Inflation, Unemployment, and Poverty Revisited

by Elizabeth T. Powers

Elizabeth T. Powers is an economist at the Federal Reserve Bank of Cleveland. The author thanks David Altig, Alan Auerbach, Louise Scheiner, Daniel Slesnick, and the editorial board of the Economic Review for helpful comments, and Kristin Roberts for valuable research assistance.

Introduction

A small but influential body of literature has attempted to estimate the effect of selected macroeconomic variables on poverty.[1] Such exercises may serve several purposes. For example, general knowledge of predictable empirical relationships among these variables might aid fiscal planning. However, most of this work has been motivated by "the frequent outcries against inflation on the grounds of its adverse effects on the distribution of income."[2] This literature consistently finds that inflation has a relatively minor impact on the incidence of poverty and on the well-being of poor and near-poor households. Because most economists working in this area assume that there is a direct trade-off between inflation and unemployment, controllable by the policymaker, the critical comparison is between the effects of the inflation and unemployment rates on poverty.

This paper considers the relationship between these macroeconomic variables and an alternative poverty measure that is based on consumption rather than income. Otherwise, I follow the methodology of the existing literature closely. My research findings suggest that changes in the unemployment rate are important in explaining variation in both the conventional income poverty rate and a consumption-based poverty rate (which I call the JS poverty rate, after work by Jorgenson and Slesnick [1987, 1990] and Slesnick [1993]). However, in sharp contrast to previous findings that inflation has very little effect on income poverty, I find a robust and relatively large positive relationship between inflation and the consumption poverty rate. Thus, my findings suggest that inflation may have a more adverse effect on poverty than was previously thought.

Before explaining the methodology and findings, it is important to note that there are several possible avenues for improving on the existing literature. Perhaps most seriously, the relationship between inflation and unemployment, long a subject of intense debate, is not modeled. Typically, aggregate indicators of poverty such as the share of all income received by the 20

■ **1** For example, while it is not the focus here, aggregate economic growth is a frequently used macroeconomic indicator variable in this literature. See Powers (1995) for a discussion.

■ **2** See Blinder and Esaki (1978), p. 604.

percent (quintile) of households reporting the lowest income, or the poverty rate (the percent of the population living in households with income below a given level), are simply regressed on measures of unemployment and inflation. Inflation and unemployment rates are treated as if they have no influence on each other, or are not both partly determined by some common factor. This is at odds with most theoretical treatments of the macroeconomy, and ignoring the existence of these relationships can result in unreliable estimates.

Use of the quintile share of income as a poverty indicator can also be misleading. In many cases, this variable is not informative about changes in the welfare of the poor. For example, suppose that households in the top income quintile are taxed and the proceeds destroyed. By definition, the total income share of the bottom group must rise, yet it is obvious that this latter group is not better off in any substantive way. For similar reasons, empirical estimates of the influences of inflation and unemployment on quintile shares are not easily interpreted. Inflation or unemployment may harm low-income groups absolutely, even while their effects on quintile shares are positive or negative.[3]

Finally, except for the work of Cutler and Katz (1991), this literature has developed under the assumption that income poverty concepts adequately measure economic well-being. In the past, this has been a matter of necessity, because income data were the most comprehensively and consistently collected. However, economic theory suggests that the goods and services actually consumed by a family or individual are a better measure of their well-being (the economist's ideal measure being utility). Poverty measures based on income and consumption are expected to differ because, in principle, money income and consumption can differ substantially.[4] This means that *who* is classified as poor can vary across the two measures. Further, the predominant economic model of consumption argues that households attempt to protect their standard of living from short-term income swings. This implies more year-to-year variation in household income than in consumption. Hence, the income poverty count should also include more families who are transitorily poor, while consumption poverty should include more families who view their status as persistent. For all these reasons, relationships found to hold with respect to poverty measured on an income basis may not be robust with respect to poverty measured on a consumption basis.

Because of the difficulties in interpreting the quintile-share measures of well-being, I focus exclusively on the poverty rate.[5] However, the poverty rate has some severe limitations of its own. After all, it is merely a head count of those below a particular threshold, and changes in macroeconomic conditions can dramatically affect the well-being of the poor without changing the actual head count at all. Therefore, it is important to remember that the poverty rate portrays only a single (albeit important) feature of the nation's poverty situation.

While the modeling of the macroeconomy in previous work is obviously open to question, there is so little agreement on the proper model that such an approach is unappealing. Instead, I accept the premises on which the previous literature rests, and ask whether these findings are robust with respect to the poverty concept employed. Thus, this paper is best interpreted as a sensitivity analysis of the previous findings vis-à-vis inflation, unemployment, and the poverty rate.

The paper's first section discusses and interprets the findings of the previous literature. Section II traces the history of the official measure of income poverty and considers its flaws. The development of the alternative historical series of consumption poverty rates presented in Slesnick (1993), and the differences between it and the conventional poverty series, are discussed in section III. Section IV revisits the issue of inflation, unemployment, and poverty using alternative poverty and inflation measures. Section V concludes.

I. Unemployment, Inflation, and the Conventional Poverty Rate

In this section, I discuss and update the previous literature's findings on inflation, unemployment, and income poverty. To interpret the

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3 In fact, it is easy to construct a model in which the impact of inflation is consistently positive or negative on all incomes, but the relationship between inflation and any quintile's share, and even the ratio of low to high shares, is nonmonotonic.

4 In theory, low-income households could also be drawing on savings, borrowing against future income, receiving gifts or government transfers of goods and services, or even getting income from the underground economy. Of course, whether they actually do so is an empirical question.

5 While the poverty rate has its own limitations, at least its predicted relationship with the variables of interest here is unambiguous.

findings, however, it is important to consider the microfoundations of income poverty and to understand how changes in macroeconomic variables are transmitted into changes in poverty rates. How might higher overall unemployment affect the number of persons living in poverty? The majority of families rely on labor-market earnings for most of their income, so episodes of unemployment may result in large income declines. It is also well known that unemployment in cyclical downturns is disproportionately borne by people whose earnings are low to begin with—those whose incomes are most vulnerable to slipping below the poverty level.[6] These factors are expected to produce a strongly positive relationship between unemployment and poverty rates. However, there are other, potentially mitigating, factors. Some have theorized that the pattern of wages over the business cycle could be procyclical,[7] and that dependency on government transfer payments might also lessen the poverty rate's sensitivity to unemployment by reducing the role of earned income.

Dependence on unindexed income is the obvious channel through which inflation might affect income poverty rates. Households that rely on nominally fixed payments for a substantial portion of their income could be driven into poverty by inflation; this implies a positive relationship between inflation and poverty rates. The primary sources of nominally fixed income are means-tested transfer payments (Aid to Families with Dependent Children [AFDC] and states' General Assistance programs being the only significant unindexed cash-transfer programs) and the minimum wage.[8] It is also possible that employers exercise temporary market power in inflationary periods, allowing real wages to fall in the short run. Finally, as the next section discusses, the poverty line was probably overindexed for inflation throughout the 1970s and 1980s, implying that some portion of poverty-rate increases may be explained by increased inflation itself.

The primary studies on inflation, unemployment, and the size distribution of income in the United States are those of Blinder and Esaki (1978), Blank and Blinder (1986), Blank (1993), Cutler and Katz (1991), and Mocan (1995). Except for Blinder and Esaki (who estimate only income shares), all of these studies estimate straightforward empirical relationships between poverty rates and macroeconomic variables.[9]

Blank and Blinder (1986) first examined the relationship between unemployment, inflation, and official income poverty rates for families and persons. Their regression findings indicate

that inflation and unemployment rates were both positively related to the percent of all persons living in poverty during the 1959–1983 period. However, while inflation was associated with an increase in the steady-state poverty rate, this effect was only one-seventh the magnitude of the poverty-increasing effect of a rise in the unemployment rate. This led Blank and Blinder to conclude that while both unemployment and inflation worsen poverty, the empirical evidence supports their belief that "unemployment, not inflation, is the cruelest tax." Blank (1993) also found a significantly positive relationship between inflation and poverty rates. In contrast, Cutler and Katz (1991) and Mocan (1995) reported a relatively small *negative* relationship between inflation and poverty. A strong, robust, positive relationship between poverty and unemployment has been consistently observed.

Because of revisions to data series as well as the availability of new data since the original studies appeared, I have updated some representative findings in the literature using the poverty rate for persons, as computed by the Census Bureau from 1959 to 1992 (table 1). The specification in the first column includes an intercept term, an inflation measure (the growth rate of the Consumer Price Index for all urban consumers, or CPI-U), the unemployment rate for prime-age males, and additional explanatory variables, including the ratio of the poverty level for a family of four to mean household income, and a trend for the years after 1983. In the second column, the one-period lag of the poverty rate is added to the specification as a crude control for any dynamic features of the evolution of poverty.[10] The unemployment rate for males

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■ **6** While it is probably safe to assume that families starting out nearest the poverty line are most vulnerable to crossing it, there is also substantial income mobility from year to year in the U.S. economy. It is possible that some people whose incomes put them well above the poverty line one year might find themselves below it the next.

■ **7** The evidence on this matter is inconclusive.

■ **8** It is doubtful that these income sources exert an important influence on the poverty rate. Very few families of any kind contain a minimum wage earner (see, for example, Horrigan and Mincy [1993]). And, while real AFDC benefits have been declining over the past 20 years, the effect on per capita benefits has largely been mitigated by declining household sizes.

■ **9** A number of studies apply this methodology to foreign economies, a recent example being Yoshino (1993) on Japan. Minarik (1979) used an alternative microsimulation approach to examine the effect of inflation alone on the size distribution of income.

■ **10** The specifications reported in the first two columns are similar to those presented in Cutler and Katz (1991).

TABLE 1

Regression Findings for Income Poverty, 1959–1992

Dependent Variable: Income Poverty Rate for Persons

Explanatory Variables			
Constant	−10.44[a] (1.29)[b]	−6.65[a] (1.09)	−5.10 (4.185)
Poverty line/ mean income	0.635[a] (0.029)	0.289[a] (0.058)	0.366[a] (0.111)
Inflation (growth in CPI-U)	−0.114[a] (0.043)	0.065[c] (0.039)	0.081[c] (0.049)
Prime-age-male unemployment rate	0.433[a] (0.068)	0.323[a] (0.046)	0.584[a] (0.224)
Post–1983 trend	0.338[a] (0.054)	0.199[a] (0.042)	
Lagged-income poverty rate		0.586[a] (0.090)	0.371[a] (0.119)
Post–1982 dummy (1983–1992 = 1)			−3.41 (2.39)
Government transfers to persons/GNP			−0.278 (0.237)
Interactions with Post–1982 Dummy			
Prime-age-male unemployment rate			−0.748[a] (0.190)
Government transfers to persons/GNP			0.787[a] (0.247)
Inflation (growth in CPI-U)			−0.039 (0.149)
Adjusted R^2	96.8%	98.5%	98.6%
Number of observations	34	33	33

a. Significantly different from zero at the 5 percent level or greater.
b. Standard errors are in parentheses.
c. Significantly different from zero at the 10 percent level or greater.
SOURCE: Author's calculations.

aged 25–54 is used to capture unemployment effects on poverty, since the total unemployment rate is influenced by demographic trends that may independently affect the income poverty rate. The ratio of the poverty line to mean household income is intended to control for the shape of the income distribution near the poverty line (see Danziger and Gottschalk [1986]). Finally, the post–1983 trend attempts to account for that era's unusually and persistently high poverty rate (Cutler and Katz [1991], Blank [1993]).

In the first two columns, the unemployment rate shows a strong positive effect on the income poverty rate.[11] An increase of one per-centage point in the prime-age-male unemployment rate raises the poverty rate by an estimated 0.3 to 0.4 percentage point. According to the first column, periods of high inflation are associated with poverty-rate reductions. An increase of one percentage point in the inflation rate leads to a reduction of 0.1 percentage point in the poverty rate. However, the findings with respect to inflation are sensitive to specification; the findings reported in the second column suggest that inflation has a (weakly) positive effect on the income poverty rate.

The final specification, reported in the last column, is similar to those in Blank (1993) and Blank and Blinder (1986). In addition to the previous variables, Blank includes a measure of government policy (government transfers to persons divided by GNP) and tests for structural change in the relationship between unemployment, policy, and poverty after 1982. I have added a term to test for a structural change in the inflation effect as well. Unemployment has the strongest effect in this specification, while inflation has only a weakly positive impact. All of the macroeconomic variables appear to have perverse effects in the post–1982 world, as noted by Blank.

Recently, Mocan (1995) has presented a more elaborate econometric treatment of the relationships between unemployment, inflation, and poverty. He specifies poverty rates as a function of unemployment, inflation, and real wages, and uses a "flexible" model of the trend in the poverty rate. The problem is that the deterministic trends previously used in this literature may be inappropriate if the trend in the poverty rate is subject to stochastic disturbances. This issue is important because proper detrending of the data is critical for reliable parameter estimates. Mocan also decomposes unemployment into its short- and long-run components and inflation into its anticipated and unanticipated components, and analyzes black and white poverty rates separately.[12] While Mocan finds that cyclical unemployment has almost no effect on income poverty, long-run (structural) unemployment has a significantly positive effect. He also finds that both expected and unexpected inflation significantly *reduce* poverty,

11 It should be noted that to preserve comparability with previous studies, I do not correct for the obvious autocorrelation in all of the specifications in table 1. However, corrected estimates (which are not reported) are qualitatively similar.

12 Blank and Blinder (1986) also decomposed inflation, but found no significant differences between unanticipated and anticipated inflation effects.

with the former having the larger impact. The negative effect of inflation on the person poverty rates for blacks and whites is about one-third of Mocan's estimated poverty reductions from a decrease in structural unemployment.

To summarize the literature's findings, unemployment is consistently estimated to have a strong positive effect on the income poverty rate, suggesting that joblessness is responsible for pushing many households' incomes below the poverty level. This finding is quite robust with respect to various empirical specifications. While the estimated effect of inflation is very sensitive with respect to specification, it seems to have at most a small positive impact on the poverty rate, and may even be associated with poverty-rate *declines*.

Unfortunately, these findings are developed in the context of a poorly specified measure of poverty. A consumption-oriented approach to poverty suggests that the important factors are the total resources available to a family over long periods, and the family's ability to rearrange these resources over time. If consumption and income poverty rates turn out to be very different, one expects that the findings vis-à-vis inflation, unemployment, and poverty will also be very different—for two reasons. First, as I discuss below, the mechanisms by which unemployment and inflation may be translated into consumption poverty are quite different from those influencing income poverty. This suggests that the relationship of macroeconomic variables to consumption poverty is potentially very different from their relationship to income poverty. Second, the income poor and the consumption poor may be dissimilar groups of people. (For example, they appear to vary in age and racial composition, according to Slesnick [1993].) Since the response to macroeconomic conditions is undoubtedly heterogeneous across the population, changing the type of households under consideration should also change the aggregate relationships.

Of course, if income poverty is a close approximation of the underlying "true" consumption poverty rate, these issues will be significant only in theory, not in practice. In the next section, I review Slesnick's (1993) calculation of consumption poverty.[13]

II. The Mismeasurement of Poverty

A Brief History of the Poverty Line

The official government poverty rate is the proportion of the population whose pretax income falls below specified levels, called "poverty thresholds" or "poverty lines." Today's official poverty thresholds have their antecedents in the poverty lines developed for the Social Security Administration by Orshansky (1988) in the early 1960s. Because budget studies from the 1950s found that the typical low-income family spent about one-third of its budget on food, Orshansky took the USDA's Economy Food Plan (a nutritionally adequate but inexpensive collection of food items) and multiplied it by three to arrive at a level of total expenditures designated as the poverty line.

Poverty thresholds were further refined for the heterogeneous nutritional requirements of families with different structures. Until 1981, a particular family's threshold depended on family size, sex and age of the household's head, number of related children under 18, and farm or nonfarm residence. Smaller families devote a relatively smaller share of total expenditures to food; women have lower caloric requirements than men; children eat less than adults; and farm families can consume home-grown food. All of these considerations suggested lower multiplicative factors, and hence lower poverty expenditure thresholds, all else being equal.[14] In 1981, calculations of differences due to sex of the household head and farm versus nonfarm residence were eliminated by legal challenges.

Nominal thresholds must be adjusted over time to reflect declines in purchasing power. Prior to 1981, the nominal poverty line was increased by food-price inflation only. By ignoring other prices, these adjustments sometimes overstated, sometimes understated, the increase in total nominal expenditures required to maintain a constant standard of living. Since 1981, the CPI-U has been used to inflate the official poverty thresholds from their 1963 values to current dollars.

13 The material in section II is drawn primarily from Slesnick (1993) and Ruggles (1990).

14 Indeed, it is possible to differentiate along many more characteristics, as suggested by Slesnick (1993).

Alternative Inflation Rates, 1951–1989

Annual percentage change
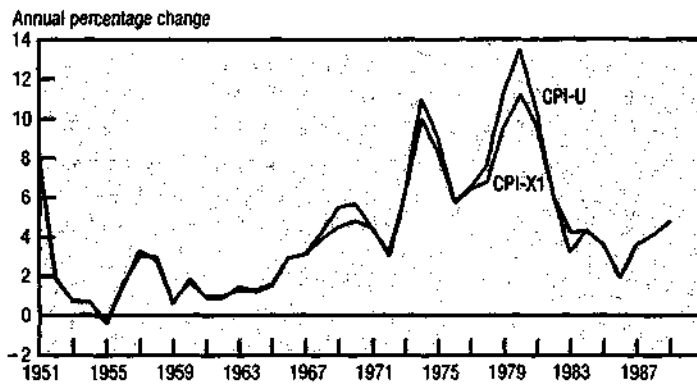
SOURCE: Author's calculations.

Problems with the Official Poverty Rate

As Slesnick (1993) points out, the conceptual basis for the official poverty statistic, based on an expenditure concept, is fundamentally sound. However, several features of the poverty thresholds are simplistic and may bias the measurement of poverty. Foremost among these are benchmarking against food consumption and the inflation adjustment. Using family equivalence scales based entirely on food needs will in some cases understate, and in other cases overstate, efficiencies in the shared consumption of nonfood commodities. For example, a childless couple may need almost twice as much food as one person, but they will not need twice as many rooms in their apartment. Thus, multiplying their Economy Food Plan figure by three may lead to a gross overstatement of their minimal expenditure requirements. Because the food equivalence scale will understate efficiencies of shared consumption in other items, the direction of the total bias that results from relying solely on food shares is unpredictable a priori.

Several obvious issues are raised by adjusting the poverty thresholds by a single inflation rate each year, and several problems are peculiar to the CPI-U. First, an increase in the general price represents the combined effect of increases (and/or decreases) over all prices, but all prices do not necessarily rise at the same rate. When, for example, inflation is concentrated in the price of necessities, the poor, who devote a greater fraction of total expenditures to these

items, will be harmed more than others. This suggests that poverty thresholds should be adjusted by price indexes that are relatively more sensitive to rising prices of items consumed intensively by the poor, rather than by the CPI-U, which reflects inflation based on expenditure patterns of the average family.

Another potential problem of applying a single inflation measure to poverty thresholds is that expenditure patterns may adjust in ways that mitigate welfare losses from price changes. In theory, families can accommodate fairly significant inflationary episodes by adjusting the types and relative quantities of goods they consume.[15] For instance, when beef prices rise relative to chicken prices, consumers may substitute chicken for beef. These behavioral responses result in smaller declines in living standards than if expenditures remained frozen in their former patterns. Since the CPI-U is only infrequently reweighted for changes in expenditure patterns (and not of the poor, but of the average family), applying it to the poverty line overstates the increase in poverty thresholds required to approximate the same level of well-being.

A final problem, peculiar to the CPI-U itself, is its treatment of housing. Before 1984, the housing component was set equal to the financial cost of housing, not the flow of housing services. Thus, periods of high mortgage rates are periods of overstated inflation in the CPI-U series. Figure 1 shows both the CPI-U and the alternative CPI-X1, which uses rental costs as a proxy for housing service prices. The CPI-U overstates inflation in the late 1960s and late 1970s, implying that poverty thresholds rose by more than the amount needed to maintain a constant standard of living, and overstating recent poverty rates. After 1984, the two price indexes are the same.

With the exception of the housing error, the above factors make a relatively minor contribution to the mismeasurement of poverty (Slesnick [1993]). The most serious divergence between theory and implementation is the use of pretax income, rather than expenditures, as the yardstick for poverty. This practice accounts for most of the mismeasurement of poverty. In the next section, I explore the construction of alternative consumption-based poverty rates and the biases introduced by the use of income- rather than consumption-based rates.

■ **15** That is, substitution as well as income effects are associated with price changes.

III. A Consumption-Based Poverty Rate

The accurate estimation of consumption-based poverty rates is a daunting task. Slesnick (1993) overcomes several obstacles to arrive at a series that addresses the many problems discussed in the previous section. His estimates are developed under the assumption that families act as life-cycle consumer units, saving and dissaving to smooth consumption over time.[16] An implicit assumption is that the fraction of "misers" in the population is small. Presumably, for most families, a consumption poverty classification reflects low resources rather than a preference for low consumption.

Slesnick's basic consumer data are from the Consumer Expenditure Surveys (CES) for 1960–1961, 1972, 1973, and 1980–1989.[17] Measuring poverty on the basis of consumption, rather than income, is not a simple matter of comparing CES expenditure data to the standard poverty thresholds. First of all, expenditure and consumption are not equivalent concepts. For example, contributions to retirement funds (including Social Security taxes), which the CES records as expenditures, are really savings, since they contribute directly to future living standards. Contributions or gifts to other households, while available, are not used by Slesnick, since a consistent treatment would greatly complicate the modeling of consumption. As in computing official poverty status, Slesnick excludes in-kind transfers of housing subsidies and health care from his measure of consumption, although conceptually they should be included. Finally, many goods are consumed over long periods and not immediately upon purchase. Expenditures for these "durable" goods may occur all at once or over a period of years (homes and cars are frequently paid for in this way). There is no reason to expect payment schemes to exactly match the flow of value from the consumption of these services. Instead, Slesnick imputes the rental equivalent (what one would be willing to pay to rent the identical item) for durables in each survey year.

The JS equivalence scales used to adjust for differences across family types are more detailed than the official equivalence scales. They measure how expenditure patterns for all items (not just food) change when household composition changes. In contrast to the official rates, which are based solely on nutritional requirements, and which vary only according to size and age characteristics of families and individuals, the "JS equivalence scales ... vary over any set of demographic attributes that

influence household expenditure patterns" (Slesnick [1993]).

Slesnick addresses many of the indexing problems associated with the conventional poverty rate. For any combination of price changes, he estimates the minimum nominal change in total expenditures necessary to maintain a constant standard of living, which amounts to a specific cost-of-living index for each household. The index is applied to the base-year poverty threshold (which has been converted to a consumption-equivalent basis). This general deflator accounts for several factors excluded by the CPI-U, including the fact that price changes affect families with different consumption patterns differently and lead to substitution of less expensive for more expensive commodities. However, Slesnick shows that these adjustments' effects on measured poverty are quite small. The primary impact on poverty rates comes through the correction for the overstatement of inflation in the CPI-U due to the mistreatment of owner-occupied housing costs.

Figure 2 shows the official income poverty rate and the JS consumption poverty rate for 1959–1989. Both the levels and trends of the two rates are quite different. Except for a period in the late 1960s, the official poverty rate is higher than the JS rate. Both rates decline from 1961 to the beginning of the 1970s. However, they paint dramatically different pictures of recent poverty trends. Because the JS family equivalence scales set a relatively lower poverty threshold for female heads than do the official equivalence scales, JS poverty continues to trend downward over the 1970s, when the proportion of female heads in the general population was rising dramatically and pushing up the conventional poverty rate.[18] While the official rate indicates a strong resurgence in poverty throughout the early 1980s and persistently high rates thereafter, the JS rate, after a sharp increase around the time of a recessionary trough in


■ 16 Since a brief discussion can convey only the major contributions, readers with a deeper interest in the methodology and implementation should consult Slesnick (1993) and the references therein. It should also be noted that the application of the life-cycle model to low-resource households is controversial.

■ 17 Imputation methods involving auxiliary information from the Current Population Surveys are used to derive poverty rates for the years not covered by the CES. Given the available data, this is the best one can do. The imputation process probably errs on the side of making the consumption poverty measure and the official poverty measure more similar.

■ 18 The primary reason for the lower JS thresholds for female-headed households is that children in these families are on average younger than children in two-parent families and so consume less.

**Alternative Poverty
Rates, 1959–1989**

Percent of persons in poverty
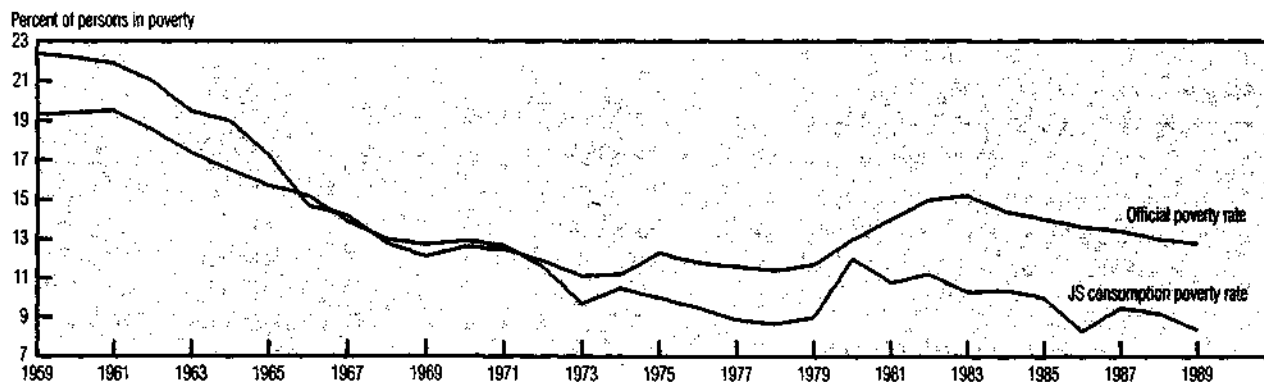
SOURCES: Author's calculations; and Slesnick (1993).

1980, shows continued progress in the war on poverty throughout the 1980s.

Although he does not compute the degree of overlap between the income-poor and consumption-poor groups, evidence provided by Slesnick from the CES supports the notion that the officially poor group is dominated by those with only temporarily low incomes and fairly high consumption. For example, in a typical year, 40 percent of the income poor are homeowners (as are 60 percent of the general population); in contrast, only 17 percent of the consumption poor own their homes. Thus, a significant minority of the income poor receive substantial service flows from housing, while most of the consumption poor do not. The consumption poor also devote a larger share of total expenditures to necessities such as food (ranging from 31.6 percent to 37.3 percent over the 1961–1989 period) than do the income poor (22.2 percent to 28.1 percent). The life-cycle model implies that dissavers view their low income as a transitory circumstance; indeed, Slesnick finds substantial dissaving occurring among the income poor. While 59 percent to 76 percent of the income poor dissave over the CES surveys, only 21.7 percent to 36.4 percent of the consumption poor dissave, suggesting that the consumption poor view their lack of resources as a permanent condition.

The divergence between the two poverty measures is expected to grow over time, since the poverty line is an absolute—not a relative—notion of well-being. When average income is fairly low, there are relatively more people whose "typical" annual income is near or below the poverty line. As average real income grows, as it has since 1960, there are relatively fewer people whose typical income is below the poverty line. Thus, the income-poor population is increasingly dominated by people with extraordinarily bad income realizations—just the people for whom consumption does not equal income.

IV. Inflation, Unemployment, and Poverty Revisited

Before discussing the empirical approach and findings, it is useful to describe the ways in which inflation and unemployment might be expected to influence consumption poverty. Unemployment may affect consumption poverty rates in several ways. If the household is liquidity constrained (so that consumption is limited to current income), then a spell of unemployment may result in both income and consumption poverty. When the household is not liquidity constrained, a spell of unemployment should be harmful to the extent that it decreases permanent, but not transitory, income. For example, if earnings losses in recessions are offset by increased opportunities in expansions, cyclical unemployment should not affect permanent income or consumption poverty rates. However, if the labor market rewards continuity in employment, time out of the labor force may permanently reduce income, and hence consumption. Finally, periods of high unemployment may be periods of heightened uncertainty about the future, which may lead to reduced consumption and a higher incidence of consumption poverty.

TABLE 2

Estimated Effects of Unemployment and Inflation on Income Poverty, 1959–1992

Dependent Variable: Income Poverty Rate—Persons[a]

Explanatory Variables				
Constant	−0.26 (0.192)[c]	−0.179 (0.146)	−1.62[b] (0.279)	−1.61[b] (0.275)
Inflation (CPI-U)	−0.015 (0.054)	−0.052 (0.054)	−0.036 (0.061)	
Inflation (CPI-X1)				−0.041 (0.056)
Prime-age-male unemployment rate	0.417[b] (0.099)	0.373[b] (0.104)	0.396[b] (0.095)	0.390[b] (0.095)
Demographic controls[d]			yes	yes
Real hourly earnings		−0.811[b] (0.327)		
Autocorrelation coefficient	0.50[b] (0.151)	0.335[b] (0.169)	n.a.	n.a.
Adjusted R^2	43.5%	57.7%	67.6%	67.9%
Number of observations	33	32	30	30

Dependent Variable: Consumption Poverty Rate—Persons[a]

Explanatory Variables				
Constant	−0.389[b] (0.147)	−0.262[e] (0.155)	−1.349[b] (0.414)	−1.375[b] (0.433)
Inflation (CPI-U)	0.207[b] (0.076)	0.180 (0.073)	0.204[b] (0.068)	
Inflation (CPI-X1)				0.219[b] (0.088)
Prime-age-male unemployment rate	0.453[b] (0.153)	0.317[b] (0.158)	0.347[b] (0.144)	0.322[b] (0.150)
Demographic controls[d]			yes	yes
Real hourly earnings		−0.106[b] (0.485)		
Adjusted R^2	26.9%	35.7%	41.9%	36.4%
Number of observations	30	29	30	30

a. All data are first-differenced.
b. Significantly different from zero at the 5 percent level or greater.
c. Standard errors are in parentheses.
d. Demographic controls include percent of persons over age 65, percent of white persons in population, and percent of families headed by a woman.
e. Significantly different from zero at the 10 percent level or greater.
SOURCE: Author's calculations.

Inflation may also be associated with heightened uncertainty and increased consumption poverty. Inflation can reduce permanent income (and hence consumption) by increasing the discount rate applied to future income flows; this would also tend to increase the consumption poverty rate. There are at least two other ways

in which higher inflation might be associated with higher consumption poverty rates. First, inflation tends to benefit debtors at the expense of creditors, thus eroding asset values. Both liquidity constraints and imperfect access to useful financial instruments may cause the net wealth of the consumption poor to be weakly hedged against inflation. Second, it is possible that households are slow to adjust their consumption patterns to rapidly rising prices. This, too, might contribute to a higher rate of consumption poverty.

Rather than simply recomputing the regressions reported in table 1 using the JS poverty rate in place of the conventional income poverty rate, all the data are first-differenced beforehand.[19] This simple but effective method of detrending the variables is a special case of the flexible trend model employed in Mocan (1995). The top panel of table 2 presents the findings for the conventional poverty rate, and the bottom panel for the JS poverty rate.[20]

In the first column are the findings for the regression of the poverty rate on an intercept, the prime-age-male unemployment rate, and the growth of the CPI-U (with all variables first-differenced). For the conventional poverty rate, the findings remain qualitatively similar to those in the first column of table 1. The unemployment rate has a strong positive effect on poverty, while the inflation rate has a negative, but statistically insignificant, effect.[21] Both inflation and unemployment significantly increase the JS poverty rate. In contrast to the findings of Blank and Blinder (1986) and Blank (1993) that inflation's effect is quite small relative to that of unemployment, the magnitude of the inflation effect on the JS poverty rate is nearly half that of the unemployment rate.

The second column includes real wages, as suggested by Mocan (1995), who argues that if wage gains cause inflation, the effect of inflation on poverty may be biased downward when this variable is excluded. However, the findings indicate that the estimated effect of inflation is robust with respect to the inclusion of real earnings. The third column includes demographic variables (for age, race, and family type) that

19 The model employs the same variables as Mocan (1995). It is noted below when the omission of variables from the models presented in table 1 affects the findings.

20 The income-poverty-rate errors appear to follow an autoregressive process of order one.

21 Trend variables for the post-1982 and post-1983 periods were insignificant in the differenced specification and were dropped.

may have affected the overall incidence of poverty. The demographic variables are jointly significant. In both the conventional and JS poverty-rate specifications, the estimated coefficients are robust with respect to the inclusion of demographic variables, although the importance of inflation relative to unemployment in explaining the JS poverty rate grows even more pronounced.[22] Due to the overstatement of inflation by the CPI-U and its possible contribution to overstating the conventional poverty rate, the alternative inflation rate based on the CPI-X1 was included, but the findings were not much affected.

Overall, unemployment seems to have a strong positive influence on both poverty rates, while inflation is only influential for the JS poverty rate. The finding that unemployment increases the JS poverty rate suggests that either structural (long-run) unemployment is affecting the lifetime incomes of the poor, or that cyclical unemployment imposes permanent income losses. While Mocan (1995) presents evidence that the influence of unemployment on conventional poverty rates is due to the adverse effects of long-run, not cyclical, unemployment, his findings are difficult to interpret, since the composition of the income poor is no doubt somewhat cyclical itself. In contrast, the estimated effects of inflation on the two poverty rates are dramatically different. Inflation has a marginally negative effect on the conventional poverty rate, but a fairly large positive effect on consumption poverty.

V. Conclusion

This paper has reexamined the empirical relationships between inflation, unemployment, and poverty, using a methodology similar to that of previous work that apparently had shown the importance of unemployment and unimportance of inflation in influencing poverty rates. I have demonstrated that these previous findings are sensitive to seemingly reasonable alternative poverty measures. The findings presented here suggest that although unemployment's effect on poverty rates is relatively robust with respect to the poverty concept, the effect of inflation on poverty may be more serious than previously thought.

How should these new findings influence thought about the role of monetary policy? For those who subscribe to the view that the monetary authority can lower or raise unemployment by enlarging or shrinking the money supply, the previous literature appeared to provide

some evidence that expansionary monetary policy could make the average person better off by reducing unemployment, without the unpleasant side effect of making people worse off through inflation. The work presented here suggests that even if one accepts the existence of a trade-off between inflation and unemployment, one cannot be sanguine about the potential distributional costs of short-run stabilization policies, since the estimates are not robust with respect to alternative definitions of poverty.

In further research, it would be interesting to decompose inflation into its anticipated and unanticipated components, and unemployment into its cyclical and long-run components. Unanticipated inflation might have the most adverse effects on consumption poverty if people incorporate inflation expectations into their decisionmaking. It is also important to discover to what extent losses from transitory periods of high unemployment are made up in boom periods. Blank (1993) suggests that before the 1980s, low-income workers could make large real income gains during recoveries by increasing their hours of work. In a consumption poverty framework, one would expect the cyclical effects of unemployment to be mitigated to the extent that these earnings gains are anticipated. However, there may be penalties for discontinuity in labor-force participation, implying that even cyclical unemployment could affect permanent income.

It would be desirable to extend the data and analysis to examine the relationship between unemployment and inflation and the incidence of poverty within specific population subgroups. While the harmful impact of unemployment is still found to be larger than that of inflation when consumption-based poverty measures are used for the entire population, it would be interesting to discover whether this qualitative finding is uniform across households, or whether a very strong effect of inflation on some, but not all, groups is driving the findings.

Finally, the measurement of consumption poverty is a new and still controversial area. Based on their examinations of the CES samples (also used by Slesnick [1993]), Cutler and Katz (1991) conclude that "trends in the distribution of consumption closely mirror those in

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22 The estimated coefficient of unemployment is highly sensitive to the inclusion of a government transfer variable in both the JS and conventional poverty specifications, suggesting that innovations in government policy and the prime-age-male unemployment rate are related.

the distribution of income" and that "while consumption poverty rates are below income poverty rates in every year, the time-series patterns for the two measures are quite similar." Applying the Census equivalence scales and conventional indexing to expenditure rather than income data, Slesnick finds the same pattern. It is his adjustment for the overstatement of inflation and his and Jorgenson's alternative equivalence scales that generate the very different findings.[23] Consequently, it is important to further explore the extent to which the findings presented here are driven by specific assumptions employed in the construction of Slesnick's consumption poverty rates.

Nevertheless, the findings of this new research into the relationship between inflation, unemployment, and poverty have called the robustness of the earlier findings into question. More research is needed before we can confidently say how macroeconomic developments affect poverty.

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■ **23** Interestingly, the Jorgenson–Slesnick equivalence scales assume smaller efficiency gains in consumption as family size increases than do the Census scales. Thus, Slesnick argues that the Census measure actually *understates* poverty in the 1960s and early 1970s.

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