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TRENDS IN POVERTY IN THE UNITED STATES, 1967-84

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The sensitivity of movements in poverty to the method used in measuring poverty is examined. The use of various poverty indices, and of various ways of setting the poverty lines, does not affect the conclusion that poverty followed a U-shaped pattern from 1967 to 1984. A model for a family's income/needs ratio is estimated and used to explore the factors that might lie behind this pattern. The results suggest that changes over time in the location of the income distribution are most relevant to the corresponding changes in poverty. Changes in the structure of families, and in labor supply within families, have also been relevant to recent movements in poverty.

1. INTRODUCTION

In the midst of one of the more prosperous periods in U.S. economic history, the War on Poverty was declared. Twenty years of battle seem to have resulted in a state of trench warfare. Most measures of poverty for the U.S. show that the extent of poverty in the early 1980s was at about the same level as it was in the middle 1960s. For instance, the percentage of the population below the Social Security Administration's poverty line was 16.1 percent in 1967; in 1983, it was 15.9 percent. Spokesmen from both ends of the political spectrum have pointed to failed government policies as the reason for the lack of progress against poverty, with Charles Murray (1984) claiming that the government tried too hard to alleviate poverty conditions, and Michael Harrington (1984) asserting that it did not do near enough.

Changes in the government's income-maintenance and other social policies are not the only reason why poverty levels might have moved as they did. Other factors that could explain the observed pattern for poverty should be considered. An obvious question is how much of the movement in poverty can be explained by the changing demographics of the American population. For example, the baby boom generation came of adult age over the 1970s. If a higher incidence of poverty is associated with newly-formed families relying on young earners for their support, then an increase in the percentage of families that are headed by a young adult could lead to a change in total poverty for the society—without any major changes in how the economy treats families within age groups. Other significant changes over the period under question include the growth in the percentage of the population living alone (see Michael *et al.*, 1980), and the growth in the number of famale-headed families. A second explanation is the lackluster performance of the economy over the 1974-83 period. If the poor share

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in aggregate income growth, this would have been a force leading to a halt in the progress against poverty. Moreover, consistently higher rates of unemployment in this period would have lead to an increase in poverty.

It is also the case that most research devoted to measuring levels of poverty, and trends in levels of poverty, has relied on conventional methods for poverty measurement set forth by the Bureau of Labor Statistics. The BLS method has been criticized on two main accounts: one, the index used to measure poverty by the BLS is poor, in that it is not affected by changes in the distribution of income among the poor; and, two, the poverty lines used by the BLS in classifying families as poor or nonpoor are inherently arbitrary. While suggestions that might improve the measurement of poverty—especially in the development of adequate poverty indices—have been offered, these suggestions have gone largely unnoticed by empirical researchers in the U.S.[1]

The purpose of this paper is to explore patterns in various measures of poverty for the U.S. over the 1967-84 period. Two main questions will be addressed:

(1) How robust is the pattern of poverty to the manner in which poverty is measured?; and

(2) What factors can account for the observed movements in poverty?

II. Measuring Poverty

As noted by Sen (1979), two major problems arise in most attempts to empirically assess the extent to which poverty is present in a society. The first is identifying that part of the population considered to be in poverty. The approach that has usually been taken is to assign a poverty-line level of income to every income unit in the population, that is, a level of income that should be sufficient for that unit to adequately meet its consumption needs. If the unit's income falls below this minimum level, then the unit is considered poor. The difficulty for an empirical investigator is the task of assigning a poverty-line level of income to each unit.

Once the poverty population has been identified, there still exists the task of combining the information on income and poverty status into a poverty statistic. This problem—referred to as the aggregation problem by Sen—has received much attention in the recent literature on poverty measurement.[2] Many of the suggestions from this literature are discussed later in this section.

A. *Identifying the Poor*

Assume that for each individual in a population we have a measure of income, y, and a poverty line, z. The relevant poverty line may depend on characteristics of the individual, or of the family or household in which the individual lives. We conclude that an individual is in poverty if y is less than z, or, equivalently, if the income/needs ratio, y/z, is less than 1.

The crucial problem is setting the poverty lines. No single correct way of solving this problem exists, but two different approaches are generally recognized.

[1]One exception is Danziger, Haveman, and Plotnick (1986).

[2]For example, see Kakwani (1980), Kundu and Smith (1983), and Foster, et al. (1984).

An absolute-poverty viewpoint defines poverty as the inability of an individual's income to meet his subsistence needs, while a relativist viewpoint defines poverty as a situation in which an individual's income is low relative to some social standard, such as the average level of income for all individuals. A strictly absolutist definition of poverty would have all but destitute, famine-stricken societies as virtually poverty-free, implying that the mortality rate may be the best measure of poverty. Thus, the absolutist measures commonly employed generally have some relativist aspect to them.

The majority of studies of poverty in the U.S. utilize the poverty lines developed by Orshansky for the Social Security Administration (Orshansky, 1965). In particular, the official poverty rate statistics published by the Bureau of Labor Statistics are based on the Orshansky scales. As originally developed, the Orshansky poverty line for a particular family depended on the age and sex of the family head, the family's farm/non-farm status, the number of members in the family, and the number of children under the age of eighteen. The method used to set the scales was basically to price an "economy" food plan developed by the Department of Agriculture, and then to multiply this price by three. This factor was chosen because the average percentage of family expenditures made up by food (among all families) was about one-third. Over the years, the BLS has inflated the Orshansky scales using the CPI, and has abandoned the distinctions for sex of head and farm-residence status.

At least two criticisms can be made of the procedure used by the BLS in constructing their poverty lines. One is that the use of the average percentage of food in total expenditures for all families in fixing the original Orshansky scales ignores Engel's law, i.e. that the percentage of food in the total budget declines as income increases. This should lead to the Orshansky scales overstating the minimum consumption needs. However, it is also true that the "economy" food plan is more expensive than similar "subsistence" plans that take into account minimum nutritional requirements only, since the economy plan allows some variation in the components of the alloted diet. (For an example of a subsistence plan consisting of only five items, see Stigler, 1945.) To the extent that some social standards were considered in the Orshansky method, the BLS poverty lines have a relativist element to them.

There is another sense in which the BLS procedure does measure absolute poverty conditions. The notion of absolute poverty has come to be identified with the use of poverty lines that are constant (in real-dollar terms) over time; the BLS poverty lines, corrected for inflation, are intended to satisfy this criterion. But then a second criticism of the BLS method is the use of the CPI to adjust for inflation. It is generally agreed that over the 1970s changes in the CPI overstated changes in the "true" cost-of-living (see Blinder, 1980; Jencks, 1984). If true, adjustment of the Orshansky scales using the CPI should lead to a poverty line increasing in purchasing power over time.

An alternative to the "absolute poverty over time" nature of the BLS procedure is to tie the movement in the poverty lines to changes in the average level of well-being in the society. This relative notion of poverty relies on the idea that individuals tend to view as necessities those commodities that are commonly consumed in society (e.g. cars, television, beer), so that as the standard of living

in the society increases so does the level of expenditure necessary for an individual not to feel "poor." The concept of relative poverty is closely linked to income inequality, since the more unequal the distribution of income the greater should be the extent of relative poverty. Fuchs (1967) has suggested a relative poverty standard—50 percent of median family income in each year—but little empirical use has been made of relative measures for the U.S.

One purpose of this paper is to explore the extent to which conclusions about the trend in poverty are sensitive to the particular poverty standard used. To this end, five different methods for setting the poverty lines will be used:

(1) the BLS/Orshansky poverty lines in 1982, adjusted for inflation using the CPI (i.e. the scheme used by the BLS in calculating the official poverty rate);
(2) the BLS poverty lines in 1982, adjusted for inflation using the GNP Personal Consumption Expenditure deflator (based on 1972 weights);
(3) an income/needs ratio (using the Orshansky scales for the needs measure) that is 60 percent of the median of the income/needs ratio for the population;
(4) an income/needs ratio which is 43.9 percent of the median for the population; and,
(5) the BLS poverty lines in 1982, adjusted for inflation using the CPI, and adjusted for diffrences in family size using equivalence scales suggested by Lazear and Michael (1980).

The reason for using (2) is the assertion that the CPI overstated the rate of inflation over the years 1967 to 1984. The third and fourth procedures are a move to a relative poverty measure. They are in the same vein as Fuch's suggestion, with the modification that using the income/needs ratio rather than just income takes into account differences in family size and "economies of scale" for larger families. The percentage 43.9 was chosen for (4) so as to make the poverty lines in 1967—the starting point for the empirical analysis—the same as in (1).[3] The last method changes the equivalence scales being used; the Lazear-Michael scales were chosen because they seem to be most different from the Orshansky scales.[4]

Since a concern of this paper is across-year changes in poverty, a final method of comparing poverty in two years was used. This method involves comparing the extent of poverty in each of the two years using every integer level of income (in 1982 dollars)—from $2 to the lowest median income for the two years—as the poverty line for both years. Differences in family size, etc., are taken into account through use of the Orshansky equivalence scales, while inflation adjustments are made using the CPI. If one year has a higher level of poverty at every level at which the poverty line is set, then that year is said to have unambiguously higher absolute poverty; otherwise, a poverty comparison will depend on where

[3]This method was originally used by Plotnick and Skidmore (1975).

[4]The Lazear-Michael scales are estimated using a utility-maximizing framework and observed expenditures on various classes of commodities for families of different sizes and different levels of incomes. As mentioned in their paper, most attempts at deriving new equivalence scales end with very similar numbers to those implicit in the Orshansky poverty lines. Their major difference is a finding of much higher economies in going from one-person to two-person units.

the poverty line is set.[5] For relative poverty, the "comparable" levels of income are adjusted for inflation, and for the ratio of the year's income/needs median to the median for 1983.

B. *Methods of Aggregation*[6]

Assume a population of n individuals, where q individuals have incomes below the relevant poverty line. The most commonly-used index of poverty is the headcount ratio, which is simply,

$$H = q/n$$

This is the measure used for the BLS official poverty rate. Another relevant statistic is known as the income-gap ratio,

$$I = 1 - \mu$$

where μ is the arithmetic mean of the income/needs ratio for those individuals in poverty. The income-gap ratio can be interpreted as the average percentage deviation of income from the poverty line for the poor population. However, it does not depend on the actual number of poor. It has been suggested that the product of the headcount ratio and the income-gap ratio, HI, be used as a poverty index, since it is a positive function of the number of poor and the average percentage deviation of y from z.

HI has been criticized for being insensitive to the extent to which incomes among the poor are distributed unequally. Sen (1976) was the first to make this criticism, suggesting an index that could be shown to depend on H, I, and the Gini coefficient for incomes below the poverty line. Subsequently, numerous other poverty indices were developed. Foster *et al.* (1984), suggest the measure

$$P_c = H[I^2 + (1-I)^2 C^2]$$

where C is the coefficient of variation of incomes among the poor. An index suggested by Blackburn (1989) can be written

$$P_t = H[T - \ln(1-I)]$$

where T is a measure of inequality suggested by Theil (1967), in this case computed for poor incomes only. P_t has similar properties to P_c, with the addition that it is more sensitive to very low incomes. The major limitation of using a logarithm-based measure, especially as a poverty index, is the difficulty in incorporating incomes less than or equal to zero. The empirical results in this paper were computed using an income of one dollar for nonpositive incomes.

C. *Data*

The source of data for this paper is the March Current Population Survey for various years from 1968 to 1985. The March survey contains information on

[5]See Atkinson (1987). The results of Atkinson also suggest that the headcount ratio (see below) is a sufficient poverty index to use in making these comparisons. Therefore, only the headcount ratio is analyzed in the comparisons described in the next section.

[6]A more complete discussion of the issues raised in this section is presented in Blackburn (1989).

family characteristics and total money income (which does not include income from in-kind transfers) in the previous calendar year. The sample size for the survey is roughly 60,000 households. The work in this paper uses a 10 percent sample of the March CPS for ten years—every other year from 1967 to 1983, plus 1984.

III. Trends in Poverty

The four poverty indices presented above—H, HI, P_c, and P_t—were computed for each of the five methods of setting the poverty lines outlined above.[7] Selected results are presented in Figures 1 and 2. Overall, the figures suggest that

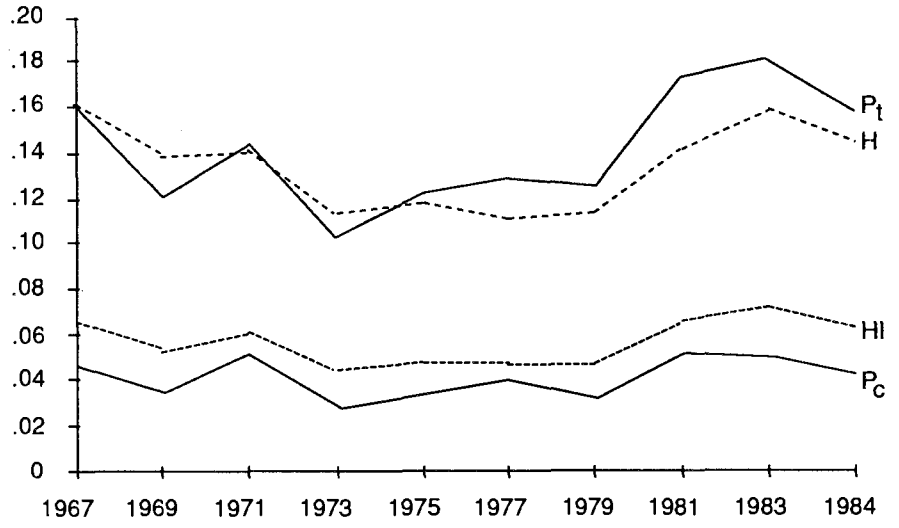
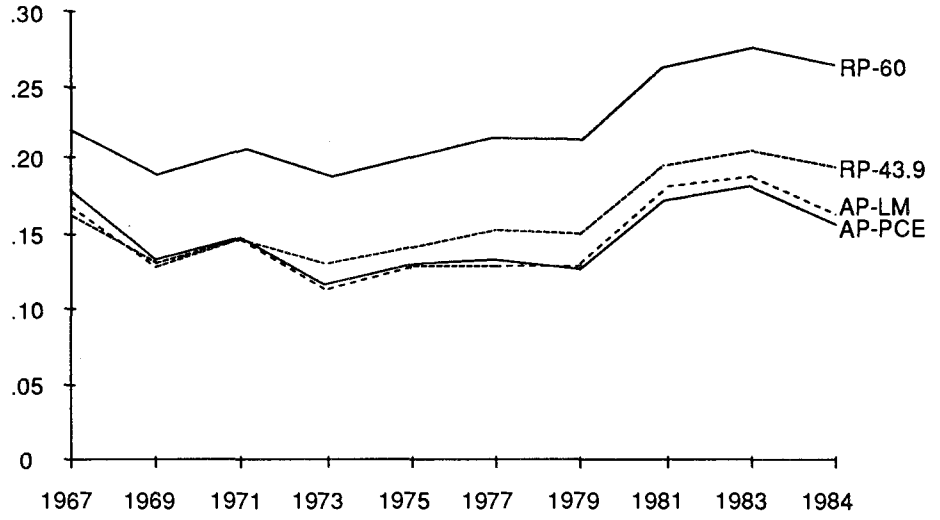


Figure 1. Absolute Poverty: Poverty Lines Adjusted Using the CPI

poverty in the U.S. declined from the middle 1960s to some point in the 1970s; after this point poverty began to increase. This pattern shows up for each of the four indices used, and for both absolute and relative measures of poverty. The major difference in conclusions drawn using different methods of setting the poverty lines has to do with whether poverty was higher or lower in the early 1980s than in the late 1960s. Focusing on the estimates of P_t presented in Figure 2, it can be seen that the absolute poverty measures suggest that poverty was roughly equal in 1967 and 1984, while the relative poverty measures suggest poverty was higher in 1984.

[7]The results for the headcount ratio presented in Figure 1 differ slightly from the official poverty statistics published by the BLS, for two reasons: one, the samples used in this paper are smaller; and, two, there were slight changes in the characteristics used by the BLS to assign to families their consumption "needs," while this paper uses a classification that does not change over time.



Definitions:

AP-PCE - absolute poverty using the PCE deflator
AP-LM - absolute poverty using Lazear-Michael equivalence scales
RP-60 - relative poverty at 60% of median income/needs
RP-43.9 - relative poverty at 43.9% of median income/need

Figure 2. P_t: Alternative Methods for Adjusting Poverty Lines

The components of the inequality-based indices for the CPI-adjusted poverty scales are reported in Table 1. The income-gap for the poor follows a pattern similar to the poverty indices. However, it is higher in 1983 than in 1967. The coefficient of variation of incomes among the poor shows little pattern, while the Theil measure suggests an upward trend in income inequality among the poor.

TABLE 1

COMPONENTS OF THE INEQUALITY-BASED MEASURES

	P_c			P_t	
Year	H	I	C	$-\ln(1-I)$	T
1967	0.161	0.411	0.599	0.529	0.468
1969	0.139	0.381	0.509	0.480	0.383
1971	0.145	0.393	0.590	0.499	0.453
1973	0.112	0.380	0.524	0.478	0.433
1975	0.118	0.406	0.575	0.521	0.528
1977	0.110	0.427	0.743	0.557	0.625
1979	0.113	0.412	0.540	0.531	0.528
1981	0.142	0.458	0.713	0.613	0.606
1983	0.159	0.456	0.584	0.609	0.530
1984	0.142	0.434	0.560	0.569	0.537

Note: The relevant poverty line is the Orshansky scale adjusted for changes in the CPI. See text for definitions of the symbols.

The results from comparing poverty at every level of income from $2 to the lowest median income/needs in the two years are reported in Table 2. The distributions for all ten years considered in this paper are compared to the distributions in 1967 and 1983. If the headcount ratio for one year lies above (or below) the headcount ratio for the other year, at every level for the poverty line, then the former year is said to have unambiguously higher (or lower) poverty. Otherwise, the comparison is noted in Table 2 as ambiguous. The results from these computations show that the comparison of poverty for most years is ambiguous. Yet, these comparisons also suggest a U-shaped pattern for both absolute and relative poverty.

TABLE 2

ABSOLUTE AND RELATIVE POVERTY COMPARISONS OF ALL YEARS WITH 1967 AND 1983

(Year with higher poverty, *A* = ambiguous)

	Absolute		Relative	
Year	1967	1983	1967	1983
1967	—	*A*	—	*A*
1969	67	*A*	67	83
1971	*A*	*A*	*A*	83
1973	67	83	67	83
1975	67	83	*A*	83
1977	*A*	*A*	*A*	*A*
1979	*A*	83	*A*	83
1981	*A*	*A*	81	*A*
1983	*A*	—	*A*	—
1984	*A*	83	*A*	83

Note: For the two-year comparisons, the year in which the headcount ratio is higher for all values of the poverty line below the (lowest) median is listed in the table. If the comparison depends on where the poverty line is set, it is coded as *A* for ambiguous. The absolute poverty comparisons are made using poverty lines equal in real dollars across the years. The relative poverty lines are also adjusted for changes over time in the median income/needs ratio.

IV. FACTORS ASSOCIATED WITH CHANGES IN POVERTY

Can changing demographics explain the observed pattern for measured poverty? In this section, I focus on the extent to which shifts in the characteristics of the population can account for the observed pattern for poverty. The method used is to study the relationship between a family's income status and the characteristics of that family that are relevant in determining income. Instead of simple univariate decompositions, a multivariate technique (described below) is employed.

In studying the factors associated with a family's poverty status, one possible avenue is to model the probability that a family will be poor as a function of observable chracteristics of the family. Such a model could be estimated using a probit or logistic regression procedure. However, such probability models are

generally used when the variable underlying the dichotomous variable is unobserved (see Madalla, 1983). For a poverty probability, the latent variable is the income/needs ratio of the family, so using only the poor/nonpoor dichotomy results in a loss of information.

The procedure used in this section involves a simple, linear model for the variable that we wish to explain—the income/needs ratio. Estimated at the family level, the model is used to simulate distributions of income/needs holding constant variation in a subset of the explanatory factors. This allows us to compute poverty indices after removing the effects of factors of interest.[8]

A. *Model and Simulations*

The model to be estimated is

$$d_{ti} = \beta' x_{ti} + e_{ti}, \qquad i = 1, \ldots, n_t,\ t = 1, \ldots, T \tag{1}$$

where $d_{ti} = y_{ti}/z_{ti}$ is the income/needs ratio of the ith family in year t, x_{ti} is a vector of explanatory variables, β is a vector of corresponding parameters, and e_{ti} is an error term assumed to have zero mean and constant variance across i (in any year t). The data used are not longitudinal, so the ith family in year 1 is not the same unit as the ith family in year 2. The vector of parameters is assumed to be constant across years.

Assuming one model for all years allows us to examine how changes in the distribution of the independent variables have affected the income/needs distribution, holding constant the correlations that exist between income/needs and the vector x. For instance, to control for the kth element in x, we set that element's value equal to the sample mean for that variable (across families and years), for every family. If we let x_{ti}^* be the x_{ti} vector with the kth variable set equal to its mean, we can compute for each family a predicted value for income/needs holding constant the variation in the kth variable, i.e.

$$\hat{d}_{ti} = \hat{\beta}' x_{ti}^* + \hat{e}_{ti}.$$

which uses both the estimates for the parameter vector ($\hat{\beta}$), and the estimated error term ($\hat{e}_{ti}$).

By setting the value of a particular variable equal to its mean across years, we set the variance of that variable equal to zero without changing the mean value for income/needs. This removes the effects both from the variance of that variable in any one year, and from the differences in the mean of that variable across years. It also causes all covariances with other explanatory variables to be set equal to zero. The simulated values of income/needs can then be used to compute poverty indices for each year. In assessing the impact of the kth factor, a natural comparison to make is between the actual level of poverty and "simulated" poverty holding the kth factor constant. Note that this difference is the effect from removing both variation in the kth factor and covariation between the kth factor and other measurable determinants of income/needs.

[8]In spirit, this analysis is similar to Wolfe *et al.* (1982). The major difference is that total income, rather than individual sources of income, is modeled.

Another way to estimate the impact of the kth factor is to set all other factors equal to their sample mean while allowing the kth variable to equal its sampled value. If we let x_{ti}^{**} be the resulting vector, we can simulate poverty using the predicted values

$$\hat{d}_{ti} = \hat{\beta}' x_{ti}^{**} + \hat{e}_{ti}.$$

This could be compared to a distribution where all k factors are set equal to their means, i.e.

$$\hat{d}_{ti} = \hat{\beta}' \bar{x} + \hat{e}_{ti},$$

where $\bar{x}$ is the vector of sample means. In this comparison, covariances between the kth factor and all other factors are zero in both distributions, so only effects from the variance of the kth factors are reflected in the differences in poverty for the two distributions.

The distribution of income/needs will also change over time if the variation from omitted factors is not constant. To measure this effect, the residuals from the least-squares estimation of (1) are used to estimate the average absolute deviation of the errors, i.e. the average of the absolute values of the residuals, for each year. If we let s_t be the value of this average for year t, and S the value for all years combined, the predicted values

$$\hat{d}_{ti} = \hat{\beta}' x_{ti} + (S/s_t)\hat{e}_{ti}$$

can be used to generate a distribution with the unexplained variation held constant across years.[9]

The independent variables for the income/needs model consist of the following groups of characteristics of the family or principal earner of the family:[10]

(1) age of the principal earner;
(2) education of the principal earner;
(3) family size, and marital status of the head;
(4) minority status, including controls for race and sex of the principal earner;
(5) labor supply, based on number of earners, full-time year-round status, and incidence and duration of unemployment;
(7) year dummies; and,
(8) region dummies.

The simulations were performed holding constant the variation of every variable included in a particular group of factors. Data from the years 1967, 1977, and 1983 are used in the estimation.[11]

Each of the eight groups of independent variables has at least one variable with a statistically significant coefficient. The estimates of the income/needs

[9]Conclusions do not differ substantially if the standard deviation of the residuals, rather than the average absolute deviation, is used.

[10]Since the BLS changed its definition of household head over the period under study, the concept of a "principal earner" is used. If the unit was headed by an unmaried individual, then that person is the principal earner. If the unit is headed by a married couple, then the spouse with the higher earnings in the previous year is the principal earner.

[11]The "needs" measure uses the BLS poverty lines adjusted using the CPI. The exact specification, and the results of the OLS estimation of the model, are available from the author upon request.

equation lead to the following conclusions: one, older workers seem to receive higher benefits (in family welfare terms) from education than younger ones; two, larger families, other things equal, have lower average welfare; and three, the hardship effects of unemployment are only experienced by those unemployed for more than 26 weeks. The year dummies are intended to capture differences in the average level of income/needs across years, controlling for other factors. The estimates also show that both 1967 and 1983 have significantly lower average income/needs ratios than 1977.

B. *Results for the Simulations*

The value of the headcount ratio computed for various simulated distributions is reported in Table 3. The top panel of Table 3 reports the headcount ratio

TABLE 3

MEASURES OF ABSOLUTE POVERTY, CONTROLLING FOR DETERMINANTS OF FAMILY INCOME/NEEDS RATIO

A: Poverty Holding Constant Variation in One Factor

	Headcount Ratio		
Factor Held Constant	1967	1977	1983
(1) None	0.161	0.110	0.159
(2) Age	0.155	0.110	0.144
(3) Education	0.089	0.074	0.115
(4) Family-type	0.089	0.092	0.108
(5) Minority	0.160	0.086	0.129
(6) Labor Supply	0.187	0.092	0.119
(7) Year	0.100	0.137	0.168

B: Poverty Holding Constant Variation in All but One Factor

	Headcount Ratio		
Factor Allowed to Vary	1967	1977	1983
(1) None	0.038	0.059	0.067
(2) Age	0.035	0.066	0.077
(3) Education	0.048	0.051	0.056
(4) Family-type	0.128	0.135	0.138
(5) Minority	0.038	0.055	0.065
(6) Labor Supply	0.049	0.077	0.086
(7) Year	0.059	0.049	0.065

C: Poverty Holding Residual Variation Constant Across Years

	Headcount Ratio		
	1967	1977	1983
(1) Variation in No Factors Held Constant	0.168	0.109	0.154
(2) Variation in All Factors Held Constant	0.055	0.057	0.059

for simulated distributions that hold the specified group of variables constant (at the mean levels), but keeps all other variables at their actual values; panel B reports the headcount ratio for simulated distributions that hold all but the specified group of variables constant.

The most important effects on poverty in a given year come from variation in the family-type variables, and from the year effects. Education effects would seem to be large when comparing row (1) to row (3) in panel A, but not making the same comparison in panel B. This difference in conclusions is likely due to a negative correlation between education and other factors that would leave a family near the poverty line, e.g. low educational level might be associated with low labor supply or a high incidence of divorce. Equalizing educational attainment across families thus has a large effect when we allow these other factors to vary, but not when we hold them constant across families.

In terms of differential impacts across years, the most significant contributors to increasing poverty are family type, and, to a lesser extent, age. This can be seen from the addition to poverty that results from "adding back" the effects of these factors. For example, the differences in the numbers in row (1) and row (4) in panel *A* are higher in 1967 and 1983 than in 1977. Labour supply appears as a factor that is at least partially responsible for the increase in poverty over the years 1977 to 1983.

Perhaps the most interesting result from the simulations is presented in row 7 of panel A. Here, the simulated distribution allows all variables to vary except the year dummies; this has the effect of equalizing the variation in the mean value for income/needs across years that is not due to variation (across years) in other factors controlled for in the model. After removing the effects of these mean differences, the pattern for poverty is no longer U-shaped, but rather increases from 1967, to 1977, and from 1977 to 1983. This same conclusion is suggested after comparing row (7) of panel B—where year effects are still present in the simulated distribution and poverty is still U-shaped—to row (1) of panel B—where year effects are removed and poverty follows an increasing trend.

Accounting for differences in the unexplained variation, as well as differences in characteristics, leaves us with the poverty measures in panel C of Table 3. After controlling for all factors, poverty still follows a slight increasing pattern from 1967 (0.038) to 1977 (0.059) to 1983 (0.067). Since 1983 has the largest average absolute deviation for the residuals, and 1967 has the lowest, the effect from equalizing the residual variation is to make poverty more or less equal across years (row 2 of panel C). This suggests that at least part of the explanation is variation from some uncontrolled factor (or factors) which has had an increasing impact on the inequality of income/needs over time. These uncontrolled factors might include baby-boom cohort effects, shifts in employment from goods to services, the effects of technological change on the demand for skills in the labor market, and changes in the distribution of payments from government transfer programs.[12]

[12]For a discussion of the effects of technological change and sectoral shift on the distribution of income, see Blackburn and Bloom (1987).

VI. Conclusion

Various methods of measuring poverty and setting poverty lines lead to the same conclusion: from 1967 to 1983, poverty fell, then increased. Yet over this period, characteristics of the U.S. population changed such that those groups of the population who tend to have high levels of poverty increased as a proportion of the population. Factors that were especially important to the increase in poverty were family size and composition, age and marital status of the head, and labor supply (and unemployment) within the family. The puzzle that remains is explaining why poverty decreased from 1967 to 1977, when demographic shifts should have resulted in an increase in poverty.

The reason that poverty declined from 1967 to 1977 in the face of these demographic shifts would seem to be the presence of growth in the average level of income. Average incomes fell in the late 1970s and early 1980s. Since this decrease was combined with demographic shifts that tended to increase poverty, an increase in poverty occurred. For instance, the average gross hourly earnings index of the BLS grew 8.5 percent from 1967 to 1977, but fell 5.2 percent from 1977 to 1983. Median income/needs likewise increased 29.4 percent in the early period, but decreased 6.2 percent in the later years. If generosity of government transfer programs is tied to the average wage level, this lack of growth in wages may have lead to a failure of transfer program payments to increase in the later period. For instance, the average monthly payment per recipient in the *AFDC* program increased by 10.7 percent in the first half of the eighteen-year period, but fell by 15.8 percent in the latter half. In sum, the performance of the economy as a whole does appear to have an important effect on the poverty status of the U.S. population.

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