comparable time series for both social indicators. Rather than reviewing the twentieth century in chronological order, we put our best foot forward by beginning with the most recent period and working back. The past third of a century has the most data and has been the most intensively studied. We do not have the same wealth of information about the preceding two decades, and the raw data are much harder to work with, but we do have some series from 1947 to the present. For the years before World War II we must rely on a hodgepodge of indicators, of which only a few are available in very long or complete series.

THE RECORD OF INCOME INEQUALITY

When the century is viewed as a whole, despite the uncertainty surrounding the data prior to 1947, we think it safe to say that inequality was greater in the first three decades than in any period since. The 1950s and 1960s were the decades of least inequality. From the 1970s through the mid-1990s inequality steadily increased to levels not seen since World War II ended, with no sign, as of this writing, that it has peaked.

Twenty years ago many economists would have agreed that U.S. experience was confirming Simon Kuznets's (1955) conjecture that inequality increases in the early stages of economic development and decreases later. This was easy to believe. Inequality had declined significantly from the Great Depression until 1970, and though it rose during the 1970s, the rise was slight in comparison to the

decline during the preceding three decades. The 1980s, when inequality rose sharply, now make it harder to accept unreservedly Kuznets's "inverted U" hypothesis.

Inequality since 1947

Fifteen years ago the conventional wisdom among economists was that income inequality had been basically constant since World War II.[1] Researchers mostly studied the short-term cyclical behavior of the income distribution rather than the long-term trend. Articles written in the 1960s and 1970s took different approaches, but all this postwar research came to a similar conclusion: Inequality declines in good times and rises in bad.[2] In the 1980s and 1990s, however, though inequality still rose during recessions, it failed to fall in recoveries (Danziger and Gottschalk, 1995).

Unemployment and inflation rates, the variables most often used to characterize U.S. economic fluctuations, are both correlated with almost any measure of inequality: inflation negatively and unemployment positively. When we modeled inequality from 1947 to 1995 as a function of these short-term, business-cycle variables and a long-term trend, we found, as have Blank and Blinder (1986) and others, that inequality is more sensitive to unemployment than inflation.[3]

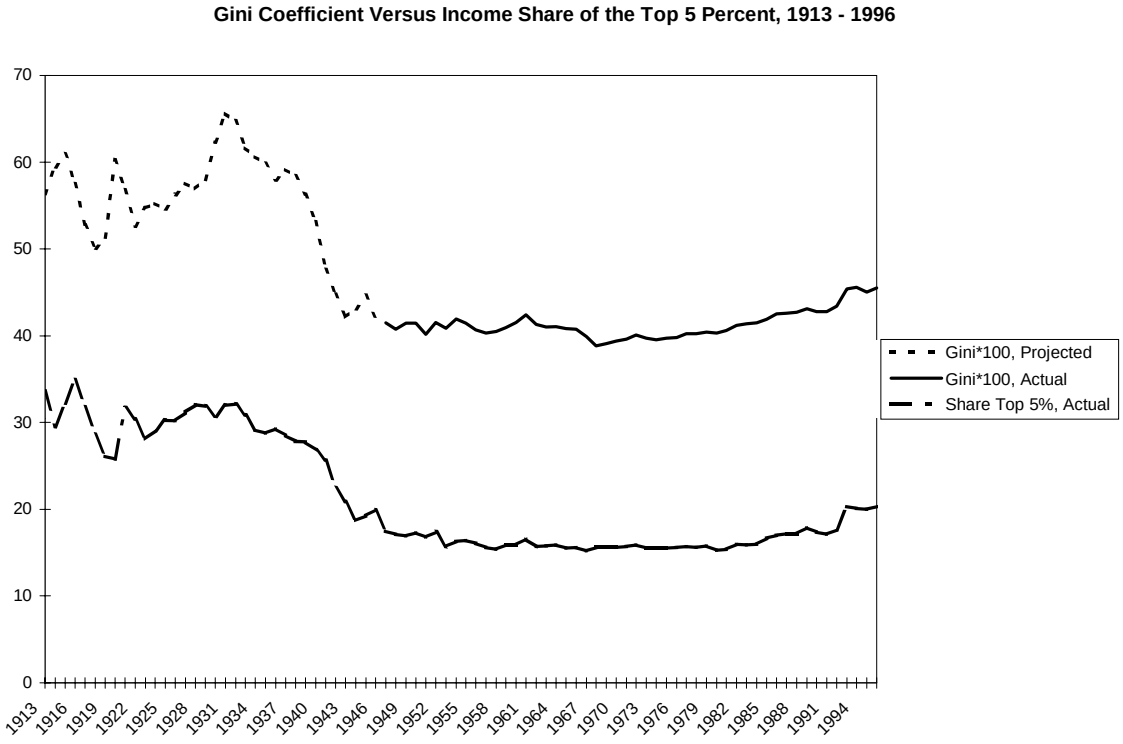
Our simple regression analysis also suggested that, net of cyclical factors, the postwar secular trend in inequality falls into two separate periods. From 1947 until 1967 or thereabouts, there was a downward secular trend in inequality. After 1967, and especially after 1979, the trend reversed. This pattern holds for several different inequality measures. For household income, Figure 2 shows the Gini coefficient during the postwar period (exact figures are in Appendix D). The increase in the Gini

[1]See Blinder (1980), for example.

[2]Some examples of this literature are Metcalf (1969), Thurow (1970), Beach (1977), and Blinder and Esaki (1978).

[3]Appendix A discusses the regression analysis in greater detail.

Figure 2


Gini Coefficient Versus Income Share of the Top 5 Percent, 1913 - 1996
70
60
50
40
30
20
10
0
1913
1916
1919
1922
1925
1928
1931
1934
1937
1940
1943
1946
1949
1952
1955
1958
1961
1964
1967
1970
1973
1976
1979
1982
1985
1988
1991
1994
Gini*100, Projected
Gini*100, Actual
Share Top 5%, Actual

coefficient from 0.388 in 1968 to 0.455 in 1996 is equivalent to altering the 1968 income distribution by transferring $4,885 (in 1996 dollars) from each household below the median to each household above it.[4]

The rise in inequality during the past two decades and particularly during the 1980s sparked renewed interest in the longer-term behavior of the U.S. income distribution. Most studies examine the period since 1963, the first year for which the U.S. Census Bureau provides microdata files of the March Current Population Survey (CPS). The March CPS provides demographic and income information about samples of 50,000 to 60,000 households. Initially, most researchers investigated whether inequality was in fact increasing. Many studies using a variety of techniques have documented this rise. We report the findings of Karoly (1993) and Gottschalk (1997).[5]

Karoly analyzes "adjusted family income" (family income divided by the official poverty line) and finds that, between 1963 and 1988, inequality increased among families as well as among all persons (with each person assigned his family's adjusted income). Gottschalk (1997) suggests that this trend continued to 1995. Among persons, adjusted family incomes in the lower tail of the distribution rose more slowly than median adjusted family income, while those in the upper tail rose more rapidly. Adjusted income at the 10th percentile, for example, was 25 percent lower relative to the median in 1988 than in 1967. Adjusted income at the 90th percentile was 10 percent higher. Among all persons, inequality began increasing in 1967; among families, in 1977. For both families and persons, dispersion increased first in the lower tail of the distribution and later spread to the upper tail.

Among workers, earnings inequality appears to have been level between 1963 and 1979, and then to have begun to increase. Underlying this overall pattern were different trends for men and women.

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[4]This calculation uses the formula in Blackburn (1989).

[5]Karoly's unusually thorough work demonstrates that the reported rise in inequality is not merely an artifact of a particular choice of measure, summarizes some of the commonly cited studies of U.S. income inequality, and resolves many of their seemingly conflicting conclusions.

Inequality among working men increased through most of the 1963–1994 period. Among working women it fell until 1980 and then began to rise.

Gottschalk and Moffitt (1994) point out that most researchers' inequality measures confound permanent and transitory shifts in earnings. In cross section, transitory changes in individuals' earnings create the appearance of inequality. Gottschalk and Moffitt decompose changes in individuals' earnings over time into permanent and transitory components and conclude that "increased short-term fluctuations in earnings are roughly as important as increased dispersion of permanent (or average) earnings in accounting for increased inequality (p. 253)."

Inequality from 1900 to 1946

For the first half of the century, income distribution data are much sparser. One must rely on a collage of partial indicators. We nonetheless have some confidence in our account of inequality because the diverse time series tell a fairly consistent story. Williamson and Lindert (1980) provide the most comprehensive survey of the time series on U.S. income inequality during the relevant period.[6] For the period 1900–1947 the main series they present are estimates of the share of national income going to the richest 1 percent and the richest 5 percent of taxpayers, indices of inequality *among* the richest taxpayers, and various skilled/unskilled wage ratios.[7] Many of these series are based on income tax data, and so begin in 1913, when a federal income tax was re-instituted. The picture is less clear prior to 1913.

The chronology of income inequality suggested by this assortment of time series is as follows. From the turn of the century until World War I, inequality was higher than in the latter half of the century. The war had a brief equalizing effect. Starting about 1920, inequality began to rise, reaching its pre-World War I level by 1929. From 1929 through 1951, inequality fell substantially. The share of

[6]Lindert has since extended the record in the U.S. back three centuries and compared it to that of Britain over the same period (Lindert, forthcoming).

[7]The principal source for data on income shares of the top 1 and 5 percent is Kuznets (1953).

income going to the top 1 percent of families fell from 15 to around 8 percent, and the share of the top 5 percent of families fell from 32 to about 20 percent.[8] Perhaps it was this remarkable decline first measured by Kuznets that prompted his conjecture that incomes become more equal late in the process of economic development. Arthur Burns hailed the decline as "one of the great social revolutions of history" (cited in Williamson and Lindert, p. 83).

A minority of economists disputes the 1929–1951 "income revolution" altogether, arguing that the apparent decline in inequality merely reflects more skillful tax avoidance by the rich, or citing income distribution statistics that suggest income was not much more evenly distributed in 1951 than in 1910.[9] Williamson and Lindert (pp. 86–92) address both issues. They conclude that, even if the rich had significantly improved their ability to avoid taxation, more than half of the observed decline in inequality between 1929 and 1951 would remain to be explained. They also question the early statistics used by those who claim that inequality fell little between 1910 and the early 1950s.

The evidence assembled by Williamson and Lindert makes a strong case that, by 1951, inequality had fallen well below its 1929 level. What is debatable is exactly when the upward trend that began shortly after World War I reversed. Measures of inequality computed from income tax returns show the reversal started in 1929. But such measures reflect change only in the uppermost tail of the income distribution. They may not be sensitive to unemployment, which more strongly affects the lower tail and middle of the distribution.

To see how considering unemployment changes the chronology, we first examine the years 1947–1995. The comparatively rich data for this period permit the calculation of summary measures of inequality such as the Gini coefficient. Suppose the relationship among the Gini coefficient, the

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[8]These figures are based on the work of Kuznets (1953), which ranked taxpaying units by income *per person*.

[9]See, for example, Bronfenbrenner (1978) on the first issue and Heilbroner (1974) on the second.

unemployment rate, and the income share of the top 5 percent has been stable during the twentieth century. Then by estimating that relationship for 1947–1995 and projecting it backward, we can obtain Gini coefficients for the first half of the century.[10] The principal difference between our projected series and the picture given by the usual indicator—the share of the top 1 or 5 percent—is that the projected Gini coefficient *rises* sharply after 1929 to its peak in the early 1930s and does not return to its 1929 level until 1939 (see Figure 2). After 1940 it falls rapidly to the post-World War II levels observed in CPS data.

The slightly modified chronology shows that the century's peak of inequality appeared not in 1913 or 1916 but at the depth of the Great Depression, when a record number of people were unemployed. It also suggests that inequality did not begin to fall with the 1929 Wall Street crash but a few years later. Unlike the standard series, it does not present the awkward puzzle of why inequality should fall more or less steadily throughout both a severe depression and a war-induced boom. Thus, the modified series is more consistent with what we have learned from postwar data about major drivers of income inequality and may more accurately portray the earlier record.[11]

Whatever the precise timing, a substantial decline in inequality took place by midcentury. Much and maybe most of the decrease took place during World War II. One can sum up the chronology of income inequality during the twentieth century as follows. Inequality was high and rising during the first three decades and peaked during the Depression. It fell sharply during World War II and remained at the lower level in the 1950s and 1960s. From the 1970s through the mid-1990s inequality increased steadily

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[10]Appendix B summarizes the regression analysis.

[11]According to Williamson and Lindert (1980), the share of income going to the top 5 percent of *employees* peaked at the height of the Depression and returned to its 1929 level in 1940. This suggests that 1929 and 1940 were similar in terms of inequality and is consistent with the modified chronology. Williamson and Lindert also report skilled/unskilled wage ratios, which partially reflect change in the lower end of the income distribution. Like their other measures of inequality, these ratios decline after 1929. This suggests that inequality declined throughout the Depression. But such ratios ignore the unemployed. The high unemployment of the 1930s implies that wage ratios understate inequality during those years.

to levels not seen since World War II, though well below those during the first three decades. Whether inequality will return to those higher levels remains to be seen.

WHAT FACTORS UNDERLIE THE RECORD OF INCOME INEQUALITY?

Explaining changes in measured income inequality is an even more uncertain enterprise than identifying them. No single factor has governed the evolution of inequality. Because it is impossible to confidently assign causality to the many factors affecting inequality, the story becomes one of identifying correlations between the movement of inequality and movements of other economic and social variables.

Income is primarily composed of earnings and transfers. We turn first to earnings. We will simplify matters by discussing labor supply and labor demand effects as though they are always separable. Over time, labor supply and demand respond to each other, and the response of one moderates the wage change resulting from a shift in the other. We will also mute the distinction between permanent and transitory earnings. Gottschalk and Moffitt (1994) point out that supply- and demand-based arguments address shifts in permanent earnings only and do not explain the inequality created by instability in individuals' earnings.[12]

This section discusses the four basic social and economic factors that have changed earnings inequality by shifting labor supply and labor demand: demography, technology, international trade, and war. Demographic and technological changes have acted throughout the century. International trade has mattered only during the past 20 years. Wars have acted even more briefly, though perhaps with lasting effect, on the income distribution.

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[12]They report that increased instability in earnings accounts for roughly half the increase in inequality in recent years.

Labor Supply

A major component of the rise in earnings inequality since 1967 has been increasing inequality in wage rates. Topel (1997), for example, finds that the wage differential between skilled and unskilled workers, as measured by the ratio of the wage at the 90th percentile to the wage at the 10th percentile among male workers, increased by a "startling 49 percent" between 1969 and 1995. Over two-thirds of this increase was attributable to the decline in real wages among those in the 10th percentile.

Changes in the relative supply of skilled workers have recently received attention as a principal determinant of rising wage rate and earnings inequality. The difficulty of measuring skill has led many researchers to use education and work experience as proxies for it.[13] New members of the labor force typically have less experience than average. If experience proxies for skill, rapid labor force growth increases the relative supply of less-skilled workers. In response the skilled/unskilled wage gap increases. Williamson and Lindert (1980, Figure 9.1) show such a relationship for the 1900–1973 period. A larger skilled-wage premium, in turn, increases earnings and income inequality.[14]

Changes in the "college premium" (the annual earnings differential between college-educated workers and workers with only high school education) are correlated with changes in the relative supply of college graduates. The baby boomers began to enter the labor force in 1967. Between 1971 and 1979 the number of 25- to 34-year-old male college graduates increased by 90 percent while the number of high-school-only men of the same age increased by only 19 percent. For women, the analogous numbers were 159 percent and 44 percent (Levy and Murnane, 1992). This sharp increase in the relative supply of college graduates was accompanied by a decline in the annual college premium from 22 to 13 percent for

[13]Katz and Revenga (1989) is an example. See Levy and Murnane (1992) for a survey of work in this area.

[14]A rise in the growth rate of the labor force reduces wages relative to land rents and the returns from capital. Because wages are more evenly distributed than these other types of income, a further increase in income inequality ensues.

young men and from 40 to 21 percent for young women. During the same period the return to experience rose.

During the 1980s this trend reversed. The supply of young college graduates grew more slowly than the supply of high school graduates, and the college premium climbed from 13 to 38 percent for young men and from 21 to 45 percent for young women. By 1993 the college premium had risen to 53 percent for college graduates (Gottschalk, 1997). The college premium also rose among older workers. This makes it hard to accept the thesis that the rise in the college premium during the 1980s reflects the deterioration of America's primary and secondary schools during the 1970s. The return to experience rose as well and reached historically high levels before leveling off during the 1990s (Gottschalk, 1997).

Increased immigration of relatively low-skill workers (legal or not) since the 1970s is a second important demographic factor and a major suspect in the fall of earnings at the lower end of the distribution.[15] The magnitude of adverse wage impacts on natives depends on the size of immigrant flows as well as on the ease with which immigrants can substitute for natives in production. Empirical studies suggest that immigration's wage impact can account for at most a quarter of the rise in inequality during the 1980s, but the true effect is probably much smaller (Friedberg and Hunt, 1995; Topel, 1997).

The 1950s and early 1960s saw a rapid increase in the supply of college graduates, which might have been expected to reduce inequality. Yet in these years inequality was basically stable. As Williamson and Lindert (1980) point out, however, the labor force participation of women increased steadily during the postwar years. The combination of sex discrimination and limited labor force experience meant that most of these women were competing for relatively poorly paid jobs. By further

[15]This has not always been the expected effect of immigration. During the first half of the nineteenth century, immigrants to the United States were generally as skilled as earlier settlers. But during the twentieth century, most immigrants have been less skilled. In 1980, for example, 30 percent of native-born Americans had less than a high-school education, compared to 47 percent of immigrants (Borjas, Freeman, and Katz, 1992).

depressing already low wages, the entry of women worked against the leveling effect of increased schooling.

It should be emphasized that the growth of average education levels across age cohorts and the increased labor force participation of women only partly explain changes in earnings inequality. Recent studies find that one-half to two-thirds of the recent rise in inequality is due to increased inequality *within* the groups defined by age, education, and experience. Levy and Murnane (1992) suggest that the increase in within-group inequality is due to demand rather than supply factors.

Labor Demand

Changes in earnings inequality can also be linked to changed patterns of labor demand. In recent years, demand for skilled labor has increased more rapidly than demand for unskilled labor (Johnson, 1997). Moreover, the dispersion of skill requirements, as measured by changes in the mix of occupations, increased in manufacturing. These findings are consistent with the fact that wage inequality has risen more in manufacturing than in services.

Rising skill requirements are only a proximate cause of higher earnings inequality. One factor that seems to underlie the rising demand for skill is changes in the composition of output. The principal change in the composition of output during the past 20 years has been the shift from manufactured goods toward services. This has produced a decline in the number of manufacturing jobs and an increase in the number of service jobs. Young workers with only high school education bore the brunt of the fall in

demand for manufactures because older workers were often protected by seniority. Declining job opportunities in manufacturing helps explain why the real wages of young high school graduates fell 14 percent between 1979 and 1987, while the wages of older high school graduates fell only 2 percent (Levy and Murnane, 1992).

Because there is less wage inequality in manufacturing than in services, the movement of workers from manufacturing to services has increased earnings inequality. Blackburn (1990) concludes that changes in labor demand due to the changed composition of output account for 20 to 30 percent of the rise in the college premium and 15 percent of the rise in within-group earnings inequality. A changed output mix within manufacturing has further contributed to inequality because the expanding industries have mostly been those that traditionally use college graduates intensively.

One factor driving the shift from manufacturing to services has been increased international competition. Increased trade has weakened the link between what Americans consume and what they produce. Imports as a fraction of U.S. GDP rose from 5.5 percent to 12.1 percent between 1970 and 1994. The share coming from less-developed countries increased over this period as well.

Several factors explain the rising share of imports in consumption. U.S. macroeconomic policy produced a sharp appreciation of the dollar starting in 1982, which hurt foreign and domestic demand for American manufactures. The accumulation of physical and human capital that has occurred abroad, particularly in the newly industrialized countries, has created strong competitors to American industry. Borjas and Ramey (1995), for example, conclude that foreign competition in concentrated industries hurt the relative wages of less-skilled workers. In addition to competing with foreign producers in the market for finished goods, many American companies now pay foreign manufacturers to assume some of the intermediate stages of the production process. Such “outsourcing,” particularly to less-developed countries with their extremely low-wage workers, further reduces demand for less-skilled domestic workers.

Technological change that is biased toward skilled labor and is more rapid in some sectors than others also seems partly responsible for the recent rise in earnings inequality. Despite the increased relative wages of college graduates, many sectors have been hiring proportionally more of them. Industries in which the college premium has risen most are those with the fastest rise in the percentage of their work force with a college education (Grubb and Wilson, 1989). This change appears to be spread unevenly across sectors. Bartel and Lichtenberg (cited in Levy and Murnane, 1992) find that the college premium and the use of college graduates are highest in industries with the newest, often computer-based, technologies. This increased reliance on college graduates has been more marked in manufacturing than services. “Upskilling” appears to be shifting tasks from unskilled to skilled labor (Johnson, 1997).

Before World War II, the volume of U.S. international trade was too small to significantly affect trends in labor supply or demand (with the brief exception perhaps of the post-World War I collapse of European demand for American grain). Demand-driven shifts from agricultural to industrial employment seem to be associated with the observed behavior of inequality (e.g., Smolensky, 1963). Technological change was the principal spur to these shifts. The stylized fact emerging from studies of technological change is that, in the first half of this century, such change had a strong labor-saving bias during the first three decades, and was neutral during the next two decades—the era of declining inequality.

Changes in the sectoral composition of output can explain the history of labor-saving technological change followed by neutral aggregate technological change. Between 1900 and 1930, industrial sectors, which were relatively intensive in their use of skilled labor, grew much faster than the agricultural sector. Agriculture was badly depressed during the 1920s, which further depressed incomes already lower than average. From 1930 to 1955, however, the difference in sectoral growth rates was less extreme. These changes in output mix correspond to the sectoral pattern of productivity growth. The 1900–1930 period was one of unbalanced growth, with industrial sectors experiencing much faster

productivity gains than agriculture. During the following two decades productivity grew fastest in the agricultural sector. Because demand for agricultural products is relatively inelastic with respect to income or price changes, demand for labor in the agricultural sector declined. As people left agriculture for industrial employment, their average wages rose, as did the average wages of those remaining in the agricultural sector. Between 1920 and 1950, 14 percent of the country's labor force left agriculture for other employment. This intersector flow of labor was large enough to noticeably affect wage inequality. After 1950, productivity again rose faster in industry than agriculture, but the productivity gap stayed much smaller than the pre-1930 gap. The smaller gap, together with agriculture's declining share of the total labor force, implies that differences between agricultural and industrial wages have contributed less to overall inequality since 1950.

Williamson and Lindert (1980) find that income effects and capital accumulation also played a small role in changing labor demand. The rich consumed goods that were relatively less labor intensive in 1919; the reverse was true in 1960–63. They find that during the first decade, but not subsequently, capital accumulation increased the relative demand for skilled labor.

War is another force that has acted on the income distribution by affecting labor demand. Both world wars sharply increased relative demand for unskilled labor, which lowered unemployment and raised wages at the lower end of the wage scale. The decline in inequality wrought by World War I was fleeting, however, and by the end of the 1920s inequality was higher than before the war.

World War II had a more lasting impact on the wage structure. A key difference was that demand for unskilled labor did not abate after the war. The war-induced boost to aggregate demand was sustained during the early postwar period by foreign demand for U.S. goods. After the war, the United States faced little competition from Europe in world markets and, under the Marshall Plan, Europe abruptly increased its imports from the United States. As a result, demand for unskilled labor remained

strong, and the skilled/unskilled wage gap continued to fall throughout the rest of the 1940s, as Goldin and Margo (1992) demonstrate.

We believe World War II produced a structural change that helps explain why the 1950 wage structure did not revert to the pre-World War II structure, but instead persisted more or less intact until the late 1960s. Our view is that, by 1950, firms had adapted their production techniques in response to the prolonged period of higher wages for unskilled labor. The increased capital-intensiveness of the economy left U.S. industry well positioned to take advantage of American economic dominance abroad and of a richer consumer class at home.

No sharp changes in the pattern of labor demand occurred during the 1950s and 1960s, the period when inequality was lowest and most stable. The composition of output was also fairly stable, and U.S. producers faced comparatively little competition from abroad. Technological change occurred, but to date there is little evidence that it was significantly slower than in later decades. Beginning in the 1970s and accelerating in the 1980s, international competition and the impact of technological change grew rapidly. At this writing, the bulk of opinion is that technological change has been the more important factor (Topel, 1997; Johnson, 1997) and that while trade matters, it has not been the main cause (Freeman, 1995).

If this conjecture is correct, then the story of shifts in labor demand during the twentieth century reduces to four major chapters: (1) the shift from agriculture to industry between 1920 and 1950, (2) the surge in demand for less-skilled labor during World War II and the postwar boom, (3) the increasing openness of the economy since 1970 and the concomitant shrinking of the manufacturing sector, and (4) skill-biased technological change since the 1970s.[16]

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[16]Theory consistent with these conjectures and making reference to U.S. inequality is beginning to appear. See Galor and Tsiddon (1997) and Goldin and Katz (1996).

Though supply and demand factors are the principal drivers of relative wages, unionization also played a role. Its pattern of growth and decline during the century closely matches in inverse fashion the pattern of income inequality. Given that Freeman (1980, 1982, 1993) has demonstrated that labor unions reduce wage dispersion and earnings inequality, the principal determinants of income inequality, a causal connection between the extent of unionization and income inequality is plausible.[17]

Demographic Change and Household Income

Other demographic changes have altered the distribution of *household* incomes rather than that of earnings or wage rates. The increased proportion of single-parent families and the changed age structure of families are of particular importance. Between 1940 and 1970 the proportion of families with a single adult householder was fairly stable. The rapid increase of that proportion from 13 percent in 1970 to 23 percent in 1996, along with the even larger increase over this period in the proportion of single-parent families from 11 to 27 percent, has had a disequalizing effect on the distribution of household incomes. The great majority of single-parent families are mother-only families. Child support payments are generally small or nonexistent (Blank, 1997), so where there was formerly one household living on a man's and perhaps a woman's (usually lower) income, there are now two households, a man living alone on his income and a woman and children living on hers.[18] In such a circumstance, virtually any measure of inequality will rise, although taking taxes and transfers into account usually dampens the inequality-increasing effect.

A second major demographic change has been the shifting age structure of families. Fertility patterns and increased longevity produced an increase in the proportions of families with young and old

[17]Because cyclical conditions influence union strength as well as inequality, we may be observing a spurious relationship. However, Freeman's and other findings strongly suggest that unions matter, other things equal (Fortin and Lemieux, 1997).

[18]Usually, a father's standard of living rises after divorce and that of mother and children falls (Hoffman and Duncan, 1988; Peterson, 1996).

householders. Further, as real incomes rose, so did the proportion of elderly people choosing to live apart from their children. Even if lifetime earnings profiles were unchanged, these two developments would result in a more unequal distribution of annual household income.[19]

Finally, assortative mating has become important. Men with higher earnings are more likely to marry and more likely to marry women who have relatively high earnings potential and who are more likely work despite the work disincentives associated with being married to high-income men. One consequence is that gains in the earnings of women have increasingly gone to higher-income families (Karoly and Burtless, 1995). But the implications of the interaction between husbands' and wives' earnings for household or family income inequality are complicated because the changing inequality of men's and women's earnings also matters. Cancian and Reed (forthcoming) conclude that the declining inequality in the distribution of wives' earnings means that recent changes in wives' earnings reduce family income inequality by most measures.[20]

THE RECORD OF POVERTY

If the income distribution's shape is fairly constant over time, then as economic growth shifts its mean rightward, a persistent fall in the poverty rate will occur (recall Figure 1). In the broadest terms, this is the story of poverty over the course of the century. Unlike inequality, the poverty rate has displayed a clear, relatively persistent downward trend. The decline was most rapid in periods of rapid growth. Interruptions in that decline almost invariably occurred during recessions.

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[19]If living on their own has improved the well-being of both the elderly and their children, then conventional inequality measures mislead us by implying that this shift in living arrangements has reduced well-being.

[20]We thank Maria Cancian for help with this paragraph.

Our analysis relies on the federal government's official measure of poverty. This measure was developed in the mid-1960s (Orshansky, 1963) but not officially adopted until 1969.[21] The official measure is based on a set of poverty lines that vary by household size, age of the householder, and number of children under age 18 (until 1981, sex of the householder and farm/nonfarm residence were other distinctions). The poverty lines rise in step with inflation to remain fixed in real terms. If a family's annual cash money income falls below its poverty line, its members count as poor. In 1996, the poverty line for a family of four was $16,036.

Quantifying the poverty rate is a delicate matter. Data are scanty before 1947. The validity of poverty rates generated by applying an unchanging real poverty threshold over a long period can be challenged.[22] With this warning, we turn to the numbers.

The Census Bureau provides a consistent poverty rate series based on the official measure and starting in 1959. Fisher (1986) extended the Census Bureau's poverty rate series back to 1947 in a consistent way. Figure 3 presents Fisher's estimates together with those of the Census Bureau. Fisher's estimated poverty rate for individuals was 33 percent in 1948. Poverty declined rapidly during the 1950s. According to Census Bureau series, 22 percent of all persons had incomes below the official poverty line in 1959. This fraction fell fairly steadily until reaching a historic low of 11 percent in 1973. The poverty rate wavered between 11 and 12 percent for the rest of the decade and then rose rapidly to 15.3 percent by 1983. It gradually fell to 12.8 percent by 1989, then climbed back over 15 percent by 1993. The 1996 poverty rate was 13.7 percent.

Figure 4 depicts predicted poverty rates for the years before 1947 based on the official poverty lines.[23] A long-term decline in poverty during the first half of the century is apparent. Poverty rates were

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[21]See Fisher (1992) for a detailed discussion of federal poverty thresholds.

[22]We discuss below how moving to a relative poverty line or expanding the concept of income changes the story.

[23]See Appendix C for details on the prediction model.

Figure 3

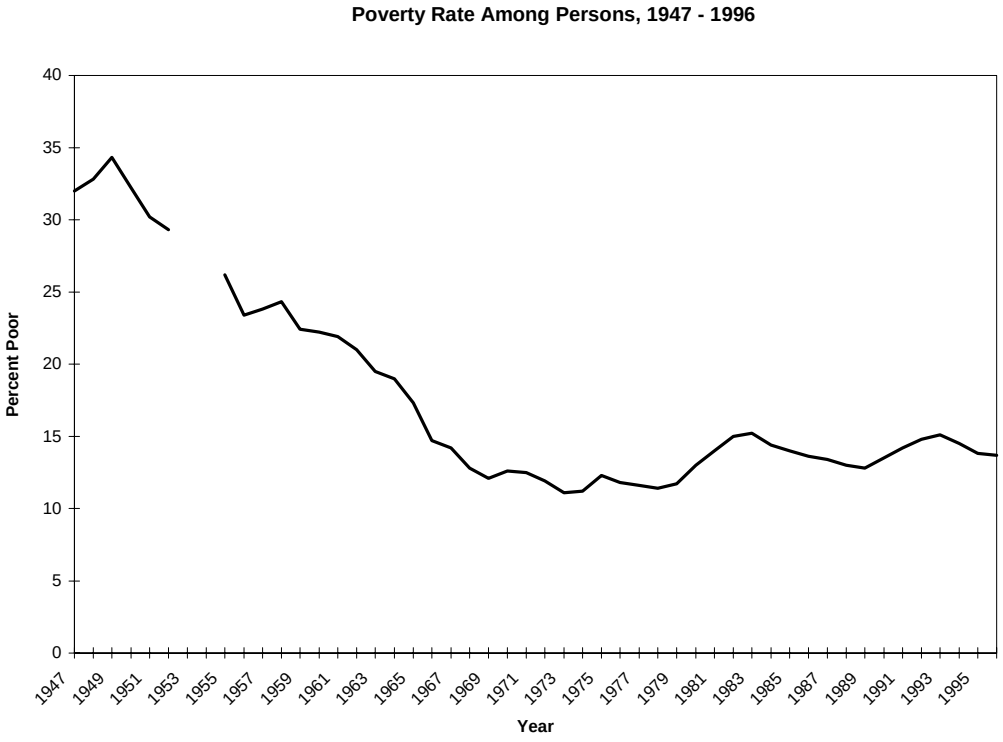
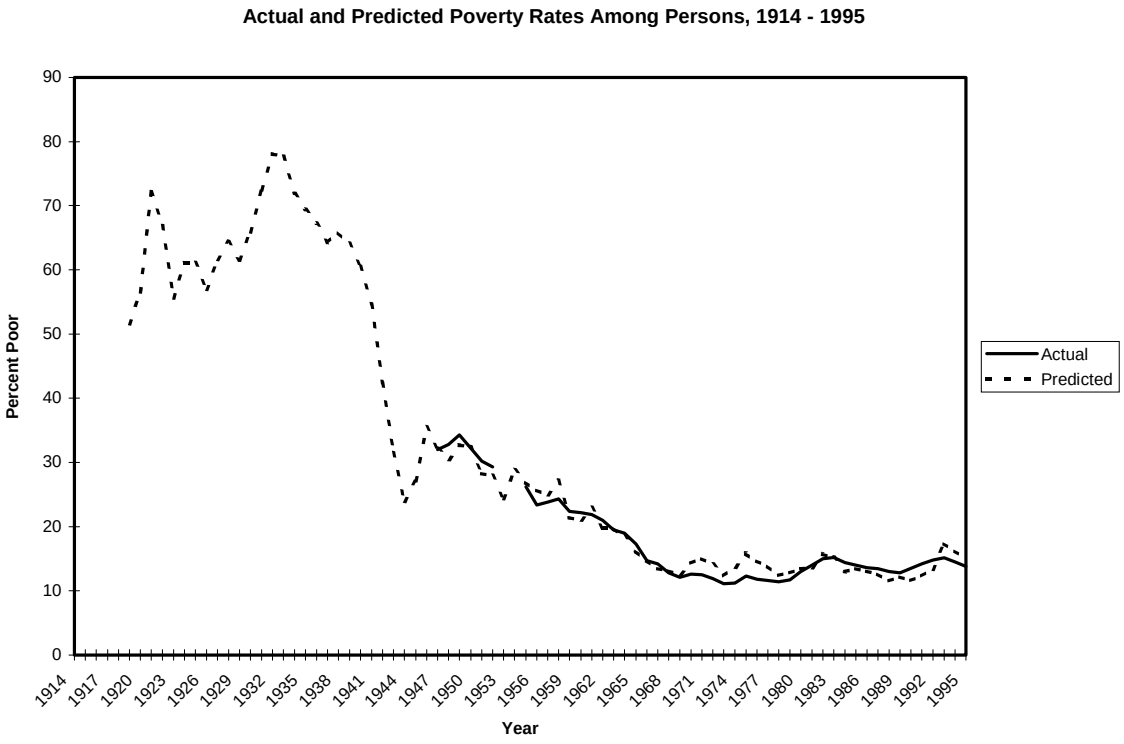

Poverty Rate Among Persons, 1947 - 1996
Percent Poor
40
35
30
25
20
15
10
5
0
1947
1949
1951
1953
1955
1957
1959
1961
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
Year

Figure 4


Actual and Predicted Poverty Rates Among Persons, 1914 - 1995
Percent Poor
90
80
70
60
50
40
30
20
10
0
1914
1917
1920
1923
1926
1929
1932
1935
1938
1941
1944
1947
1950
1953
1956
1959
1962
1965
1968
1971
1974
1977
1980
1983
1986
1989
1992
1995
Year
Actual
Predicted

in the 60 to 70 percent range early in the century. The Great Depression drove millions into poverty. The World War II boom then rapidly lowered the poverty rate to below 30 percent.

Applying the current official poverty line to an earlier era is problematic. It strikes us as unreasonable to assert that 60 percent of Americans were poor in 1920, or that 70 or 80 percent were poor at the turn of the century. Similarly, if Robert Hunter's 1904 poverty line for an urban family of five were applied today, one would unreasonably conclude that poverty has been eliminated, since there are very few urban families of five subsisting on an annual posttransfer income less than $5,000 (the approximate value in 1990 dollars of Hunter's $460 poverty line).[24]

A fixed real poverty line, useful in discussions with a short-term perspective, has somewhat limited value for historical analysis (Barrington, 1997). Society appears to care ultimately about relative rather than absolute poverty. This is reflected in the well-documented tendency for poverty lines to rise in real terms as mean real income rises. For example, in 1949 a Congressional investigation set the poverty line at $2,000, whereas the poverty line put into use 13 years later after a period of sustained economic growth was 20 percent higher in real terms (Miller, 1967). Smolensky (1965) finds that, in real terms, the New York City "minimum comfort" budget of 1947 was 40 percent higher than the 1935 budget and nearly 80 percent higher than that of 1903–1905. Most analyses of the Gallup poll question "What is the smallest amount of money a family of four (husband, wife, two children) needs each week to get along in this community?" conclude that the "get along" amount has risen by between 0.6 and 1.0 percent for each 1.0 percent rise in average income (Fisher, 1995).

Strictly speaking, no absolute measure of poverty is possible once we depart from purely biological requirements. This does not mean that efforts to assess the long-term trend in poverty are pointless. We can safely assert at least two things. First, the periodic upward revisions of poverty

[24]Robert Hunter (1904), cited in Miller (1967).

definitions suggest that economic growth has produced a higher material standard of living for even the poorest segment of society. (Today, for example, we rarely hear accounts of children unable to attend school for lack of shoes or an overcoat, a common enough plight at the turn of the century.)

Second, even admitting that poverty is a relative notion in practice, the reduction in the poverty rate is not a mere statistical artifact generated by applying an absolute poverty line over an inappropriately long interval. The use of an unchanging standard may exaggerate the long-term decline in poverty, especially as one moves further from the period in which the standard was adopted, but a substantial decline has nevertheless occurred. Smolensky (1965) compares different periods using contemporary judgments of the income needed for a "minimally decent" standard of living. He concludes that from the turn of the century until the Depression, the proportion of the population considered poor hovered around one-third; between mid-Depression and 1960, that proportion fell to about one-fifth. One decade later, the proportion based on the then-new federal poverty threshold had fallen to little more than one-tenth. During the 1980s and early 1990s, the poverty rate rose relative to its level throughout the 1970s. If one believes the current official poverty lines have become outdated, the estimate of 13.7 percent poor in 1996 is perhaps best viewed as a lower bound on the proportion of people in poverty today.

WHAT EXPLAINS THE BEHAVIOR OF POVERTY RATES?

Figure 1 shows that the fundamental determinants of the rate of absolute poverty are the level of mean income and the extent of income inequality. It follows that when economic growth shifts the entire distribution to the right, the poverty rate will fall if income inequality does not change. And if mean income is constant, changes in inequality move poverty in the same direction. Thus, economic growth is

of primary importance in determining poverty trends, and the same factors that drive inequality trends should also explain poverty trends. The weighting of the factors is different, however.

One key factor is the level of unemployment because, given real mean income, it bears a strong positive relation to the level of inequality. This relationship accounts for part of the cyclical variation in poverty.

Demographic attributes and changes in them are another key factor. The official poverty threshold varies with family size. Because earnings and family size vary systematically with age, living arrangements, and the sex of the householder, those demographic attributes are powerful proximate determinants of the incidence of poverty. Demographic attributes affect the incidence of poverty in an indirect manner as well. Low earnings qualify a household for one or more public transfer programs. The level of benefits received depends on programs for which a household qualifies, which in turn depend partly on household demographic characteristics. Transfers to the elderly, for example, are generally larger than transfers to younger female household heads, despite the latter's larger family size. This is one reason poverty is higher among single mothers with children than among the elderly. Also, some transfer programs are indexed to the price level while others are not, which means that the chain from household attributes to earnings, to type of transfer, to real level of transfer is also affected by inflation rates. To continue the prior example, Old Age, Survivors, and Disability Insurance (OASDI) benefits are indexed to inflation while benefits from Aid to Families with Dependent Children (AFDC) were not.

War and international trade are much less important, except as they affect unemployment, inflation, and growth. The composition of output has become much less important for the simple reason that very few full-time, year-round workers are classified as poor no matter what their occupation, industry, or region. This was not so during the first half of the century.

This section discusses the effect of macroeconomic and demographic factors on the level and trend of poverty. We briefly note the role of income transfer policy and more fully take it up in the discussion of the impact of public policy on inequality and poverty in the twentieth century.

1965 to 1996

The stylized facts about the trend in economic activity since the current official poverty line was developed are these: From 1965 to 1973, real median income growth was rapid, the labor market usually tight, and inflation moderate. From 1973 to 1982, growth was negligible, unemployment high, and inflation explosive (relative to U.S. experience). From 1982 to 1989, growth and inflation were both modest, and unemployment declined from its 1982 peak. Following a recession in the early 1990s, by 1995 unemployment was nearly identical to its 1989 level, but median income had not recovered. From these facts alone we would expect the poverty rate to fall during the first period, rise during the second, fall during the third, and rise during the fourth. And so it did, although it fell less in the 1980s than previous experience might have led one to expect.[25]

During the 15 years following President Lyndon Johnson's 1964 declaration of war on poverty, rising real incomes flowing from economic growth accounted for much of the decline in poverty. Higher market incomes lowered poverty rates for almost every type of family. Among nonwhite two-parent families with children it fell sharply from 41.2 to 17.9 percent, and among white two-parent families with children it fell from 10.6 to 7.9 percent.

After the 1970s the responsiveness of poverty to economic growth (the "trickle down" effect) declined. Blank (1993) shows that a 1 percent rise in real GNP was associated with a 2.5 percent decline in the poverty rate in the 1960s, but with only a 1.7 percent decline during the 1983–1989 expansion. The

[25]Since 1947 there have been only 6 years (1948, 1957, 1971, 1979, 1983, and 1988) in which the official poverty rate failed to move in the opposite direction of real mean income.

primary cause was declining real wages in the bottom two deciles of the income distribution. In terms of Figure 1, the widening of the income distribution largely offset the poverty-reducing impact of a rightward shift in its mean. Thus, despite modest growth, the 1989 pretransfer poverty rate was 20.1 percent, compared to 19.5 percent 10 years earlier.[26] Even after the post-1991 expansion, the 1996 pretransfer poverty rate was 21.6 percent (U.S. Bureau of the Census, 1997b).

The main demographic changes since 1965 were continuations of trends begun at least as early as World War II. These were increasing proportions among three types of households that tend to be poorer than average: one-person households, elderly households, and households headed by a single mother.[27] Blank (1993) estimates that these demographic shifts raised the poverty rate by 0.9 of a percentage point between 1963 and 1969, by 1.4 points between 1969 and 1979, and by 0.5 of a point between 1979 and 1989.

The poverty-reducing effectiveness of income transfer policy, like that of economic growth, waxed and waned between 1965 and 1996. During the first half of the period, cash transfers rose in real terms, and during the second half they fell. The exception during the second half was transfers to the elderly, which were indexed to inflation. This in combination with growth meant that poverty among the elderly continued to decline during the 1980s and 1990s.

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[26]Strictly speaking, pretransfer and transfer incomes are interdependent—transfer income affects work decisions, and vice versa. This interdependence probably matters most in the case of the elderly. Between 1965 and 1978, for example, their pretransfer poverty rate rose from 54 to 56 percent, despite growth in private pension income. This reflects the increased proportion of retirees among the elderly, which is partly a response to higher Social Security benefits. Plotnick (1984) attempts to adjust pretransfer incomes for the labor supply effects of cash transfers and derive the impact of transfers on poverty and inequality net of such effects.

[27]During the 1980s, the elderly's poverty rate fell below the overall rate. Thus, their increased population share actually exerted downward pressure on the overall rate, but the other two demographic shifts exerted stronger upward pressure.

1947 to 1965

The two decades following World War II were ones of steady, modest growth. Inflation rates were high compared to earlier periods, but merely a hint of what was to come. Other things equal, one would expect the incidence of poverty to decline in response to rising real mean income, as it did. This decline was slower than one might have expected, however, because of demographic shifts toward groups with above-average poverty rates. The elderly were growing in importance and increasingly living apart from their children, and Social Security benefits still left many of them below the poverty line. The proportion of single-parent households edged upward. Benefits under the AFDC program were beginning their historic rise, but this effect was more than offset by the increased proportion of households headed by a single mother.

Danziger and Gottschalk's (1995, p. 102) analysis of the post-World War II period takes explicit account of how changes in inequality affect changes in poverty. Their results are broadly consistent with Blank's more restricted analysis. They find that during the 1949–1969 period, economic changes (including the change in income inequality) would have produced a 26.9 percentage point decline in poverty. The actual decline was reduced to 25.7 percentage points by demographic changes. Growth in mean income was far and away the most important factor, and its antipoverty effect was reinforced by the decline in inequality. Between 1973 and 1991, while growth continued to reduce the incidence of poverty, its effect was slight (only 2.1 percentage points) and was fully offset by the rise in inequality over those years. The 1973–1991 period can be characterized as one in which demographic changes raised poverty by 2 percentage points, with virtually no offset by economic factors. Over the whole 1949–1991 period, Danziger and Gottschalk find a persistent poverty-increasing effect of demographic change. They also find a huge swing in the role of economic growth and a smaller reinforcing swing in the role of income inequality. When growth was rapid, inequality declined and poverty declined sharply; when growth was slow, inequality and poverty both increased.

1900 to 1946

Prior to 1947, the only poverty rates we have are the ones in Figure 4 that we constructed. Change in real mean income was the main driver of the ups and downs of the poverty rate, but cyclical fluctuations and change in overall inequality also played important roles. Demographic factors that affected the trend in poverty rates after World War II, such as changes in the proportion of single-parent and elderly households, were much less important between 1900 and World War II. Similarly, public transfers to the poor were too limited during the first four decades to have had much effect on the poverty rate.

PUBLIC POLICY'S EFFECT ON INCOME INEQUALITY AND POVERTY

Governments have pervasive effects on income distribution. Regulation, countercyclical fiscal policy, deciding whether to invest in education or roads, whether to restrict imports by using tariffs or quotas, whether to set transfer benefits for the elderly poor at the county or federal level, and many other policy choices affect the distribution of income and the incidence of poverty. We could not possibly consider all the influences of government policy on the distribution of market incomes.

What we can consider, albeit roughly, in assessing public policy's effect on overall income inequality, are the consequences following rather directly from the taxes and expenditures of all U.S. governments: the effect of the fisc. We can, therefore, consider the contributions to household income of unemployment insurance payments and of interest payments due to public deficits, but not the effects of a Federal Reserve policy of tight money on earnings or the interest rate on Treasury bills. Included in the fisc are transfers to individuals and to firms. We include in-kind transfers such as food distribution programs, but not in-kind taxes such as imprisonment, simply because that is the convention and to right it here would be too difficult. We also consider the distributional effects of all other government

expenditures and taxes. We report how historical changes in the relative importance of government spending categories, the size of government relative to the private sector, and the size of the federal government relative to state and local governments affect the record of income inequality.

In evaluating the effects of public policy on poverty we are less ambitious. We consider only cash transfers, in-kind transfers that are close substitutes for consumer purchases such as food and housing benefits, and direct federal taxes. There is no accepted approach for assessing how individuals' current poverty status is affected by public spending on such things as highways, defense, and education, and we do not propose to correct this deficiency.

Our purpose is neither to evaluate government as a driver of observed trends nor to detail a record of responses to those trends. We have the less ambitious aim of reporting whether public policy has complemented or counteracted the effects of market forces on changes in poverty and inequality.

Changes in the Fisc and Antipoverty Policy since World War II

In terms of the factors affecting inequality and poverty, the post-World War II period is basically all of one piece until 1981, when the Reagan administration altered some of the prevailing trends. Government grew at all levels relative to the private sector. Expenditures grew more rapidly than revenues, and so public debt grew. The federal government expanded relative to state and local governments, but more on the revenue than the expenditure side. Grants from the federal government to the states expanded dramatically, as did other transfers from higher to lower levels of government, particularly from federal to municipal governments. (The Carter administration slowed the expansion in grants; the Reagan administration reversed it.) Cash and in-kind transfer programs grew relative to government purchases of goods and services, particularly relative to defense except in actual war periods. Social insurance transfers (primarily to the elderly) grew most rapidly of all, and there were some periods of rapid growth in need-based transfers.

Generally speaking, during the Bush administration and Bill Clinton's first term, the federal government retreated somewhat from the path laid down by the Reagan administration. The large deficits of the Reagan years did continue through the Bush administration. They peaked in 1992, when the ratio of the federal deficit to GDP reached an astounding 4.5 percent. In the Clinton years, however, federal expenditures declined and receipts rose relative to GDP. Both ratios returned to the levels of the early Reagan or late Carter years. Similarly, transfers resumed their pre-Reagan rise relative to purchases of goods and services in the federal budget. Intergovernmental transfers resumed their historic rise under Bush and continued upward under Clinton, although they remained below the levels reached at the end of the Carter administration.

The contribution of government policy to poverty reduction in the post-World War II period does not turn on any major changes in the structure of the fisc, but lies instead in the details of the evolution of tax and transfer policies. To understand the historical changes in the effect of public policy on poverty, we need to trace the evolution of America's major cash and in-kind transfer programs, other closely related welfare programs, and changes in taxation of the income of low-wage workers.

Until the Depression, relief of poverty had traditionally been the responsibility of local, particularly county, governments. The Social Security Act of 1935 created what eventually became the most powerful antipoverty programs: Old Age and Survivors Insurance (OASI) for the elderly, unemployment insurance for the jobless, and Aid to Dependent Children (ADC) for needy children without fathers. The programs erected a social safety net, though they were not explicitly called "antipoverty" programs. Disability insurance was added in 1956, so OASI became OASDI. These programs established two federalist models that became precedents. OASDI is nationally administered and funded. ADC, which became AFDC and now Temporary Assistance to Needy Families (TANF), was jointly funded and regulated by the national and state governments and administered by state or county

agencies. The programs also created another important dichotomy that has persisted: AFDC was means-tested (i.e., benefits depend on current income and assets) while OASDI was not.

Before 1972 Congress repeatedly raised OASDI benefits in real terms. In 1972 Congress indexed them to inflation with the intention, ironically, of slowing the growth of benefit levels. AFDC's real benefit levels grew rapidly between 1965 and 1970, and participation in the program by single mothers with children continued to rise until 1973. Since 1970, state legislatures have not raised benefit levels enough to keep up with inflation. These decisions have virtually eliminated AFDC's antipoverty effectiveness.[28]

Enactment of the Economic Opportunity Act of 1964, which created the Office of Economic Opportunity (OEO), ushered in an explicit antipoverty role for the federal government. Its modest initial appropriation of $800 million was spread over a large number of programs such as the Community Action Program, Head Start, Upward Bound, Legal Services, Neighborhood Youth Corps, Job Corps, and VISTA. These programs sought to reduce poverty not through short-term handouts but through training and empowerment programs that gave a "hand up."

Though the programs begun by the OEO received much attention and generated heated controversy, their funding has always been modest and they have always accounted for a tiny share of government social welfare expenditures. After 1964 quieter but far more consequential growth occurred in both cash and noncash income support programs. In 1974 Supplemental Security Income (SSI) replaced state-funded, needs-tested aid to the aged, blind, and disabled with a federally funded, federally administered program with a uniform, indexed minimum benefit. Congress enacted the Earned Income Tax Credit (EITC) in 1975 to provide refundable tax credits to low-income working families with children and repeatedly liberalized it over the next 20 years. The EITC eventually grew to distribute

[28]Most AFDC families also receive food stamps and Medicaid. The introduction of food stamps and Medicaid in the late 1960s and early 1970s offset the decline in the cash benefit for several years. Real combined benefits from all three programs have fallen since the mid-1970s (Moffitt, 1992).

more benefits to the poor than AFDC. Food stamps, available to few families and costing only $36 million in 1965, expanded nationwide by 1974. By 1980, outlays were 102 times higher in real terms, and equaled 0.35 percent of GDP; in 1995, they equaled 0.38 percent. Medicare and Medicaid were enacted in 1965. In 1980, outlays equaled 2.2 percent of GDP; in 1995, 4.7 percent.[29] Means-tested housing assistance and other nutrition programs also grew substantially.

While the long-run growth in income support and related social programs has been substantial, its rate has varied in response to the political climate. The annual real growth rate of federal social spending averaged 7.9 percent during the War on Poverty/Great Society years of Kennedy and Johnson, and 9.7 percent during the Nixon and Ford years. Real federal social welfare spending grew by less than 4 percent per year during the Carter presidency. Ronald Reagan's election in 1980 led to a dramatic break with the prior 20 years. Federal tax legislation in 1981 reduced tax receipts so substantially that the resulting deficits made it very difficult to expand social programs. In addition, the Omnibus Budget Reconciliation Act of 1981 marked the first direct retrenchment in total social welfare spending. Job training, unemployment compensation, food stamps, school lunches, social services, and AFDC were all cut substantially, and the real growth rate of social spending fell to about 1.5 percent per year. If health expenditures are excluded, federal spending for social welfare programs declined by about 3 percent between fiscal years 1981 and 1985.[30]

Policy decisions during the Bush administration and Clinton's first term eased these cuts (Primus et al., 1996). Disability awards increased and fewer beneficiaries were struck from the rolls. The percentage of the unemployed receiving benefits and participation in SSI both rose; eligibility for Medicaid expanded. Some cuts in the food stamp program were reversed and the basic food stamp

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[29]Expenditure data from Committee on Ways and Means (1996, pp. 134, 861, 896).

[30]All figures are from Danziger and Gottschalk (1995, pp. 26–27).

benefit was increased. Congress approved increases in the minimum wage. However, AFDC benefits continued to erode in real terms.

Under Reagan, Bush, and Clinton an emphasis on combining work with welfare, which had slowly gained prominence in the Nixon and Carter administrations, became the focus of antipoverty policy. The Family Support Act of 1988 restructured AFDC in line with this emphasis. It created a new work/training/education program for AFDC recipients. Congress intended custodial parents to work more and absent parents to pay more child support. Congress also required all states to extend benefits to two-parent families, which helped increase the number of AFDC beneficiaries.

This policy trend culminated in 1996 when TANF replaced AFDC. Block grants to states replaced matching grants, thereby capping the total federal liability for TANF, and states were granted much more discretion in designing their welfare programs. Thus, entitlement to federally funded welfare ended. Time limits were placed on eligibility and will begin to bite in early 1999 in many states. Putting welfare recipients to work became the central focus of the new policy.

Whether this is a sea change will not be known until each state has crafted its required response and those responses confront a recession. The nation will then run the latest in a long line of social experiments on the impoverished.

Impact of the Fisc on Inequality since World War II

Despite substantial changes in the level and composition of government spending, the fisc has not produced a detectable *trend* in inequality over the whole of the post-World War II period. It has, however, affected the *level* of inequality. Distributions that explicitly allocate the taxes and benefits of the entire fisc to households are significantly less unequal than those based only on market-generated incomes. Reynolds and Smolensky (1977, p. 67) find that the fisc reduced inequality by 17 percent in 1950 and 24 percent in 1970. There are no subsequent empirical studies of the distributional impact of

the fisc at all levels of government, but several investigations (e.g., Quigley and Smolensky, 1990) have concluded that, on a priori grounds, there is little reason to suspect significant change since 1970.

In any given year, the progressivity of the tax structure and, especially, transfer benefits has been the principal factor affecting inequality. This is as true now as in 1950. The gradual erosion of income tax progressivity since then has been offset by rapid growth in transfer benefits, particularly to the elderly.

There has been much speculation about the redistributive consequences of the dramatic changes in the composition of the fisc during the Reagan era. Analysts generally conclude that the impact was, at most, modest (Quigley and Smolensky, 1990; Gramlich, Kasten, and Sammartino, 1993). The regressive effects of changes in tax policy offset generally progressive changes on the expenditure side. Government expenditure is more equally distributed than private expenditures, which means that the vast Reagan budget deficits worked to reduce inequality, even after taking into account the subsequent increase in interest payments. The continued rise in the ratio of government to private expenditure, despite the Reagan administration's struggle to achieve the opposite, also worked to reduce inequality. The increase in defense spending tended to reduce inequality, according to conventional analyses of the fisc, because the benefits of a public good are more equally distributed than is cash income. Social Security programs, including Medicare, continued to expand rapidly. These equalizing changes offset the more visible regressive changes on the tax side: reduced progressivity of the income tax, growth of the regressive Social Security tax, the virtual demise of progressive estate and corporate profits taxes, and increases in state and local revenues, particularly by means of user fees, which are less progressive than federal taxes.

As noted earlier, during the Bush administration and Clinton's first term, the fisc reverted to its earlier course. If the redistributive consequences of the Reagan era's dramatic changes in the fisc were small, so too would be the consequences of this restoration.

Impact of Public Policy on Poverty since World War II

Public policy since 1950 has generally reinforced the effects of macroeconomic trends on the poverty rate. During the 1940s and 1950s, the emergence of the affluent society sharply reduced the incidence of poverty, as we have seen. OASI benefits, which began in 1940 and grew substantially between 1950 and 1960, reinforced this trend. For example, between 1950 and 1960, the average Social Security benefit rose from 57 to 81 percent of the poverty line (Smolensky, Danziger, and Gottschalk, 1988, p. 44).

Between 1965 and 1978, rising market incomes lowered the poverty rate by 2.8 percentage points. Again, market forces and trends in public policy were mutually reinforcing. Increased coverage and higher benefit levels of cash transfers lowered the poverty rate by a further 3.0 points. In 1965, cash transfers pulled 27 percent of the pretransfer poor out of poverty; by 1978, that figure had risen to 44 percent (Danziger, Haveman, and Plotnick, 1986, pp. 68–69).

From 1979 to 1989, public policy contributed strongly to the erosion of progress against poverty. In 1979 the net effect of government transfers and direct taxes pulled 48 percent of the pretransfer poor over the poverty line.[31] Over the 1980s the decline in real wages in the lower tail of the distribution was compounded by a decline in real AFDC benefits and stricter eligibility rules for AFDC and unemployment insurance. Thus, by 1989, pretransfer poverty had slightly increased, and the net effect of government transfers and direct taxes pulled only 40 percent of the pretransfer poor out of poverty. As the economy recovered in the mid-1990s, so did the antipoverty impact of public policy. By 1995, transfers and taxes moved 47 percent of the pretransfer poor over the poverty line.

[31]In this paragraph's analysis, transfers include all cash social insurance and means-tested programs as well as food stamp, school lunch, and housing benefits. Taxes include the federal income and employee payroll tax and credits from the EITC. Data in this paragraph are from Primus et al. (1996). Consistent series for computing the antipoverty effects of taxes and both cash and in-kind transfers begin in 1979.

Public Policy and Inequality before World War II

If the net effect of the fisc has been to reduce inequality by 15 to 25 percent each year since World War II, the question naturally arises as to when that wedge was driven between market-generated inequality and post-fisc inequality. Our best guess is that it occurred during World War II.[32] Consider the three factors determining the size of the wedge: the size of government relative to the private sector, the distribution of expenditure benefits, and the distribution of tax burdens. From the perspective of their potential impact on inequality, three important changes in these factors occurred during the first half of the century. First, in the 1920s the ratio of government spending to GNP doubled to around 12 percent, driven by growth in education expenditures at the state and local levels. Second, this ratio rose to 20 percent during the 1930s with increased spending on agriculture programs and for welfare and other relief. Finally, the federal income tax was established during World War I and became much more significant during World War II.

These major changes in the level and composition of the fisc worked to reduce inequality. The progressivity of the tax system, an important factor after 1950, was either irrelevant (in most years) or an increasingly equalizing force (during World War II). In 1950 the relative size of government, the progressivity of the income tax, and transfers to agriculture were primarily responsible for the wedge between pre- and post-fisc inequality. By 1970 the importance of income tax progressivity and transfers to agriculture were vastly outweighed by transfers to the elderly (Reynolds and Smolensky, 1977).

Government was too small to matter before the 1920s and barely large enough to matter during the 1920s. Thus, as with the pre-fisc income distribution, we are left with some uncertainty about whether the increase in the distributional importance of the fisc occurred near the end of the Depression

[32]The argument here is from Reynolds and Smolensky (1978).

or during World War II. The dominant effect of the income tax in reducing inequality in 1950 suggests that the change took place during the war years.

Antipoverty Policy before World War II

Before World War II, means-tested transfers were confined to "relief" payments and aid to "paupers." Then as now, transfer policies appear to have changed in response to, and in the same direction as, cyclical fluctuations in the market. And then as now, popular interest in helping the poor appears to have been associated with periods of economic optimism, such as the 1920s (Patterson, 1986). However, the fraction of government resources aimed at alleviating poverty was probably never large enough to have had a significant impact on the poverty rate, with the possible exception of a brief period during the Depression.

In 1929, direct transfers to persons from all levels of government equaled a mere 1 percent of GNP.[33] Four-fifths of that consisted of veterans benefits and pensions to retired government employees. Direct relief was only a twentieth of the total. By 1940, direct transfers to persons had risen to equal 3.2 percent of GNP (although this partly reflects a 6 percent decline in GNP itself). Veterans benefits and government pensions were only a third of the total, while the share of GNP going to direct relief (including the new ADC program) had grown 20-fold, to 1.2 percent, even though the Roosevelt administration had begun, in 1935, to move away from cash relief toward social insurance and work relief.

Clearly, government responded to the poverty induced by the Great Depression, but it seems likely that the response did little to reduce the poverty rate. The social insurance and relief programs of 1935, while large in relation to their predecessors, were too small to be effective. For purposes of

[33]Unless otherwise noted, all figures in this paragraph and the next are from the 1973 Statistical Supplement to the *Social Security Bulletin*, p. 36.

comparison, direct transfers to persons in 1970 (by local, state, and federal governments) were equal to about 8.2 percent of GNP. In a time when minimum subsistence was thought to be around $100 per month ($115 by the deflated 1964 official poverty line), the most generous program of the time—the Works Progress Administration—was only paying about $55 per month. No other program paid even half as much (Patterson, 1986, pp. 63–64). Today, OASDI benefits are about 134 percent of the poverty line.

The direct contribution of government transfers to poverty reduction, then, was quite small in 1939, negligible in 1929, and according to the rough estimates of Patterson, only half as large in 1913 as in 1929. “The federal government spent no money on relief in 1929, except for Indian wards, seamen, veterans, and some institutions and the states persisted in opposing outdoor assistance” (Patterson, p. 29). “Outdoor assistance” transferred cash, food, and fuel to poor people living on their own, the alternative being police stations, foster institutions, and almshouses. In 1923, there were still 2,046 almshouses in the country, with custody of 85,899 inmates (Patterson, p. 29). In 1914, total welfare spending, public and private, equaled 0.45 percent of GNP. Contemporary observers appear to have been much impressed by the one-third increase in welfare spending in relation to GNP between the end of World War I and the onset of the Great Depression (Patterson, p. 28). It seems unlikely, however, that the increase raised many persons out of poverty.

ROBUSTNESS ISSUES

How robust is our story to alternative ways of measuring poverty and inequality? Their measurement has become something of a specialty in the past 25 years. The literature clearly demonstrates that, in a given year, the *level* of poverty or inequality and the demographic *composition* of the poor are sensitive to choices about the measure of economic well-being, the recipient unit, the length

of accounting period, the needs adjustment, and the inequality measure (e.g., Taussig, 1973; Citro and Michael, 1995; Mayer and Jencks, 1993; Ruggles, 1990; and Coulter, Cowell, and Jenkins, 1992). Measurement choices also affect the specific magnitude of changes in poverty and inequality over time. But are basic long-run trends likely to be sensitive to subtle refinements in measurement? We conclude they are not, except that the choice of inflation adjustment does affect the trend in poverty in recent decades. Our conclusion rests on research using post-1960 data. Earlier data are too sparse to allow much refinement of measures. Thus, we have more confidence in our assessment of the past three or four decades than in that of the first five.

Consider first the measurement of economic well-being. Including capital gains or public in-kind transfers in the definition of income has little effect on the trend in poverty or inequality (see Blinder, 1980, on capital gains and Smolensky et al., 1977, U.S. Bureau of the Census, 1996a, and Danziger and Weinberg, 1994, on in-kind transfers). Although we have little information about *private* in-kind income, we speculate that its inclusion would dampen but not offset the midcentury decline in inequality. Because private in-kind income is more important in rural areas, including it would lower inequality. The gradual contraction of the farm sector would therefore exert gentle upward pressure from this source on the overall trend in inequality.

Adjusting income for differences in changes in the cost of living across income classes reinforces trends in inequality during the first half of the century, according to Williamson and Lindert (1980). During the postwar period, the distributional effect of price changes appears to have been neutral (Blank and Blinder, 1986). However, because different inflation adjustments produce different records of real income change, the choice of adjustment can significantly affect the trend in absolute poverty. When Mayer (1997) uses the CPI-U to compute real income, she finds a 1.8 percentage point increase in poverty between 1969 and 1994. When she uses the CPI-U-X1 or the personal consumption deflator

from the National Income and Product Accounts, she instead finds, respectively, an increase of only 0.4 percentage points and a decrease of 2.3 percentage points.

Another income adjustment would be to include fringe benefits. Since World War II, fringe benefits have risen steadily as a proportion of overall compensation, especially for well-paying jobs. We know fringe benefits are highly correlated with cash earnings, but we do not know whether they are more or less evenly distributed than earnings or how their distribution has changed. Our best guess is that including fringe benefits would have little effect on trends in either inequality or poverty.

Adjusting income to reflect wealth (by converting the stock of wealth into a flow and adding it to current income) increases inequality (Taussig, 1973) and lowers the poverty rate (Danziger et al., 1984) but does not significantly alter the long-term trend in either. This is because wealth holdings are closely linked to income, the main determinant of poverty rates, and because the pattern of wealth inequality broadly matches that of income inequality.[34]

Using total expenditure or consumption in place of the usual measure of pretax, posttransfer money income as the measure of economic well-being has little effect on the trend in poverty or inequality between 1960 and 1988 (Cutler and Katz, 1991). Mayer and Jencks (1993) similarly find that inequality of expenditures and consumption rose between 1972–73 and 1988–89, while Jencks and Mayer (1996) find a rise in their consumption-based measure of poverty over the same period. However, trends in material inequality, as measured by specific indicators such as housing conditions and access to telephones, automobiles, and medical services, are very weakly related to trends in income inequality (Mayer and Jencks, 1993). The difference between recent trends in inequality of summary measures of well-being such as income or consumption, and the trend in the partial indicators of material inequality,

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[34]Wolff (1996) reports that wealth, like income, was most concentrated in the 1920s and 1930s, fell substantially in the 1940s, and rose gradually between 1949 and 1965. Unlike income inequality, wealth inequality declined between 1965 and 1979. Paralleling the rise in income inequality during the 1980s, wealth inequality sharply increased between 1979 and 1989 to a level not observed since 1939. It then declined slightly by 1992 (the last year of available data).

may be explained by a rise in unreported income among low-income households (Jencks and Mayer, 1996). It remains a topic for future research.

Adjusting income to reflect the recipient unit's needs, which are mainly a function of family size and composition, has little effect on the trend in the poverty rate (Ruggles, 1990). Karoly (1993) finds similar patterns of inequality from 1965 to 1989 whether she uses family income or family income divided by the appropriate official poverty line, while over the same period Mayer and Jencks (1993) find similar patterns whether they examine total or per capita household income.

One must also settle on a recipient unit. It is typically the household, the family (which may treat unrelated individuals as one-person families), or the individual. For analyzing trends in poverty or inequality, it hardly matters which is used. Poverty rates for families and for persons are almost perfectly correlated over the 1959–1995 period ($r = 0.99$). Inequality rose since 1967 regardless of whether the unit is the family or the family plus unrelated individuals, or whether each unit has a weight of one or a weight equal to the number of persons in it (Karoly, 1993; Mayer and Jencks, 1993).[35] Tax data suggest the tax-filing unit as another candidate for analysis. Berliant and Strauss (1993) find little trend in inequality among tax-filing units from 1966 to 1979 and a sharp increase thereafter. The timing in the tax series differs only slightly from that for families or households.

The accounting period may also matter. Given the vicissitudes of economic life, the lumpiness of income, systematic life-cycle differences in income, and income mobility, the *level* of inequality or poverty depends partly on the period over which income is measured.[36] But the standard 1-year accounting period will distort our reading of long-run poverty and inequality *trends* only if life-cycle

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[35]Mayer and Jencks (1993) report that changes in inequality during the 1970s are sensitive to weights and needs adjustment. The long-term rise in inequality since the 1960s is robust to all adjustments.

[36]The poverty rate is 25 percent higher when based on a monthly rather than an annual accounting period (Ruggles, 1990). Hoffman and Podder (1976) find that a 7-year accounting period reduces the Gini coefficient by 9 percent.

effects, income variability, or income mobility have significantly changed over time. Evidence on whether they have is spotty. Blinder (1980) concludes that changes in life-cycle effects acted to modestly increase income inequality during the 1946–1980 period. If such changes continued after 1980, trends based on 1-year and multiyear accounting periods would be fairly similar, other things equal. If they did not, or if they reversed, the historical record understates the recent increase in income inequality. We do not know which occurred. Gottschalk and Moffitt (1994) find that increases in transitory shocks account for about half of the increase in white male earnings inequality during the 1970s and 1980s. If this result generalizes across the entire earnings distribution, it would imply that inequality of permanent income still rose in the last quarter century, but less than the standard data suggest. Gottschalk and Danziger (1997) show that family income mobility did not change during the 1968–1991 period. Hence, taking mobility into account by using a multiyear time period would yield a pattern of inequality over the last quarter century that would mimic the trend observed with the usual 1-year period.

The broad pattern of income inequality since 1950 also appears to be independent of which summary measure of inequality is used. We deduce this by comparing Lorenz curves.[37] The Lorenz curves of the income distributions of the early 1990s are everywhere below the curves for the mid-1970s, which in turn are everywhere below the curves for the late 1960s. The curves for the late 1960s lie closer to the diagonal than do those of the 1940s or 1950s. Thus, almost any summary measure of inequality will show that inequality was lowest in the 1960s, began to rise in the 1970s, and continued to rise during the 1980s and 1990s.

[37]If two Lorenz curves do not intersect, the distribution whose curve lies closest to the diagonal is judged the less unequal, under quite general assumptions about the social welfare function. Most summary measures of inequality will agree with this ranking. Consistency with the "Lorenz-dominance" criterion is widely considered a necessary property of an acceptable inequality measure. Jenkins (1991) summarizes the relevant literature.

We cannot make a similar claim for poverty trends. A variety of poverty measures go beyond the standard incidence rate (Foster, 1984), but to the best of our knowledge no one has produced a poverty time series for the United States based on these measures.

Finally, one could choose a relative definition of poverty instead of an absolute one. A relative poverty line (e.g., half of median family income) rises in step with the standard of living and reflects the notion that the poor are persons with living standards far below average who are therefore excluded from mainstream political and social life. Because such a measure responds to changes in the lower tail of the income distribution, it is essentially an inequality measure, albeit a crude one. Thus, trends in relative poverty can be expected to resemble trends in inequality, and in fact they do (U.S. Bureau of the Census, 1991).

SUMMARY

In broad terms the chronology of inequality is this. During the first three decades of this century it was high and rising. It peaked at the worst of the Depression, fell gradually as America climbed out of the Depression, and then fell abruptly as America plunged into World War II. After World War II, inequality continued to trend downward, but at a much slower rate, until 1967 or thereabouts. During the 1970s it began creeping upward, and during the 1980s and 1990s it shot upward, returning to its 1945 level. Whether inequality will reach its 1920s level remains to be seen.

What caused these trends and cycles in the level of inequality? Beyond the rhythm associated with business cycles (including the Great Depression), we propose three broad sets of explanatory factors: the distribution of growth across sectors, demographic changes, and World War II.

Unbalanced growth is associated with rising inequality. During the first two or three decades of this century, the sectors of the economy that already paid higher wages (industry) were experiencing

greater productivity gains than the low-wage sectors (primarily agriculture), thereby enlarging the earnings gap between skilled and unskilled. Similarly, the rise in wage inequality since 1970 has coincided with uneven sectoral growth, as manufacturing has contracted while the service sector expands. One cause of "deindustrialization" is increased competition from abroad. Another, perhaps related, cause is technological change, which, as in the early part of the century, appears to be concentrated in the industries that are already the most technologically advanced and already employ a higher proportion of skilled workers. Both factors have reduced the relative demand for lower-paid workers.

The decline in inequality between 1930 and 1950 coincided with the convergence of sectoral growth rates as agriculture experienced faster productivity gains and employed a rapidly shrinking share of the total labor force. The 1950–1970 period of stable inequality was a period of fairly balanced sectoral growth.

The most important demographic changes have been fluctuations in the supply of skilled labor. Increases in the relative supply of college-educated labor have roughly coincided with periods of smaller wage gaps between skilled and unskilled workers, and hence lower inequality. During the 1950s and 1960s, when the supply of college graduates rose steadily, inequality stayed low, and during the late 1970s, the 1980s, and the 1990s, when the relative supply of college graduates fell, inequality rose. Similarly, during the first few decades of the century and again in the 1980s and 1990s, immigration helped keep unskilled wages low.

The third major element of our story is World War II, which appears to have been associated with a rather durable downward shift in inequality. The war effort sharply increased the demand for unskilled labor, and in so doing sopped up unemployment and raised wages at the bottom of the civilian pay scale. After the war, demand for unskilled labor remained high as the United States reequipped Europe and benefitted from Europe's absence from world markets. Thus, World War II and its aftermath

set the stage for two decades of steady growth. Together with continued demand for American goods, the combination of union bargaining power and technological change helped sustain the relatively high wages for unskilled labor.

Our story about poverty rates is much simpler. Over the long term, economic growth unambiguously reduces poverty. Although the data do not allow us to be precise about the poverty rate in a given year during the first half of the century, the long-term trend in the incidence of poverty was clearly negative. For the second half of the century we can securely assert that for poverty to decline, mean income had to rise. The story needs to be refined somewhat by noting that increasing inequality can slow or offset the reduction in the poverty rate produced by rising mean income, as the 1970s and especially the 1980s and 1990s illustrate. Also, beginning at least as early as World War II, a rise in the proportions of single-mother families and of elderly families living independently has generally retarded progress against poverty.

The impact of public policy has been to reduce the market-generated level of inequality in any given year, but since 1950, public policy seems to have had little to do with the *trend* in inequality. The growth of government from 1935 to 1945, particularly the introduction of the universal income tax during World War II, coincided with and partly produced the sharp downward shift in inequality of that era.

Government had little effect on poverty rates during the first half of the century. Public programs transferring income to the poor were very small compared to the programs of the second half of the century, which did reduce poverty rates appreciably. Some may find it paradoxical that since World War II, when it has been on a large enough scale to matter, changes in public policy have tended to reinforce rather than offset market outcomes. Transfer levels rose during the 1950s and 1960s, when economic growth was most effective in lowering the poverty rate, and fell during the 1980s, when the bottom fifth of the population was not sharing in the nation’s modest economic growth.

CONCLUDING THOUGHTS

Henry Aaron summarized the stylized facts about income inequality in the United States as they were perceived in the 1970s in an oft-repeated quote: “Following changes in the income distribution is like watching the grass grow” (Aaron, 1978, p. 17). Eugene Smolensky, at about the same time, expressed the consensus on poverty: “By the nature of the distribution, poverty appears to become increasingly intransigent over time. If a recession occurred along the way, the rightward movement of the distribution would be interrupted or reversed for a short period, as would the decline of the number of families in poverty” (Smolensky, 1973, p. 121).

Sometime in the mid-1980s, most analysts came to think that both of these stylized facts were wrong. It is certainly true that income inequality has been increasing steadily for three decades and that this trend has ruptured the algebraic relationship among growth, the income distribution, and poverty as it stood in, say, 1970. Taking a 30-year view suggests that the stylized facts may be wrong. But it is probably too early to definitively embrace that judgment. As measured by the Gini coefficient for household income, inequality has increased 17 percent since its 1968 low, but only 10 percent since 1947, and not at all since 1945. Taking a 50-year rather than a 30-year perspective suggests that there has been no trend in inequality. And if inequality is trendless, the relationship between growth in mean income and the decline in poverty also generally holds.

Looking across the whole of the century shows, however, that inequality most certainly was much higher in the first three decades than since World War II. Presumably those levels could be reached again, and were they reached, poverty would be pervasive.

The decline in inequality and poverty associated with the New Deal and World War II has been hailed as “one of the great social revolutions of history.” We are now precisely at a time when any further increase in inequality will begin to erode that “revolution.” If the market persists in generating

greater inequality and, hence, more poverty, then continuing the practice of changing taxes and transfers so as to reinforce rather than counteract market outcomes is going to hasten the day when that “social revolution” shall have been relegated to the “dustbin of history.”

APPENDIX A
The Trend in Inequality, 1947–1995

For the period 1947–1995, we regressed several indices of inequality on a constant, a time trend, unemployment, and inflation. The inequality indices were the shares of income going to the bottom 40 percent and the top 5 percent of families, and the Gini coefficients for family and household income. Income was posttransfer, pretax money income as measured by the Bureau of the Census. The explanatory variables are the official civilian unemployment rate, the annual percentage change in the Consumer Price Index (the CPI-U index), a linear time trend, and time squared.

All regressions are corrected for first-order serial correlation. The regression results are below with *t*-statistics in parentheses. The coefficients on time and time squared are of opposite sign and describe the same sort of trend for each inequality measure: falling inequality during the first half of the period and rising inequality during the second.

	Explanatory Variables					
Dependent Variable	Constant	Time	Time Squared	Unemployment	Inflation	R^2 (Adjusted)
Share of bottom 40% of families	16.67 (70)	.131 (6.2)	-.0035 (-9.5)	-.1023 (-3.1)	.0608 (3.8)	.87
Share of top 5% of families	18.88 (39)	-.214 (5.2)	.0052 (7.0)	-.1896 (2.6)	.1049 (3.0)	.70
Gini coefficient, families	.378 (99)	-.0029 (-9.1)	.00008 (13.3)	.00146 (2.3)	-.00113 (3.9)	.91
Gini coefficient, households	.417 (111)	-.0012 (-3.5)	.000045 (8.4)	.000418 (.7)	-.001177 (-4.2)	.88

The coefficients on time and time squared imply that the year of minimum inequality is, respectively, 1964, 1967, 1965, and 1959.

Sources: The family income Gini coefficients and share of the top 5 percent and bottom 40 percent of families are from U.S. Census Bureau (1997a, tables F-2, F-4). The household income Gini coefficients are from the U.S. Census Bureau (1996b, table B-3) for 1967–1995, and those computed by Danziger and Smolensky (1977) for 1947–1966. Income is posttransfer, pretax money income. Unemployment is the official civilian unemployment rate, taken from the *Economic Report of the President, 1997* for 1959–1995 and U.S. Bureau of the Census (1989, p. 135) for 1947–1958. The inflation rate is also from the *Economic Report of the President, 1997*.

APPENDIX B
Projecting a Gini Coefficient Series for 1913–1946

Our first step was to estimate for the 1947–1995 period the relationship between inequality and unemployment and the income share of the top 5 percent. Sources for data are the same as for Appendix A. We measured inequality using the Gini coefficient for both household and family income. We regressed the Gini coefficient on a constant, unemployment, the income share of the top 5 percent, and for the household analysis a dummy variable for post-1967 where we joined two Gini coefficient series. The regression results are below with *t*-statistics in parentheses. Figures B 1 and B 2 show the actual and the fitted Gini coefficients for household and family income for 1947–1995. Appendix D shows the observed Gini coefficients.

	Explanatory Variables				
Dependent Variable	Constant	Share of Top 5%	Unemployment	Post-1967 Dummy	R^2 (Adjusted)
Household Gini coefficient	.2197 (19.4)	.0106 (16.6)	.0041 (6.8)	-.0044 (-2.2)	.86
Family Gini coefficient	.1128 (8.8)	.0138 (19.0)	.0062 (10.3)		.90

We used each estimated relationship along with data on unemployment and the income share of the top 5 percent for the 1913–1946 period to backcast Gini coefficients for those years. Unemployment rates are from U.S. Bureau of the Census (1989, p. 135). We used the "economic income" variant of the shares measure from Kuznets (1953, p. 635). This series is reported for 1919–1946. To obtain values for 1913–1918, we regressed the reported data on a constant and a measure of the income share of the top 1 percent (from Kuznets, 1953, p. 582). We then used the 1913–1918 values of the top 1 percent series to predict values for the top 5 percent for those 6 years.

Figure B 3 shows the results for both series of Gini coefficients. Clearly, one should not place great confidence in the specific predicted values for each year. The important point is that both projections trace qualitatively similar patterns throughout the 1913–1946 period. (Their correlation is .88.)

Figure B 1

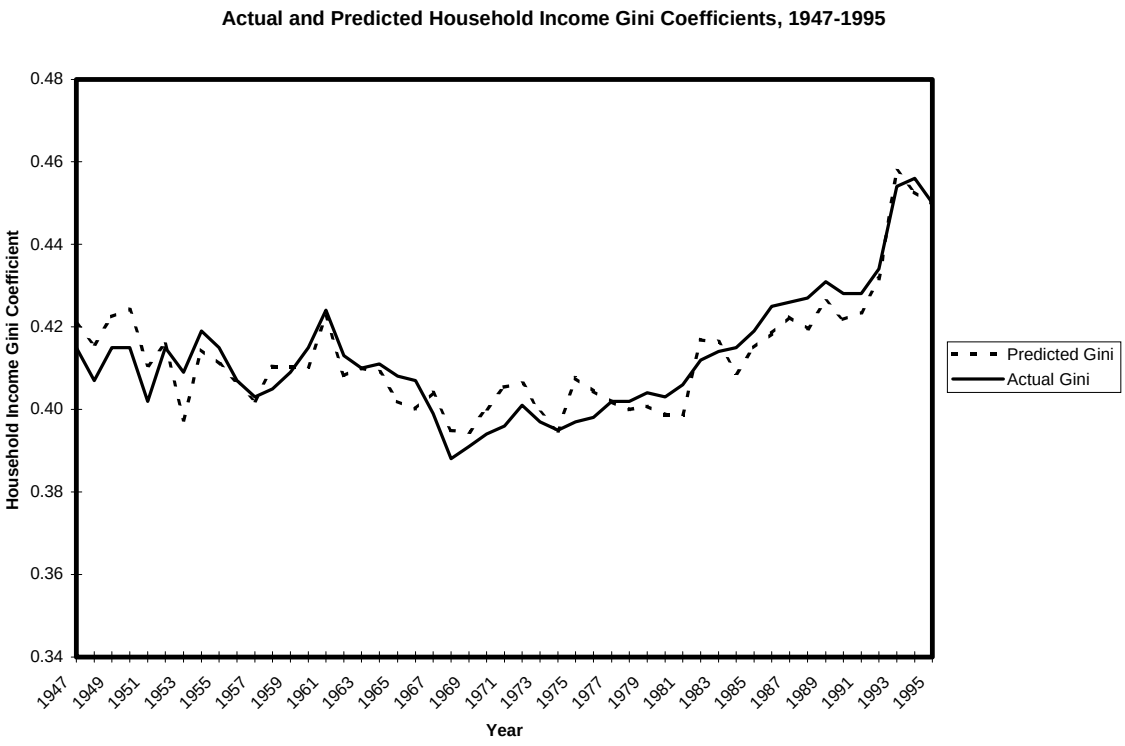

Actual and Predicted Household Income Gini Coefficients, 1947-1995
Household Income Gini Coefficient
0.48
0.46
0.44
0.42
0.40
0.38
0.36
0.34
1947
1949
1951
1953
1955
1957
1959
1961
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
Year
Predicted Gini
Actual Gini

Figure B 2

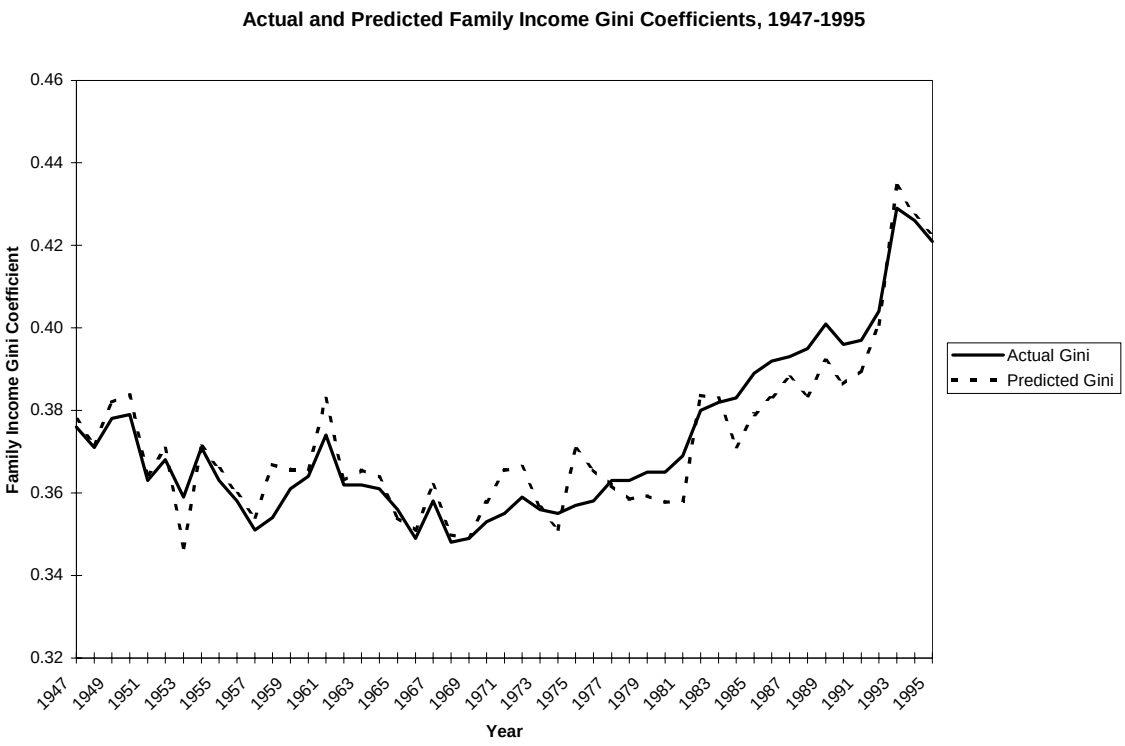
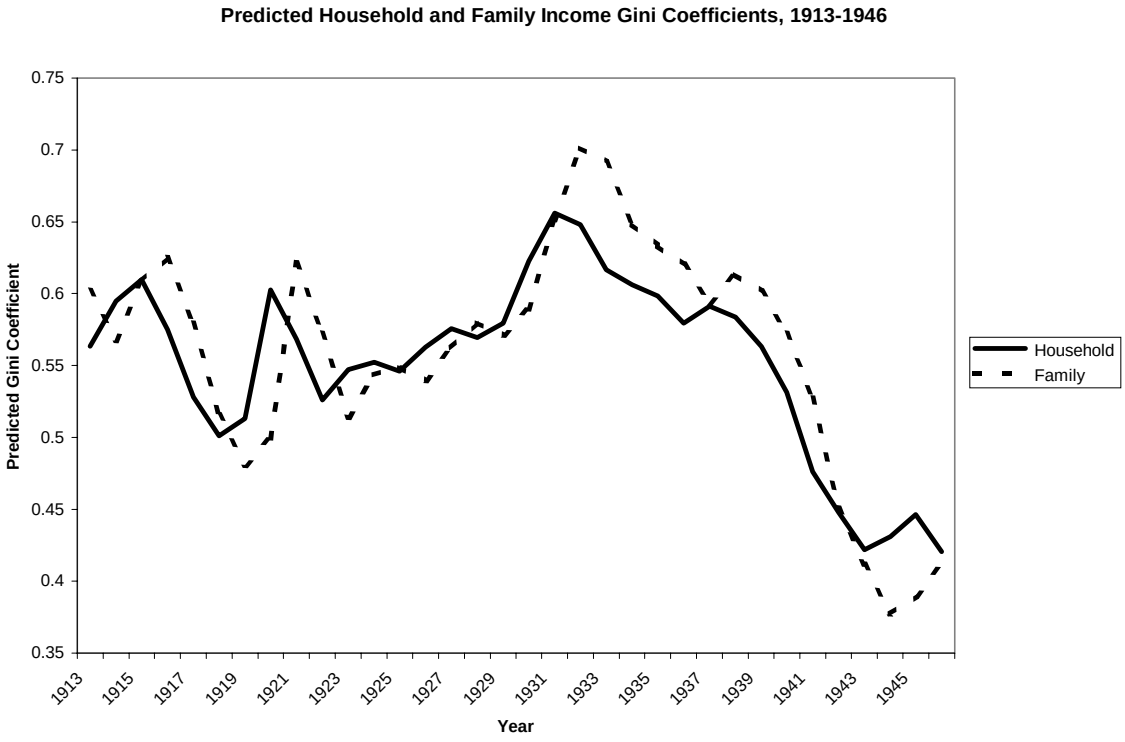

Actual and Predicted Family Income Gini Coefficients, 1947-1995
Family Income Gini Coefficient
0.46
0.44
0.42
0.40
0.38
0.36
0.34
0.32
1947
1949
1951
1953
1955
1957
1959
1961
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
Year
Actual Gini
Predicted Gini

Figure B 3


Predicted Household and Family Income Gini Coefficients, 1913-1946
Predicted Gini Coefficient
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
1913
1915
1917
1919
1921
1923
1925
1927
1929
1931
1933
1935
1937
1939
1941
1943
1945
Year
Household
Family

APPENDIX C
Projecting a Poverty Rate Series for 1913–1933

According to Figure 1, mean income and the extent of income inequality mainly determine absolute poverty. Thus, we first estimated for the 1947–1995 period the relationship between poverty and real per capita income, the income share of the top 5 percent, and the unemployment rate. We used the income share as a proxy for the level of overall inequality since no overall measure is available before 1947. We used the share of the top 5 percent instead of other shares data (e.g., top or bottom 20 percent) because it is the only series for which comparable data for the pre-1947 years are available. We included the unemployment rate since it is closely related to cyclical movements in poverty.

Poverty rates among persons are from Fisher (1986) for 1947–1958 and from U.S. Bureau of the Census (1996b) for 1959–1995. Appendix D shows the rates. Sources for the share of the top 5 percent of families and the unemployment rate are the same as in Appendix A. Real per capita income is computed from total personal income, total population, and a price deflator. Total personal income is from the *Economic Report of the President, 1997* for 1959–1995 and from U.S. Bureau of the Census (1989, p. 224). Because of the different income series, we include a dummy for years before 1959. Population is from the *Economic Report of the President, 1997* for 1949–1995 and from U.S. Bureau of the Census (1989, p. 8) for 1947–1948. The regression results for the better-fitting model with logged values of per capita income and unemployment are below (*t*-statistics are in parentheses).

	Explanatory Variables					
Dependent Variable	Constant	Share of Top 5%	ln(Unemployment)	ln(Real Per Capita Income)	Pre-1959 Dummy	R^2 (Adjusted)
Percentage of poor persons	155.9	1.7	532.4	-19.1	4.4	.95
	(12.8)	(8.4)	(5.1)	(-12.7)	(4.6)	

We used this estimated relationship along with data on the income share of the top 5 percent, unemployment, and real per capita income for the 1913–1946 period to project the poverty rate for those years, as shown in Figure 4. Sources for the share of the top 5 percent of families and the unemployment rate are the same as in Appendix B. Total personal income and population are from U.S. Bureau of the Census (1989, pp. 8, 224).

APPENDIX D
Observed Gini Coefficients and Poverty Rates, 1947–1996,
and Projected Gini Coefficients and Poverty Rates, 1913–1946

Year	Household Income Gini Coefficient	Family Income Gini Coefficient	Poverty Rate among Persons
Observed			
1947	0.415	0.376	32.0
1948	0.407	0.371	32.8
1949	0.415	0.378	34.3
1950	0.415	0.379	32.2
1951	0.402	0.363	30.2
1952	0.415	0.368	29.3
1953	0.409	0.359	NA
1954	0.419	0.371	NA
1955	0.415	0.363	26.2
1956	0.407	0.358	23.4
1957	0.403	0.351	23.8
1958	0.405	0.354	24.3
1959	0.409	0.361	22.4
1960	0.415	0.364	22.2
1961	0.424	0.374	21.9
1962	0.413	0.362	21.0
1963	0.410	0.362	19.5
1964	0.411	0.361	19.0
1965	0.408	0.356	17.3
1966	0.407	0.349	14.7
1967	0.399	0.358	14.2
1968	0.388	0.348	12.8
1969	0.391	0.349	12.1
1970	0.394	0.353	12.6
1971	0.396	0.355	12.5
1972	0.401	0.359	11.9
1973	0.397	0.356	11.1
1974	0.395	0.355	11.2
1975	0.397	0.357	12.3
1976	0.398	0.358	11.8
1977	0.402	0.363	11.6
1978	0.402	0.363	11.4
1979	0.404	0.365	11.7
1980	0.403	0.365	13.0
1981	0.406	0.369	14.0
1982	0.412	0.380	15.0

(table continues)

APPENDIX D, continued

Year	Household Income Gini Coefficient	Family Income Gini Coefficient	Poverty Rate among Persons
Observed, continued			
1983	0.414	0.382	15.2
1984	0.415	0.383	14.4
1985	0.419	0.389	14.0
1986	0.425	0.392	13.6
1987	0.426	0.393	13.4
1988	0.427	0.395	13.0
1989	0.431	0.401	12.8
1990	0.428	0.396	13.5
1991	0.428	0.397	14.2
1992	0.434	0.404	14.8
1993	0.454	0.429	15.1
1994	0.456	0.426	14.5
1995	0.450	0.421	13.8
1996	0.455	0.425	13.7
Projected			
1913	0.564	0.602	NA
1914	0.595	0.567	66.0
1915	0.610	0.609	NA
1916	0.575	0.625	NA
1917	0.528	0.580	NA
1918	0.501	0.516	NA
1919	0.513	0.480	51.6
1920	0.603	0.499	56.6
1921	0.568	0.622	72.2
1922	0.526	0.572	66.9
1923	0.547	0.514	55.6
1924	0.552	0.544	61.0
1925	0.546	0.549	61.1
1926	0.563	0.540	56.9
1927	0.576	0.562	61.6
1928	0.570	0.580	64.3
1929	0.580	0.571	61.5
1930	0.623	0.589	65.8
1931	0.656	0.651	72.4
1932	0.648	0.701	78.1
1933	0.617	0.692	77.7
1934	0.606	0.648	71.9

(table continues)

APPENDIX D, continued

Year	Household Income Gini Coefficient	Family Income Gini Coefficient	Poverty Rate among Persons
Projected, continued			
1935	0.598	0.634	69.4
1936	0.580	0.620	67.3
1937	0.591	0.594	64.3
1938	0.584	0.613	65.8
1939	0.563	0.602	64.1
1940	0.531	0.573	60.6
1941	0.476	0.527	54.7
1942	0.448	0.451	42.4
1943	0.421	0.412	31.5
1944	0.431	0.377	23.9
1945	0.447	0.390	27.1
1946	0.421	0.412	35.5

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