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Poverty in America: Trends and Explanations

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Over the past 45 years, the United States has experienced a rising standard of living, with real GDP per capita more than doubling between 1959 and 2004. In contrast, living standards among some groups seem to have stagnated. The nonelderly poverty rate declined from 1959–1969, but then rose from 10.7 percent in 1970 to 12.7 percent in 1980 and remained at 12.8 percent in 2003. Figure 1 illustrates the trends in GDP per capita and poverty over this period. Although a number of studies have documented a correlation between macroeconomic conditions and poverty, Figure 1 makes clear that the relationship is not as simple, or as strong, as one might think. What additional factors can explain the starkly different trends in economic well-being that are measured by overall GDP growth and the poverty rate?

Consideration of additional factors only adds to the puzzle. First, the fraction of women ages 25 to 64 participating in the labor force and contributing to household money income skyrocketed during this period, increasing from 57 percent to 76 percent between 1970 and 2000 according to data from the Current Population Survey. At the same time, average levels of education grew substantially. In 1970, 48 percent of individuals over age 25 had less than a high school education; by 2000 this figure had fallen to 17 percent (U.S. Bureau of the Census, 2004). Finally, the stickiness in the nonelderly poverty rate does not exist for all demographic groups in the United States: poverty rates among the elderly

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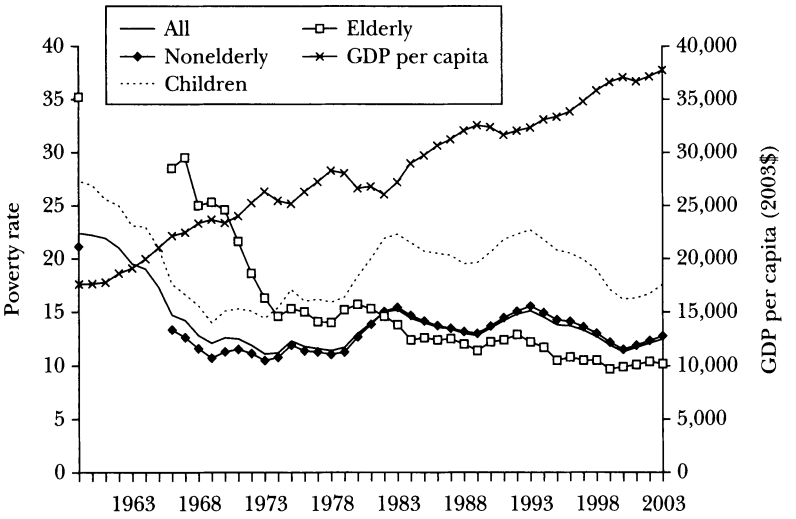
Figure 1
Trends in Individual Poverty Rates and Real GDP per Capita, 1959–2003



Source: Poverty rates are from U.S. Bureau of the Census, Current Population Survey, Annual Social and Economic Supplements. The GDP per capita series is from the Economic Report of the President (2005).
Note: The poverty rate data are unavailable for some subgroups for 1960–1965.

declined steadily during this period, falling from 24.6 percent in 1970 to 10.2 percent in 2003.

Other factors may better explain why the poverty rate has failed to fall. Rising numbers of female headed families may offset income gains from women's increasing labor force participation. Increasing income inequality—in particular stemming from declines in wages for less-skilled workers—may have limited the poverty-fighting effects of economic growth. Finally, the level of and changes in government benefits directed toward the nonelderly may explain why the nonelderly poverty rate has not moved in the same direction as elderly poverty. Our task in this paper is to document and quantify the effects of these competing factors to understand recent poverty trends better. Since the steady fall in elderly poverty rates in recent decades is likely explained by other factors such as Social Security (Englehardt and Gruber, 2004), we focus throughout this paper on the conundrum of why the nonelderly poverty rate has failed to decline as the economy has expanded.

Dimensions of Poverty

In this section, we summarize some basic facts about poverty in the United States, relying on a combination of previously published data from the Census

Bureau and our own tabulations based on Current Population Survey data. Throughout the paper, we measure individual poverty rates (the alternative is to measure poverty rates among families) using the official Census Bureau definition. In particular, an individual is considered poor if their total family pretax money income in a given year is below the poverty threshold for their family size and age composition. By construction, all persons in the same family have the same poverty status. In 2004, the poverty threshold for a family of four was roughly $19,000, and for a single individual it was approximately $10,000. For details about poverty rates and how they are calculated, a useful starting point is the website of the U.S. Census Bureau at ⟨http://www.census.gov/hhes/www/poverty/poverty.html⟩.

A Snapshot of Current Poverty

Data on poverty in the United States is collected annually by the Current Population Survey. In 2003, 12.8 percent of all nonelderly individuals lived below the poverty line, while 17.6 percent of children lived in families with incomes below the poverty line. Women are more likely to be poor than men; in 2003, the poverty rate for males was 11.7 percent and for females was 13.9 percent. This relatively small difference is driven by the fact that men and women live together in most families and so have the same family income and poverty standard. When the population is divided using characteristics of the head of household or family structure, the differences are more dramatic. The poverty rate for individuals for whom the head of the family is married was 7 percent. In contrast, among individuals in families with an unmarried head and children present (five-sixths of whom are *female* unmarried heads), the poverty rate was 40.3 percent. Finally, among those with single heads, but no children present, the 2003 poverty rate was 17.9 percent.

Race and ethnicity are also strongly related to the probability of living in poverty. The 2003 poverty rates among blacks and Hispanics were 24.3 percent and 22.5 percent, respectively, nearly triple the 8.2 percent poverty rate for whites. Individuals born in the United States have a poverty rate of 11.8 percent, while those who are immigrants have a rate of 17.4 percent.

Finally, education is a strong predictor of poverty status. Among individuals living in families in which the head has less than a high school education, 31.3 percent are below the poverty line, compared with just 9.6 percent of those whose head has at least a high school education.

Table 1 lists some characteristics of the poor and for comparison also shows the characteristics for the general population. The first row of Table 1 shows that the poor as a group are younger than the population as a whole, with children making up 39.8 percent of the poor, compared with 28.8 percent of the overall population. The slightly higher poverty rates among women, who are roughly half of the population, of course mean that the poor are also disproportionately female. The poor are disproportionately comprised of single parents with children. Single

Table 1
Characteristics of the Nonelderly Poor, 2003
(percentage with given characteristic)

	Among nonelderly poor	*Among all nonelderly*
Individual characteristics		
Age <18	39.8%	28.8%
Male	45.5%	49.8%
Female	54.5%	50.2%
Family head is		
Married	35.0%	66.6%
Single with kids	39.1%	14.4%
Single without kids	25.8%	18.9%
White	42.2%	65.7%
Black	24.1%	12.6%
Hispanic	26.8%	15.1%
Family head's education		
<High school	35.3%	14.4%
Native-born	82.6%	87.4%
Immigrant	17.4%	12.6%
Head worked last year	50.0%	81.1%

Source: Author's tabulations of the 2004 March CPS.
Note: The age, gender, race and ethnicity are assigned using the individual's characteristics. Family type, immigrant status, education and employment are assigned based on characteristics of the head of the family.

parent families comprise 39.1 percent of the poor, although persons in such families make up only 14.4 percent of the total population.

The racial and ethnic composition of the poor is disproportionately minority, but the modal poor individual is a white non-Hispanic. In 2003, 42.2 percent of the poor were white, 24.1 percent black and 26.8 percent Hispanic. In the overall population, whites make up 65.7 percent, blacks make up 12.6 percent, and Hispanics 15.1 percent. Immigrants are 17.4 percent of the poor. The bottom row of Table 1 shows that half of the poor were in a family whose household head worked in the past year. In the population overall, 81 percent of household heads worked.

Persistence of Poverty

One dimension of poverty that cannot be captured using data from the Current Population Survey is its persistence, since the CPS only asks about income in a given year and does not ask about individuals' income history. Bane and Ellwood (1986) provide a fundamental contribution to our understanding of the dynamics of poverty. In particular, imagine that during a calendar year one family is poor for all 12 months and 12 other families are poor for only one month each. At any given time, two families are poor, and half of those who are poor at any given time are poor for the long term. But over the course of a year, only one of the 13 families who experienced at least one month of poverty were poor for an

extended time. Thus, measures of how the persistence of poverty is distributed are quite different if the analyst considers a "flow measure," consisting of all individuals who have experienced a spell of poverty, or if the analyst considers a "stock measure" of all individuals who are poor at a point in time.

Stevens (1999) presents calculations of the persistence of poverty that take into account that among those who leave poverty in a given year, there is substantial re-entry in future years. Using data from the 1968 through 1988 waves of the Panel Study of Income Dynamics (PSID), Stevens shows that approximately 35 percent of individuals beginning a spell of poverty will be poor for at least five of the next ten years, with about half of these occurring across multiple spells of poverty. Stevens also presents information on how the persistence of poverty varies with individual and family characteristics. She finds that there are large differences in the persistence of poverty by race, education of the family head and family structure. For example, a 20 year-old black woman with less than a high school education has a 64.1 percent chance of being poor in at least five of the next 10 years, whereas the comparable figure for a 20 year-old white woman is 39.6 percent. In general, children who are born into poverty face a greater likelihood of remaining poor than do young adults beginning a period of poverty. For example, a one-year-old black child living in a female-headed family in which the head has less than a high school education has an 89.5 percent chance of being poor in five or more of the next ten years; but a white child born into a similar family setting has a 63 percent chance of being poor for five or more of the next ten years.

Measuring Poverty

The statistics presented in this paper are based on the official definition of poverty in the United States, which reflects the fraction of persons (or families) with incomes below an absolute threshold.[1] The poverty thresholds were developed in 1963–1964 by Mollie Orshansky, an economist at the Social Security Administration, and were adopted in August 1969 (Fisher, 1992). They were constructed by first estimating the cost of the Department of Agriculture's "economy food plan" for different family sizes. Tabulations from the 1955 Household Food Consumption Survey showed that on average, one-third of family after-tax income was spent on food, so the estimated food costs were then multiplied by three to construct the poverty thresholds for households of different sizes (a higher multiplier was used for families with less than three persons to reflect the high fixed costs of housing). These thresholds have been adjusted each year to reflect changes in the cost of living using the Consumer Price Index (CPI), but otherwise, the official poverty

[1] The main conceptual alternative to the official U.S. poverty measure used is *relative poverty*, which measures the fraction of persons or families with income below some societal benchmark like 50 percent of median income. When using relative poverty lines, a general increase in income will not reduce poverty. Relative measures of poverty are common in international comparisons, as in the paper by Timothy Smeeding in this issue.

measure has changed little since it was created in 1969.[2] In 2003, the poverty line was essentially three times the 1967 cost of the 1967 economy food plan, multiplied by the change in the CPI.

Although poverty can be measured in ways other than the official definition, our work, and the work of others, shows that most of these different ways will alter the level of poverty but not the trend. For example, the economic unit used by the Census is the family—which is defined as all persons living in a household who are related by birth, marriage or adoption. Thus, households can consist of multiple families. If a couple with a child cohabitate instead of marrying, then poverty is calculated separately for the mother-and-child "family" and the father "family." If a woman and her child move in with her parents, then they are treated as a single family. To address the possible biases due to changes in family structure and living arrangements, we created a household poverty rate and a "little" family poverty rate (which splits up extended families living in the same household into separate "little" families) and found that the trends for these alternative poverty rates are very similar to the trend for the official definition.

Another method of calculating poverty is to go beyond before-tax money income and include in-kind government benefits such as food stamps and housing subsidies, along with the Earned Income Tax Credit (EITC), which provides cash transfers to low-income working families as part of the tax system. Alternative measurements that include these income sources show lower poverty rates compared with official statistics—but again, the trend in poverty rates is quite similar across the official and alternative measures (Short, Garner, Johnson and Doyle, 1999). We will return to this issue below.

In 1995, a report by the National Research Council made a number of recommendations for updating poverty measurement in the United States (Citro and Michael, 1995). The panel recommended updating the measure of family resources to include the value of near-cash in-kind benefits (such as food stamps, housing subsidies, school lunch and energy assistance) and to subtract income taxes, payroll taxes, out of pocket medical costs, work expenses and child care expenses. The panel also made recommendations for changing poverty thresholds, including relying on expenditure data on food, clothing and shelter, allowing for geographical variation and updating the threshold each year by changes in spending in these three areas (as opposed to adjusting by overall inflation levels). The panel's report generated significant discussion, but has not led to changes in the official poverty measure.

[2] Poverty thresholds are now created for family sizes of one to nine or more persons and vary depending on the number in the family that are less than 18 and, if a one- or two-person family, whether the head is over 65. Up until 1981, separate thresholds were also provided for farm and nonfarm families and for different family types (female-headed household or not).

What Explains Trends in Poverty Rates?

We discuss and evaluate four determinants of changes in the poverty rate that have been advanced in the literature: the impact of labor market opportunities; the role of changes in family structure; the role played by government antipoverty programs; and the role of immigration.

Labor Market Opportunities, Inequality and Macroeconomic Cycles

The literature on the causes of poverty consistently cites the importance of labor market opportunities. Some focus on the poverty rate's cyclical nature (Hines, Hoynes and Krueger, 2001, 2005; Hoynes, 2000). Others identify three separate factors associated with labor market opportunities—growth, inequality and macroeconomic cycles—and explore their contribution to poverty (Blank and Card, 1993; Danziger and Gottschalk, 1995, 2004; Freeman, 2001; Gottschalk, 1997). Our analysis builds on this literature and captures these factors with four labor market measures: unemployment rates, real median wages, inequality and female employment rates. We begin by presenting the trends in these measures of labor market opportunities over the period 1967–2003. We then go on to estimate the importance of the different labor market variables in a multivariate regression model. All statistics are calculated using the Current Population Survey.

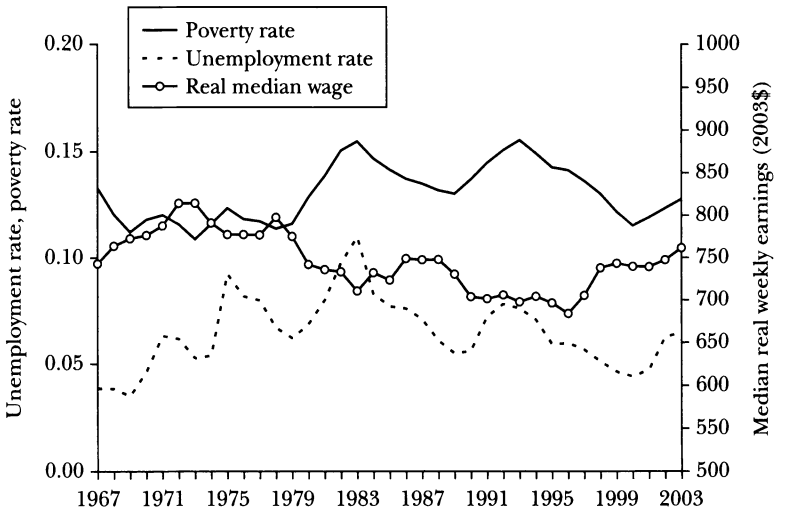
Figure 2 presents the trends in poverty, unemployment rates and real median wages from 1967–2003.[3] The figure documents a strong cyclical component in the poverty rate—with relatively higher poverty rates in high unemployment periods such as 1971, 1975, 1983 and 1993. However, the rise in poverty that is associated with increasing unemployment rates is lower during the early 1970s than in the 1980s and 1990s. Periods of falling poverty rates also correspond to periods during which median wages are increasing (like 1967–1973, 1983–1986, 1996–1999).

Figure 3 presents trends in the poverty rate and inequality. Our measure of inequality is the ratio of the median wage to the wage at the 20th percentile.[4] This measure recognizes that inequality at the low end of the distribution is what matters for poverty, while acknowledging that increases in inequality are not exclusively driven by wage declines at the bottom. The patterns here are less striking, but it appears that periods of falling inequality (like 1987–1990, 1991–1996) are also periods of falling poverty. We will argue that the virtually continuous increase in wage inequality below the median is an important explanation for the upward drift in poverty rates, which

[3] Our median wage measure is based on all men working full time. The enormous rise in women's labor force participation during this time period may have led to significant changes in the composition of the working population. We wanted changes in our wage measures to reflect changes in the return to work, rather than changes in the characteristics of the median worker.

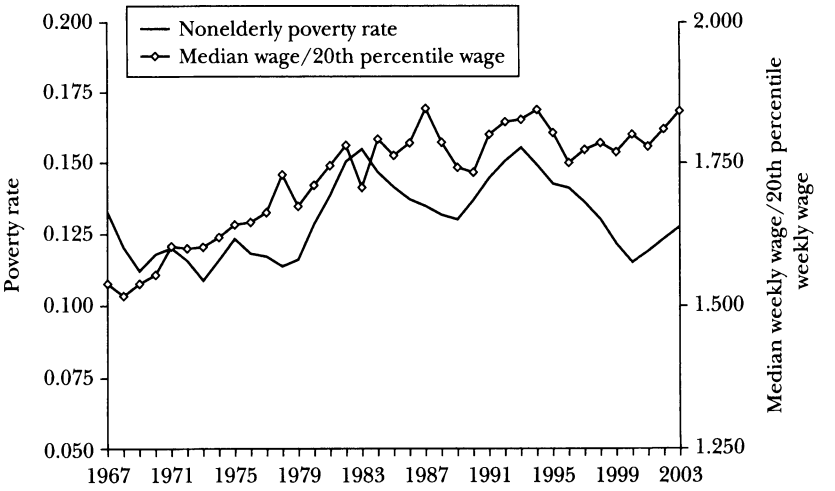
[4] The 20th percentile wage, W, is the wage for which 20 percent of the working population has a wage that is equal or lower than W. As with the median wage, the 20th percentile wage is taken over all men working full time.

Figure 2
Nonelderly Poverty Rates, Unemployment Rates and Median Wages, 1967–2003



Source: Authors' tabulations of the 1968–2004 March CPS.
Notes: Median hourly wages are defined for all full-time working men. See text for more details.

Figure 3
Nonelderly Poverty Rates and Inequality, 1967–2003



Source: Authors' tabulations of the 1968–2004 CPS.
Notes: Inequality is measured as the ratio of median weekly wage to the 20th percentile weekly wage. Wages are defined using all full-time working men. See text for more details.

confirms other studies that give a leading role to the changing wage distribution (Blank, 1993; Blank and Card, 1993; Freeman, 2001; Gottschalk and Danziger, 2003).

Any consideration of trends in U.S. labor market opportunities over the past 40 years must include some discussion of the rise in women's labor force participation. Figure 4 shows trends in the poverty rate and female employment, which we measure as the fraction of women 25–64 who worked at all during the calendar year. Increases in women's labor force participation are expected to reduce poverty rates—as more women work, family income rises. The figure shows that this expected inverse relationship between female employment and poverty is clear in the post-1980 period, but not the pre-1980 period.

Of course, these figures do not account for other possible influences that may be correlated with labor market trends. To address this possibility, we build on the existing literature, which uses both cross-section and time-series variation to identify the effects of labor market factors.[5] This approach allows us to take advantage of substantial variation in business cycles and labor market opportunities both across areas and over time. Our cross-sectional variation is at the regional level, using the nine divisions defined by the Census Bureau (New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain and Pacific) and our data come from the 1968–2004 March Current Population Survey (CPS), which provides information on employment, earnings and income for the prior calendar year. Each survey year contains information on approximately 150,000 persons. With nine divisions and 37 years, our sample consists of 333 observations.

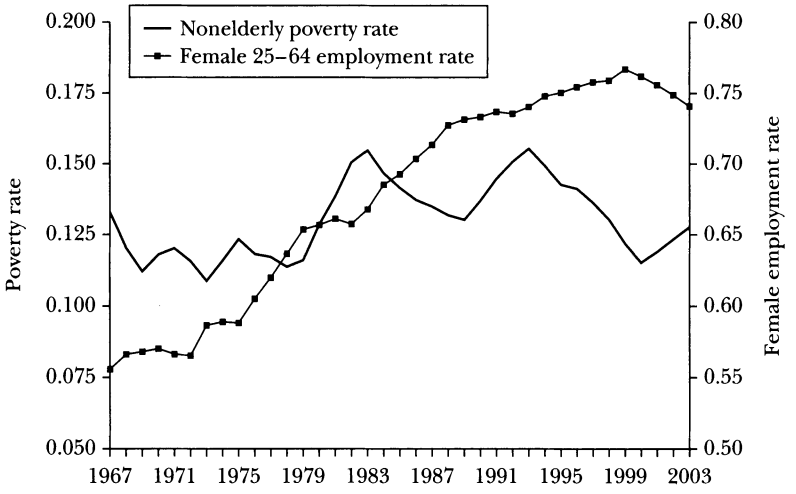
We begin by estimating the following model, which relates poverty rates to labor market opportunities:

$$Povrate_{jt} = \alpha + \beta_1 urate_{jt} + \beta_2 ln(medwage_{jt}) + \beta_3 ln(p50_{jt}/p20_{jt}) + \gamma_j + \eta_t + \varepsilon_{jt},$$

where $Povrate_{jt}$ is the poverty rate for all persons under age 65 in division j in year t. Following Figures 2–4, we control for macroeconomic cycles with the unemployment rate, $urate_{jt}$ and use the real median weekly wage $ln(medwage_{jt})$ to control for

[5] An important issue that arises throughout this literature is whether one should use national or regional (division, state, metropolitan area) controls for labor market variables. The main appeal of using national data is that variables are measured precisely and they reflect movements in the aggregate economy. However, the principle weakness of using aggregate data is that they may pick up the influences of unmeasured aggregate variables. In contrast, using regional variation in labor market opportunities leads to an increase in the size of the estimation sample and allows for the estimation of models with unrestricted time effects. The time effects control for the unmeasured aggregate variables that are a concern in the aggregate models. (It is possible, however, that controlling for these time effects in a regional regression can absorb some national trends in labor market variables.) Furthermore, some argue that labor market outcomes are more influenced by local variables than national variables (Blanchflower and Oswald, 1994; Bartik, 1994).

Figure 4
Nonelderly Poverty Rates and Female Employment Rates, 1967–2003



Source: Authors' tabulations of 1968–2004 CPS.
Note: Female employment rates are calculated as the fraction of women age 25–64 who worked at all during the calendar year.

overall income and growth in the economy.[6] As above, our measure of inequality is the ratio of the median weekly wage to the 20th percentile of the weekly wage, $ln(p50/p20)_{jt}$. Our growth and inequality measures are both specified in logs, and weekly wages are constructed by dividing annual earnings by weeks worked.[7] The model also controls for division fixed effects γ_j and year fixed effects η_t. This

[6] The median wage variable provides a measure of the price of labor, but it is probably not the best way to capture growth in personal income that follows the rise in GDP/capita shown in Figure 1. Median income would come closer to capturing this phenomenon. At the same time, income measures reflect both opportunities and individual choices (such as hours of work), and so it may be less appropriate to use them to "explain" trends in poverty. Nonetheless, replacing the median wage with median family income has virtually no effect on our results.

[7] Here are some additional details of data construction. For the poverty data, we use the simplified poverty thresholds implemented in 1981 to construct the poverty thresholds for years prior to 1981. This adjustment reflects changes in the CPI whereas the actual thresholds prior to 1981 also varied by farm/nonfarm status and family structure. For the unemployment variable, we use the March CPS sample because Local Area Unemployment statistics from the Bureau of Labor Statistics do not begin until 1975. For median wages, for survey years 1975 and earlier, the weeks worked variable in the CPS is given within six intervals. We impute weeks within the intervals by assigning the empirical mean within the interval from 1976 (the first year with continuous weeks worked). In calculating median earnings, we drop men with weekly earnings less than $128 (in 2003 dollars). For this full-time working sample, this is equivalent to having an hourly wage of $3.18/hour (in 2003 dollars). This is done to eliminate obvious measurement error. We also drop self-employed individuals, those working without pay or in the military, observations with negative weights and those with very low wages.

Table 2

Regression Estimates of the Impact of Labor Market Opportunities on Poverty Rates, Division Level Analysis

	1967–2003	*1967–1979*	*1980–2003*	*1967–2003*	*1967–1979*	*1980–2003*
Unemployment rate	0.453***	0.898***	0.603***	0.458***	0.934***	0.494***
	(0.056)	(0.150)	(0.059)	(0.061)	(0.159)	(0.061)
Ln(real median weekly wage)	−0.145***	−0.251***	−0.124***	−0.145***	−0.229***	−0.113***
	(0.017)	(0.060)	(0.017)	(0.017)	(0.062)	(0.017)
Ln(median/20th percentile)	0.262***	0.266***	0.102***	0.262***	0.258***	0.095***
	(0.021)	(0.036)	(0.022)	(0.020)	(0.037)	(0.020)
Fraction of women working (decimal)				0.010	0.089	−0.187***
				(0.038)	(0.090)	(0.038)
Constant	0.943***	1.612***	0.833***	0.938***	1.417***	0.900***
	(0.115)	(0.393)	(0.112)	(0.116)	(0.424)	(0.115)
Year fixed effects	X	X	X	X	X	X
Division fixed effects	X	X	X	X	X	X
Observations	333	117	216	333	117	216
R-squared	0.91	0.94	0.93	0.91	0.94	0.93

Source: Authors' tabulations of the 1968–2003 March CPS.

Notes: Observations are division-year cells and cover 1967–2004. All dollar figures are in 2003 dollars. Regressions are weighted using division population. Robust standard errors are in parentheses. *** indicates that estimates are significant at the 1 percent level.

effectively purges our estimates from omitted variables bias resulting from variables common to all regions that are changing over time (such as changing rates of female headship) or fixed differences across geographic areas (such as differences in immigrant shares) that might also influence the poverty rate.

The results of this exercise are presented in the first three columns of Table 2. The results in the first column of Table 2 are for the full 1967–2003 period. All of the labor market variables are substantive and significant at the 1 percent level. Specifically, the estimates in column 1 imply that an increase in the unemployment rate of 1 percentage point increases the poverty rate by about 0.5 percentage points, a 10 percent increase in the median wage decreases the poverty rate by about 1.5 percentage points, and a 10 percent increase in the 50–20 ratio (approximately the increase that occurred between 1975 and 1985) leads to an increase in the poverty rate of approximately 2.5 percentage points.

The second and third columns show how the impact of labor market opportunities has changed over time. Initially, we looked at three periods: 1967–1979, 1980–1989 and 1990–2003, which roughly coincide with the calendar decades and include (in each period) a combination of boom and bust years. The results for the 1980s and 1990s are very similar, however, so we have combined them for ease of presentation. The difference in the estimates across the second and third columns shows quite strikingly that the impact of the labor market on poverty has weakened over time. In the later period, the estimated coefficients on the labor market

variables are roughly half of their estimated values in 1967–1979. Blank (1993) also notes that the effect of economic growth (measured by growth in real GNP) fell substantially during the 1980s, because growth in the 1980s consisted of stagnant median wages and growing wage inequality. Our results take this finding a step further: even after controlling for both median wage growth and inequality at the *bottom* of the distribution, we see a dramatic reduction in the relationship between labor market variables and the poverty rate. An interesting question is why the predictive power of these different labor market variables seems to be changing over time. One possibility stems from the rise in female employment—as more women work, the shock to total household income associated with events like a husband's job loss may decline.

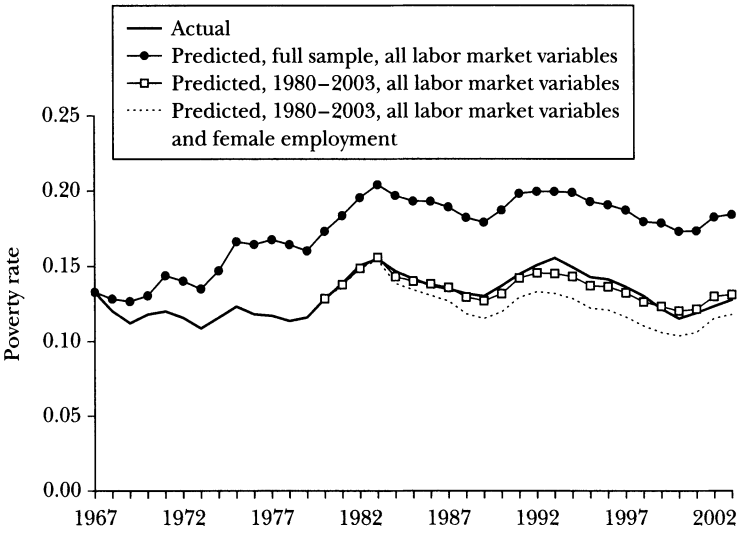
To explore further the impact of these labor market variables, we use the estimates for the full sample period (column 1) to produce counterfactual estimates of what the poverty rate would have been in each year if our labor market variables had been the only factors that had changed over time. Figure 5 shows this prediction along with the actual poverty rate. The figure makes clear that we should not be surprised that poverty rates failed to fall from 1967 through 2003. Rather, we should be surprised that they did not increase by more!

Figure 5 also shows similar predictions that were created using the estimated coefficients from the 1980–2003 period, since projections based on the full sample period will not reflect the apparent change in the relationship that occurred around 1980. As it turns out, labor market variables do a very good job of predicting the poverty rate after 1980. The counterfactuals produced by this exercise are very close to actual poverty rates.

The estimates presented in Table 2 and Figure 5 ignore the potentially offsetting increase in women's labor force participation illustrated in Figure 4. We did not include women's labor force participation rates in our initial model since they may reflect choices (and so be a function of the poverty rate), rather than reflecting primarily prices or constraints like our measures of unemployment and wages. To examine the importance of the trend toward increasing female employment, however, we add the fraction of women between the ages of 25 and 64 who are employed to our regression model.[8] Columns 4–6 of Table 2 show how this addition changes the estimated effects of our labor market variables. The inclusion of the female employment variable has virtually no effect on the other estimated labor market coefficients prior to 1980 and very little effect on the estimates in the post-1980 period. At the same time, the female employment variable itself is strongly negatively correlated with the poverty rate in the later period (with no significant impacts in the earlier period). Using the coefficients in column 6, we again create counterfactual poverty rates for each year, this time using the female employment rate along with the labor market variables. This predicted poverty rate

[8] The potential for an individual's labor force participation to respond to the poverty rate means that the estimated coefficients in these columns may be contaminated by this reverse causality.

Figure 5
Actual and Predicted Nonelderly Poverty Rates, 1967–2003



Source: Authors's tabulations of the 1968–2004 March CPS.
Note: Predictions are based on models 1, 3 and 6 in Table 2.

is shown by the dashed line in Figure 5. This exercise shows that the actual poverty rate is substantially higher than predicted by post-1980 labor market trends.

This set of calculations brings a different conundrum to the surface. If median wage growth, rising inequality and the evolution of unemployment over the past 25 years do a good job of explaining changes in the poverty rate, then the rise in women's labor force participation suggests that poverty rates should have *fallen* by more than they did, conditional on the evolution of the other labor market variables. Of course, other factors may have also affected the poverty rate, including demographic changes in family structure, antipoverty spending and immigration—and we now turn to these factors.

Family Structure

There have been tremendous changes in family structure and living arrangements over the past 35 years. Between 1967 and 2003, for example, the fraction of nonelderly individuals living in families headed by a single female doubled, from approximately 6 percent to 12 percent. Since the poverty rate among those in female-headed families is typically three or four times as high as in the overall population, such changes in the distribution of family types can have potentially large effects on poverty. Many authors have explored the extent to which demo-

Table 3
Effect of Family Structure on Nonelderly Poverty Rates

	Percentage of nonelderly persons by family type		*Percentage of nonelderly persons in poverty by family type*	
	1967	*2003*	*1967*	*2003*
Persons by family type				
Married couples with children	67.3	44.2	10.7	8.1
Married couples without children	18.7	22.4	5.8	4.1
Single women with children	6.2	11.9	51.2	37.3
Single men with children	0.8	2.5	28.4	22.0
Single women without children	4.4	9.6	25.4	18.6
Single men without children	2.6	9.3	18.1	16.2
All persons				
Percentage in poverty, actual			13.3	12.8
Predicted poverty, changes in family type only				17.0

Source: Authors' tabulations of the 1968 and 2004 March CPS.

graphic changes can explain trends in the poverty rate (Cancian and Reed, 2001; Blank and Card, 1993). Here we update that literature.

Table 3 presents the results of our analysis. The first two columns of Table 3 show the distribution of individuals in 1967 and 2003, by family type. We categorize individuals by one of six different family types: married individuals with and without children; single females with and without children; and single males with and without children. Table 3 shows that in 2003, 67 percent of persons lived in married couple families, down from 86 percent in 1967. In contrast, the percentage of persons living in unmarried parent families increased from 7 percent in 1967 to 14.4 percent in 2003. In columns 3 and 4, we provide the actual poverty rates for persons in each family type. While poverty rates decreased between 1967 and 2003 for all groups, there are persistent differences across groups—with the highest poverty rates for persons in single parent families and the lowest poverty rates for persons in married couple families.

We can use these data to illustrate the change in poverty between 1967 and 2003 that is predicted purely from changes over time in the fraction of individuals living in different family types. Specifically, we hold constant the poverty rates within each family type at their 1967 level, but allow the fraction of individuals living in each family type to change to their 2003 levels. Changes in family structure alone predict that poverty rates should have risen from 13.3 percent in 1967 to 17 percent in 2003. Thus, like the changes in unemployment, median wages and wage inequality, changes in family types substantially overpredict the actual increase in poverty rates over time.

How were the higher poverty rates predicted by the population shift toward

female-headed households avoided? Cancian and Reed (2001) show that the increase in poverty was not as extreme as predicted by the changes in family structure, because this trend was accompanied by an increase in women's earnings and labor force attachment. Increases in women's education levels were another countervailing force.

Government Tax and Transfer Programs

Government tax and transfer programs represent an important source of income for the poor. Among the nonelderly poor, the main sources for cash welfare benefits are provided through the Temporary Assistance to Needy Families program (formerly called Aid to Families with Dependent Children (AFDC)), General Assistance and the Earned Income Tax Credit (EITC). In addition to these cash-based assistance programs, programs like Food Stamps, Medicaid and housing assistance offer in-kind benefits.

Because government transfers provide families with cash and other benefits, they can have a direct impact on income and poverty. They can also have an indirect effect, by changing individuals' behavior (Sawhill, 1988). While an extensive literature investigates the labor supply effects of government transfers—particularly the former AFDC program—the literature on the impact of these programs on poverty tends to focus on direct impacts.[9] Since the behavioral responses predicted by economic theory are expected to lead to reductions in income as government transfers make it less attractive to earn income,[10] estimates produced by these studies are likely an upper bound. Nevertheless, because of the structure of government benefits and the definition of poverty, even the direct effect of government transfers on official poverty rates—which we argue is an upper bound effect—is expected to be relatively small.

First, consider the Temporary Assistance to Needy Families program (TANF), which provides cash benefits to low-income (primarily female-headed) families with children. Holding constant any behavioral response, TANF will increase the incomes of the poor. However, it is expected to have little effect on the poverty rate because TANF transfers are phased out at income levels significantly below the poverty line. In contrast, the EITC, a federal tax credit targeted to low-income working families with children, transfers income much higher in the income distribution, but because the official definition of poverty is based on pretax income, tax benefits provided through the EITC do not directly affect the poverty

[9] Two exceptions are Neumark and Wascher (2000), who estimate the impacts of the EITC on poverty rates, and Schoeni and Blank (2000), who estimate the impact of welfare reform on poverty rates. Both papers measure the indirect/behavioral impact of the programs on poverty.

[10] For example, see Moffitt (1983, 1992). The exception is the EITC, which has been found to increase labor supply for single mothers (Hotz and Scholz, 2003; Eissa and Hoynes, forthcoming).

rate. Finally, government spending on in-kind transfers will not have a direct effect on the official poverty rate because these transfers are not counted in income for the purposes of measuring poverty. Rather, they are targeted on social goals like improving nutrition and increasing access to medical care (Burtless, 1995; Blank, 1997).

Nevertheless, even if these programs do not have much impact on the official poverty rate, they have the potential to improve the well-being of the poor significantly. For example, at low earnings levels, the EITC provides a generous earnings subsidy: in 2005, a family with one child with earnings under $7,830 was eligible for a tax credit equal to 34 percent of earnings. For a family with two or more children with earnings under $11,000, the tax credit is equal to 40 percent of earnings. Moreover, this credit is refundable, so that even though families with low earnings owe little income tax, they can receive a check from the government. The credit is not fully phased out until the family's income exceeds $31,030 for families with one child. (The full phase-out occurs at $35,263 for a family with two or more children.) If income from the EITC were to be included in the official measure of poverty it might push a non-negligible number of families above the poverty line. Similarly, in-kind benefits represent a substantive fraction of government spending on the poor: in 2002, in-kind programs represented about 80 percent of the $522 billion in federal and state spending on means-tested benefits (Burke, 2003).

Table 4, which is based on special tabulations by the Census Bureau, provides some insight on how big these effects might be. We present poverty rates in 2003 under several different alternative definitions of income for two groups: all nonelderly and children. Because the definition of what is included in income is shifting across this table, the level of any particular poverty rate in the table is tricky to interpret. Our focus here is on how including various government benefits would change the estimated poverty rates. In particular, the table shows how this measure would change if EITC payments, cash transfers and noncash transfers were fully included. Beginning with line (b), when after-tax income (excluding the EITC) is used to calculate the poverty rate, it increases the poverty rate by more than a percentage point. This is expected, since including tax payments lowers after-tax income. Including tax credits from the EITC in the definition of income, however, reduces the fraction of individuals who are counted as poor. Overall, including the EITC as income lowers the poverty rate by 1.7 percentage points, from 13.9 to 12.2 percent. Because EITC eligibility is sharply limited for households without children, the effects of the EITC on poverty among children (shown in the last column of table 4) are substantially larger—a reduction of 3.1 percentage points from 19.1 to 16 percent.

Means-tested cash transfers have a smaller impact on the poverty rate because, as discussed above, the transfers occur at income levels that are substantially below the poverty line. Such transfers reduce the nonelderly poverty rate by 0.8 percentage points—from 12.2 to 11.4 percent. Non-means-tested cash transfers such as Social Security, unemployment compensation and worker's compensation actually

Table 4

Percentage of Persons in Poverty by Alternative Definition of Income, 2003, Measuring Impacts of Government Programs

	Nonelderly persons	*Children*
(a) Official poverty measure		
(Money income = pretax, postgovernment cash transfers)	12.7	17.6
Poverty reduction due to EITC		
(b) Money income (official measure) less all taxes except EITC	13.9	19.1
(c) Money income less all taxes (including EITC)	12.2	16.0
Poverty reduction due to means-tested cash transfers		
(d) Full income less taxes less means tested government cash transfers[a]	12.2	15.8
(e) Full income less taxes	11.4	14.9
Poverty reduction due to non means-tested cash transfers		
(f) Pregovernment transfer money income less taxes[b]	15.2	17.8
(g) Pregovernment transfer money income less taxes plus nonmeans tested cash government transfers	12.4	15.9
Poverty reduction due to means-tested noncash transfers		
(h) Full income less taxes (definition e above)	11.4	14.9
(i) Full income less taxes plus Medicaid	10.8	13.8
(j) Full income less taxes plus Medicaid plus other means-tested government noncash transfers	9.9	12.3

Source: U.S. Bureau of the Census (2005) and special tabulations by the Census Bureau.
Notes: To locate these figures in the Census report, note that (a) is Census definition 1; (b) is Census definition 1a; (c) is Census definition 1b; (d) is Census definition 11; (e) is Census definition 12; (f) is Census definition 8; (g) is Census definition 9; (i) is Census definition 13; and (j) is Census definition 14. Taxes include payroll taxes, federal and state taxes. Means-tested government cash transfers include TANF, Supplemental Security Income, means tested Veteran's payments and other public assistance. Non-means-tested government cash transfers includes Social Security, unemployment compensation, worker's compensation, nonmeans tested Veteran's payments, Railroad Retirement, Black Lung payments, Pell Grants and other educational assistance. Means-tested noncash transfers include food stamps, rent subsidies, and free and reduced-price school lunches. For details on simulating taxes, see O'Hara (2004). For details on calculating the value of noncash benefits, see U.S. Bureau of the Census (1992).

[a] Full income includes pretransfer money income less means tested transfers plus capital gains, employer paid health insurance, Medicare and regular-price school lunches.

[b] Income measure also includes capital gains and employer paid health insurance.

have a larger effect than means-tested cash payments, reducing the poverty rate by nearly 3 percentage points from 15.2 to 12.4 percent.

The Bureau of the Census also provides calculations of income and poverty that include noncash transfers, which are based on assumptions about the cash equivalent value of each in-kind benefit program. The impacts on poverty are shown in lines (h), (i) and (j) of Table 4. Comparing lines (h) and (j), we see that means-tested noncash transfers reduce poverty by about 1.5 percentage points.

Taken together, these calculations suggest that government programs do have a modest effect on poverty, even though many of them are not accounted for in the official rate. More to the point, these programs may have a substantial effect on the

poverty *gap*, the sum of the differences between income and the poverty line for all families below the poverty line. Scholz and Levine (2001) estimate that in 1997 taxes and transfers reduced this gap by 72 percent for all persons (that is, not just nonelderly persons). Further, TANF alone reduces the poverty gap by 5 percent, and all means-tested cash and noncash benefits reduce the poverty gap by 55 percent.

It is important to remember, however, the estimates in Table 4 do not account for any behavioral effects induced by these programs. The EITC may reduce poverty more than it appears because by subsidizing earnings, it provides a greater incentive to work. On the other hand, cash and noncash means-tested transfers may reduce poverty rates by less than the already small estimates above because the high benefit-reduction rates as people earn additional income discourage work.

Can trends in these government programs over time explain trends in poverty rates? Spending on government programs has varied over time, and (for some programs) across states. Following our analysis of labor market opportunities above, we used the March Current Population Survey to construct the same variables at the state level for 1977–2003, along with several different measures of the generosity of government programs. We then ran regressions of the poverty rate on these different measures of government spending, including both state and year fixed effects. Not surprisingly given the relatively small effects of the programs themselves on poverty, we also find that *changes* in government spending over time explain very little of the trends in poverty rates (Hoynes, Page and Stevens, 2005).

Immigration

Since 1980, the fraction of the population who are immigrants has doubled. On average, recent immigrants are less educated and have fewer skills than natives, so a higher fraction of them are poor. Table 5 shows that while 12.4 percent of natives had incomes below the poverty line in 1999, 17.4 percent of foreign born U.S. residents were living in poverty. These differences, combined with the rapid influx of immigrants in recent years, have led some to suggest that immigration is responsible for the fact that the poverty rate has not declined more dramatically over time.

To evaluate this claim, we divide the population into two mutually exclusive groups—those who live in families headed by an individual who was born in the United States and those who live in families headed by an individual who was born abroad. We use data from the Integrated Public Use Microdata Series (Census) rather than the Current Population Survey, because the CPS does not include information on country of birth prior to 1993. Table 5 shows that between 1959 and 1999, the poverty rate among U.S. natives fell by almost 50 percent, from 20.6 percent to 12.4 percent, whereas poverty among the foreign born increased by 3 percentage points. The year 1959 is probably a poor starting point, however, since

Table 5
Nonelderly Poverty Rates in Native and Immigrant Households, by Year

	All persons	*Persons in households headed by a native*		*Persons in households headed by an immigrant*	
	Poverty rate	*Poverty rate*	*Percentage of population*	*Poverty rate*	*Percentage of population*
1959	20.6	20.9	95.8	14.1	4.2
1969	12.4	12.5	95.9	11.2	4.1
1979	12.3	12.1	94.0	15.6	6.0
1989	12.9	12.5	91.4	17.5	8.6
1999	12.4	11.8	87.9	17.4	12.1

Source: Authors' tabulations of 1960, 1970, 1980, 1990 and 2000 Census files.

the poverty rate fell so much between 1959 and 1969, while a growing and increasingly low-income immigrant population cannot explain much of the trend in poverty prior to 1980. On the other hand, if we focus on the second half of the period, we see that while poverty rates among natives have changed little, poverty rates among immigrants have increased by nearly two percentage points, and the fraction of the population that is foreign born has increased by six percentage points. Taken together, these changes should put upward pressure on the poverty rate, but how much?

To answer this question, we begin by considering the extent to which overall poverty would have declined if the share of immigrants had increased over time but immigrants and natives had kept same poverty rates as in 1979. We find that if the level of poverty among immigrants had stayed the same as it was in 1979, the rising share of immigrants would have increased the poverty rate from 12.3 percent (1979) to 12.5 percent (1999), a number that is only slightly bigger than the actual value of 12.4 percent. We also consider the effects of changes over time in the fraction of immigrants who are poor. If we hold population shares and native poverty rates constant at their 1979 levels, but allow poverty rates among immigrants to vary across Census years, then the predicted overall poverty rate in 1999 is about 0.1 percentage points higher than its 1979 level. Although recent immigrants are poorer than their predecessors, their fraction of the population is simply too small to affect the overall poverty rate by much.

These calculations are based on an important assumption, however, which is that large influxes of immigrants do not reduce job opportunities available to natives. If the presence of immigrant workers depresses native's wages, then the overall impact of immigration on the poverty rate will be higher. Evidence on the labor market effects of immigration is mixed (see Borjas, 1999, for an overview of this literature), but it seems safest to consider these estimates as lower bounds.

Conclusions

Despite robust growth in real GDP per capita in the last three decades, U.S. poverty rates have changed very little. A number of studies have suggested that the lack of improvement in the poverty rate reflects a weakened relationship between poverty and the macroeconomy. We find that this relationship has weakened over time, but in spite of this, changes in labor market opportunities—measured by median wages, unemployment rates and inequality—predict changes in the poverty rate rather well. Importantly, we find that the lack of improvement in poverty rates despite rising living conditions is due to the stagnant growth in median wages and increasing inequality.

Holding all else equal, changes in female labor supply should have reduced poverty further, but an increase in the rate of female heads of families may have worked in the opposite direction. Other factors that are often cited as having important effects on the poverty rate do not appear to play an important role: these include changes in the number and composition of immigrants and changes in the generosity of antipoverty programs.

Several issues remain for future work. First, what is causing the weakening of the relationship between GDP growth and wages at the lower end of the distribution? Our analysis provides another motivation for understanding the change in this relationship. Second, what are the relationships among women's labor force participation, female headship, labor market opportunities for women and poverty rates? Many analyses have linked two or three of these factors, but there may be important interactions among all of these that help determine the evolution of poverty rates. A related question is why rising women's labor force participation prior to 1980 did not push down poverty rates. Third, one might explore indirect mechanisms through which poverty rates may be influenced, like the possible behavioral responses of family structure choices to changing labor market opportunities or the possible influence of immigration on native's labor market opportunities. Finally, what explains the change in the responsiveness of poverty to macroeconomic indicators starting in the 1980s? We show that it is not a simple matter of controlling more fully for wage growth, inequality and female employment; even after conditioning on these factors, we see changes in the effects of key determinants of the poverty rate after 1980. Labor market measures play an important role in determining overall poverty rates, but their role has changed over time, and they are likely to interact in important ways with demographic and other social changes.

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