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Did We Lose the War on Poverty?

Dale W. Jorgenson

Was the War on Poverty a failure or a success? Official U.S. poverty statistics based on household income imply that the War on Poverty ended in failure. According to the Bureau of the Census, the proportion of the U.S. population below the *poverty level of income* reached a minimum of 11.1 percent in 1973. This ratio rebounded to 15.2 percent in 1983 and has fluctuated within a narrow range since then, giving rise to the widespread impression that the elimination of poverty is difficult or even impossible.¹ However, poverty estimates based on household consumption imply that the War on Poverty was a success. Jorgenson and Slesnick (1989) showed that the proportion of the U.S. population below the *poverty level of consumption* fell to 10.9 percent in 1973, only slightly below the poverty incidence as measured by income in that year; the poverty ratio for consumption declined further, reaching 6.8 percent in 1983.

Slesnick (1993) presents estimates of poverty ratios incorporating consumption data from the Consumer Expenditure Survey, conducted by the Bureau of Labor Statistics. The poverty rate for consumption fell to 9.7 percent in 1973 and reached a low of 8.7 percent in 1978 before rising to 12.0 percent in 1980. The consumption-based poverty rate then declined to a new low of 8.3 percent in 1986, ending at 8.4 percent in 1989. Calibrating consumption to levels reported in the U.S. National Income and Product Accounts, Slesnick obtained a poverty rate of 4.1 percent in 1978 and a postwar low in 1989 of only 2.2 percent.²

¹ The persistence of poverty, as reflected in the official statistics, is discussed by Sawhill (1988).

² Slesnick (1993) presented a detailed decomposition of the differences between estimates of poverty rates based on consumption and the official estimates based on income. Neither measures of consumption from the Consumer Expenditure Survey nor measures of income used by the Bureau of the Census include in-kind transfers. Slesnick (1996) discussed the effects of these transfers on measures of poverty.

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Measures of poverty based on consumption imply that anti-poverty programs should not be lightly abandoned, as advocated by some conservatives.³ At the same time, liberal concern about the alleged persistence of poverty may be misplaced. While poverty has not been eradicated, as envisioned by poverty warriors in the 1960s, the combined impact of economic growth and expansion of income support programs has reduced the incidence of poverty to modest proportions.

The purpose of this paper is to consider the implications of replacing household income with consumption in the measurement of poverty. The next section reviews the methods used in the official measures published by the Bureau of the Census. I then discuss the estimation of poverty rates based on consumption. This requires setting living standards for different types of households and adjusting these standards for price changes. The following section discusses integration of the measurement of poverty with redistributive policy, based on society's willingness to pay to reduce inequality and poverty. In the final section I recommend improvements in official programs for measuring poverty and inequality, as well as the cost and standard of living.

The Official Poverty Line

The original government poverty threshold, established for the year 1963 by Mollie Orshansky (1965, 1966) of the Social Security Administration, was based on consumption rather than income.⁴ Her starting point was a Low Cost Food Plan for meeting food consumption standards established by nutrition experts from the U.S. Department of Agriculture. She multiplied food cost by a factor of three, reflecting the proportion of food in the cost of total household consumption, to derive the cost of a poverty level of consumption. To compare poverty levels for different years, Orshansky inflated the poverty line by the Consumer Price Index for All Urban Consumers (CPI-U) of the Bureau of Labor Statistics (BLS). She adjusted the total cost of consumption to reflect the nutritional requirements of households that differ in family size, age and sex of household head, and farm versus nonfarm residence. These adjustments were based on food cost rather than the cost of total consumption. Differences in households by sex of head and farm versus nonfarm residence were dropped in 1981. Otherwise, the official poverty thresholds have been unaltered since they were first published by the Office of Economic Opportunity for the year 1964.⁵

³ The classic attack on anti-poverty programs is Charles Murray's (1984) *Losing Ground: American Social Policy, 1950–1980*.

⁴ Fisher (1992a, b) gives a detailed history of official poverty measurement.

⁵ Additional details about the official poverty line are provided by Slesnick (1993), Revallion (1994), and the Panel on Poverty and Family Assistance (1995). The Panel on Poverty and Family Assistance advocated replacing the official poverty measure by an entirely new approach based on income. The key feature of this proposal is a shift from an *absolute* measure of poverty, based on a fixed poverty threshold, to a *relative* measure with a threshold that changes with the standard of living. This paper focuses on an absolute measure of poverty based on consumption rather than income.

Although Orshansky's poverty thresholds were based on the cost of a poverty level of consumption, the infrequency of surveys of household spending posed a barrier to the measurement of poverty. Until 1980, the BLS conducted the Consumer Expenditure Survey at roughly ten-year intervals to provide weights for the Consumer Price Index. To estimate the incidence of poverty, Orshansky (1965) employed data on income from the Census Bureau's Current Population Survey. This intuitive leap made it possible to estimate the proportion of the population living in poverty by enumerating the individuals with household incomes below a poverty threshold based on consumption.

Since 1980 the Bureau of Labor Statistics has conducted the Consumer Expenditure Survey on a quarterly basis. Despite this fact, the official statistics have retained income rather than consumption as a measure of poverty. Given the sensitivity of poverty estimates to Orshansky's choice of income rather than consumption as a measure of household resources, an examination of the feasibility and desirability of replacing the official measure of poverty by a consumption-based measure is long overdue.⁶

Whatever standard of living is selected as the poverty level, an appropriate measure of household resources must be chosen, this measure must be adjusted to reflect price changes, and living standards must be compared among different types of households. The official poverty estimates employ Orshansky's poverty line, use income rather than consumption as a measure of household resources, employ the CPI-U to adjust for inflation, and utilize food cost rather than the cost of total household consumption to capture differences in standards of living among households. In the following sections I describe an approach to poverty measurement originated by Jorgenson and Slesnick (1989) that retains Orshansky's poverty line. However, this approach uses consumption as a measure of household resources, employs cost-of-living indexes specific to each type of household to adjust for price changes, and utilizes total household consumption rather than food consumption to compare standards of living among different types of households. The theory of a utility-maximizing consumer provides a unifying framework for considering these issues.

Measuring the Household Standard of Living

To represent consumer preferences in a form suitable for measuring the household standard of living, I assume that expenditures on commodities are allocated to maximize a household welfare function. As a consequence, the household behaves in the same way as an individual maximizing a utility function, even

⁶ The feasibility of constructing consumption-based measures of poverty on the basis of existing primary data sources is discussed by the General Accounting Office (1996).

though a household typically includes a number of individuals.⁷ To provide money measures of the cost and standard of living, we represent preferences by means of a household expenditure function, giving the minimum cost of a consumption bundle required to achieve a particular standard of living. These concepts are illustrated in Figure 1.

Figure 1 represents the indifference map for the k th household with expenditure function $M_k(p, W_k, A_k)$ where M_k is the cost of household consumption, p is the vector of prices faced by the household, W_k is household welfare or the standard of living, and A_k is the vector of attributes of the household that determine preferences among commodity bundles. For simplicity we consider only two commodities. Indifference curves represent different standards of living. Household equilibrium in the base period is represented by the point A, while equilibrium in the current period is at the point C.

To measure the cost and standard of living we translate the current standard of living W_k^1 into the cost of household consumption at the prices of the base period. The resulting level of spending $M_k(p^1, W_k^1, A_k)$ corresponds to equilibrium at point B. The ratio between the cost of consumption at B and the cost at A is a quantity index of the standard of living. This reflects the difference between the costs of the two indifference curves, holding relative prices constant. The ratio between the cost of consumption at C and the cost at B is a price index of the cost of living. This measures the relative costs of remaining on the same indifference curve at two different sets of prices.

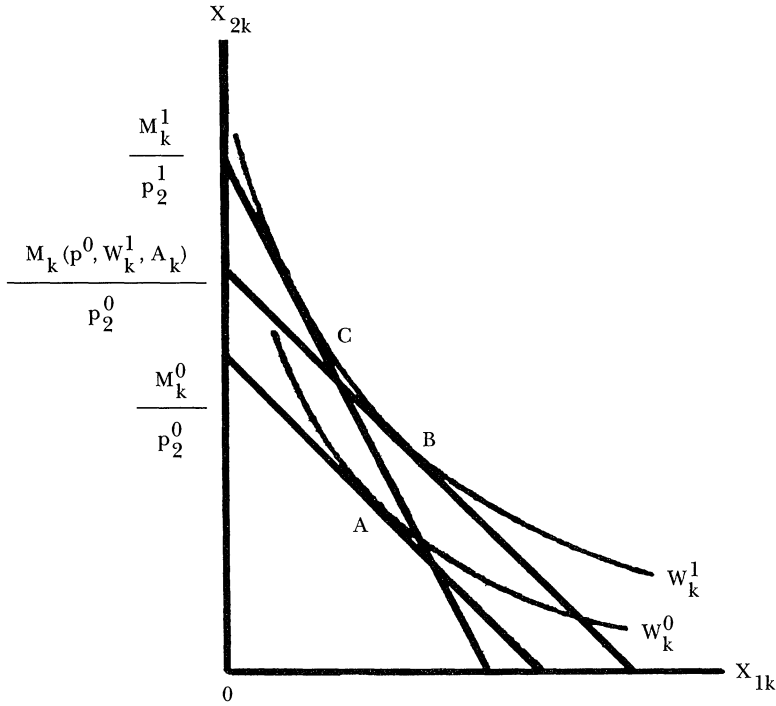
Estimates of poverty depend critically on the choice between income and consumption as a measure of household resources. Milton Friedman's (1957) permanent income hypothesis provides the intuition helpful for understanding the implications of this choice. The permanent income hypothesis focuses on wealth as a measure of household resources; however, important components of wealth, such as the present value of earnings from labor services, are unobservable. Permanent income, the yield on wealth, could provide a valid indicator of resources but is also unobservable. While measured income is correlated with household resources, the substantial transitory component is uncorrelated with permanent income. The transitory component of income is relatively low for households with low measured income and relatively high for households with high measured income. Fortunately, measured consumption is an excellent proxy for household resources, since permanent consumption is proportional to permanent income and the transitory component of consumption is relatively small.

Under the permanent income hypothesis, the proportion of measured con-

⁷ This is demonstrated by Paul Samuelson (1956) and the resulting model of household behavior is employed by Gary Becker (1981). A critique of this model is presented by Shelly Lundberg and Robert Pollak (1996).

Figure 1

Household Standard and Cost of Living



sumption to measured income falls as income increases over a cross-section of individual households. For households at the poverty level, the proportion of consumption to income is relatively high, while for affluent households this proportion is relatively low. For any fixed level of income, such as the poverty level, the proportion of consumption to income rises with the growth of average income, as revealed by the divergence of measures of poverty based on consumption and income over time.

Comparing Standards of Living among Households

The official poverty estimates published by the Bureau of the Census incorporate comparisons of living standards among households based on the costs of food consumption. Jorgenson and Slesnick (1989) utilize comparisons based on the costs of total household consumption. These comparisons are derived from an econometric model of aggregate consumer behavior for the United States constructed by Jorgenson and Slesnick (1987). This model combines aggregate time

Table 1

Jorgenson-Slesnick Household Equivalence Scales*(Reference: Size 4, Age 35–44, Northeast, Urban, White)*

Household Size:		Region of Residence:	
1	.30	Northeast	1.00
2	.58	North Central	1.01
3	.75	South	1.15
4	1.00	West	.79
5	1.07		
6	1.48	Type of Residence:	
7+	1.99	Urban	1.00
		Rural	1.94
Age of Head:		Race of Head:	
16–14	.43		
25–34	.64	White	1.00
35–44	1.00	Nonwhite	0.94
45–54	1.08		
55–64	1.08		
65+	.89		

Source: Jorgenson and Slesnick (1987), Tables 1, 2, and 3, pp. 227–228.

series data on personal consumption expenditures with cross section data for individual households.

Our model determines the allocation of total spending among five commodity groups by households classified by five demographic characteristics. We have divided personal consumption expenditures among energy, food, other consumer goods, capital services, and other services. We have classified the population of U.S. households by family size (1, 2 . . . 7 or more persons), age of household head (16–24, 25–34 . . . 65 and over), region of residence (Northeast, North Central, South, and West), race (white or nonwhite), and urban vs. rural residence.

We obtain cross section data on expenditures on each of the five commodity groups by each household from the Survey of Consumer Expenditures for 1973. The survey also contains information on the demographic characteristics of the household. We obtain annual time series data on aggregate personal consumption expenditures for each commodity group from the U.S. National Income and Product Accounts for the period 1947–1982. We complete our time series data set by constructing shares of each demographic group in aggregate consumption.

We have pooled aggregate time series data with cross section data for individual households, using methodology originated by Jorgenson, Lau, and Stoker (1982). Time series data provide information on the impact of prices on the allocation of household budgets. Cross section data enable us to capture the effects of the de-

Table 2
Census Equivalence Scales
(Reference: Size 4, Nonfarm, Male)

	<i>Nonfarm</i>		<i>Farm</i>	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
Size 1, age < 65	.53	.49	.37	.34
Size 1, age > 65	.47	.47	.33	.33
Size 2, age < 65	.66	.63	.46	.43
Size 2, age > 65	.59	.59	.42	.41
Size 3	.78	.75	.55	.53
Size 4	1.00	.99	.70	.69
Size 5	1.18	1.17	.83	.83
Size 6	1.32	1.32	.93	.96
Size 7	1.63	1.60	1.14	1.09

Source: Slesnick (1993), Table 2, part B, p. 13.

mographic characteristics of individual households on spending. Both types of data are useful in modeling the impact of total spending on consumption patterns.

Finally, we have derived equivalence scales suitable for making standard of living comparisons among households from our econometric model. An equivalence scale for two households with different attributes A_k is the ratio of the costs required for these households to achieve the same standard of living at a given set of prices. This can be interpreted as the ratio of the equivalent number of members of the two households.

We present equivalence scales for households classified by size, age of head, and region of residence in Table 1. These equivalence scales are independent of the standard of living at which comparisons among households take place. This has the important advantage that the comparisons require only the attributes of the households being compared.⁸ Household equivalence scales are analogous to the cost-of-living indexes presented in Figure 1, but a cost-of-living index is independent of the standard of living only if the relative shares of commodity groups in total spending are independent of the level of spending.

The Bureau of the Census follows Orshansky (1965, 1966) in constructing the official poverty line on the basis of household equivalence scales for food consumption rather than total household consumption. The official equivalence scales are presented in Table 2. Slesnick (1993) shows that the official scales impart a substantial downward bias to poverty measures based on consumption. However,

⁸ Conditions for independence of the standard of living are given by Lewbel (1989). The literature on equivalence scales is surveyed by Browning (1992).

these measures decline much less rapidly during the 1970s and 1980s than do measures that incorporate the equivalence scales presented in Table 1.

Measuring the Household Cost of Living

Jorgenson and Slesnick (1990a) have derived cost-of-living indexes for individual households like those illustrated in Figure 1 from our econometric model of aggregate consumer behavior. Cost-of-living indexes for households with different attributes are nearly identical for the 20-year period 1958–1978. Jorgenson and Slesnick (1998) have compared cost-of-living indexes for individual households through 1995. Again, indexes for households with different attributes are very similar.

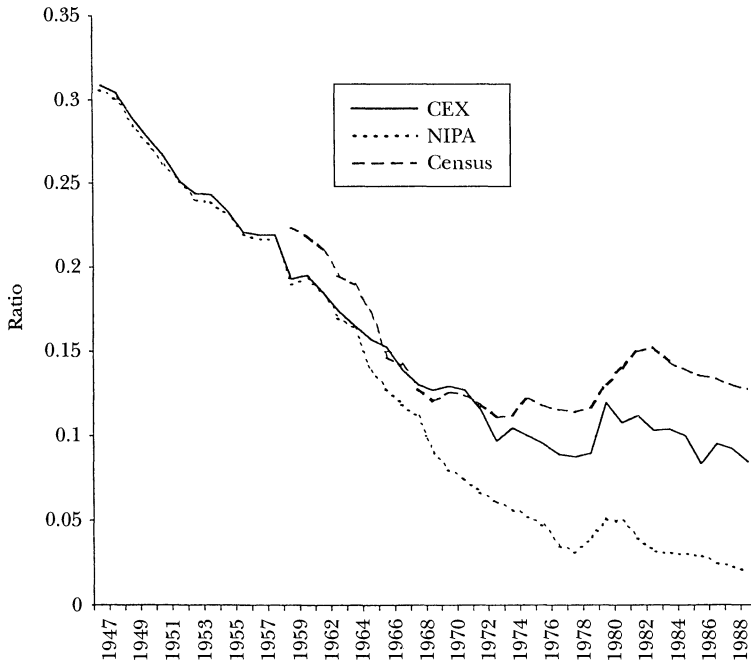
The empirical implementation of price index numbers, such as the CPI-U, has proved to be highly problematical. Slesnick (1991b) has estimated that the CPI-U incorporated an upward bias of about 10 percent during the period 1964–1983, due to deficiencies in the treatment of costs of owner-occupied housing.⁹ Similarly, sample rotation procedures adopted in 1978 led to a “formula bias” of 0.49 percent per year that was not addressed by BLS until 1995 (Advisory Commission, 1996; Reinsdorf, 1997). A rental equivalent measure of housing costs was incorporated into the CPI-U in 1983, but the index was not revised backward and includes a permanent upward bias. Slesnick (1993) showed that this results in a substantial *upward* bias in the official poverty estimates. The Census Bureau has recently introduced an alternative set of poverty ratios based on the CPI-X-1, an “experimental” price index compiled by BLS that employs a rental equivalent measure of housing costs.

Estimates of the Poverty Rate

Jorgenson and Slesnick (1989) enumerated the individuals with household consumption below a poverty level based on the official threshold constructed by Orshansky (1965, 1966) for the period 1947–1985. We estimated levels of household consumption for the year 1973 from the Survey of Consumer Expenditures for that year. We extrapolated the 1973 level backward and forward on the basis of estimated relationships between consumption and income for 1973, using income data from the Current Population Survey. Finally, we calibrated levels of consumption to estimates of aggregate personal consumption expenditures from the U.S. National Income and Product Accounts. Slesnick (1993) constructed estimates of poverty rates based on consumption for the period 1947–1989. Slesnick’s estimates incorporated data on household consumption from the Surveys of Consumer Expenditure for 1960–1,

⁹ The treatment of housing costs in the CPI is discussed by Robert Gillingham and Walter Lane (1982).

Figure 2
U.S. Poverty Ratios



1972–3, and 1980–1989. He obtained estimates for other years by extrapolation and interpolation on the basis of income data from the Current Population Survey. In addition, Slesnick (1993) provided estimates with levels of consumption calibrated to aggregate consumption data from the U.S. National Income and Product Accounts. Both sets of estimates are given in Figure 2, together with the official income-based poverty rates published by the Bureau of the Census, beginning in 1959.

Slesnick's (1993) consumption-based estimates of poverty rates show that 30.9 percent of the U.S. population fell below the poverty level in 1947, 19.3 percent in 1959, and 9.7 percent in 1973. The consumption-based poverty rate continued to fall, reaching 8.7 percent in 1978, rising to 11.2 percent in 1982, declining to 8.3 percent in 1986, and ending at 8.4 percent in 1989. Poverty rates calibrated to data on aggregate consumption from the U.S. National Income and Product Accounts decreased from 30.9 percent in 1947 to 4.1 percent in 1978, declining further to a postwar minimum of 2.2 percent in 1989.¹⁰

¹⁰ Slesnick (1992) showed that aggregate consumption expenditures in the U.S. National Income and Product Accounts exceeded the expenditures in the BLS Survey of Consumer Expenditures by \$1224 billion in 1989 and that these measures have diverged over time.

Official estimates of poverty rates based on income published by the Bureau of the Census show that 22.4 percent of the U.S. population fell below a poverty line based on income in 1959. The official poverty rate reached a minimum of 11.1 percent in 1973, rebounded to 15.2 percent in 1983, and then fluctuated within a narrow range, ending at 12.8 percent in 1989. Slesnick (1993) attributed this to several factors: the use of income rather than consumption as a measure of household resources; the construction of equivalence scales from food budgets rather than household budgets for all items; and the use of the CPI-U to adjust for changes in the cost of living. The official estimates have given rise to the common impression that poverty has been difficult or impossible to eradicate.

In summary, the measurement of poverty is based on the preferences of households, as revealed by their consumption choices. An econometric approach is essential for summarizing the necessary information on the cost and standard of living and making comparisons among households. While all of these conceptual elements are present in the official poverty statistics, serious flaws in implementation can be traced to the pioneering work of Orshansky (1965, 1966). When these flaws are corrected, poverty trends diverge markedly from those suggested by official poverty rates. The War on Poverty was a success, not a failure.

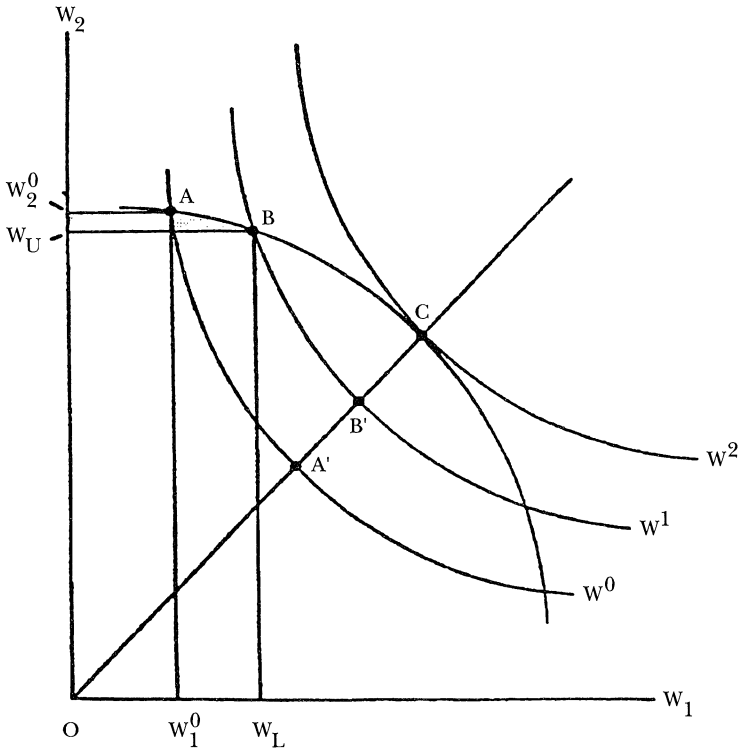
Poverty and Redistributive Policy

The official statistics on poverty published by the Bureau of the Census are one component of a comprehensive program for measuring the standard of living for the U.S. population as a whole and inequality in the distribution of household standards of living. Similar issues arise in measuring poverty, inequality, and the standard of living. The resolution of these issues requires replacing all three programs by an econometric approach.

In the econometric approach to normative economics, the concept of individual welfare is derived from the theory of the utility-maximizing household. Individual welfare is transformed into a money metric by defining an individual expenditure function as the minimum cost of attaining a given standard of living. This is standard apparatus in the theory of consumer behavior, but it is important to note that the individual units are households, which are social entities, rather than biological individuals. Measures of individual welfare recovered from an econometric model of aggregate consumer behavior are combined into an indicator of social welfare.¹¹ The measure of inequality implied by this formulation reflects society's willingness to pay for the redistribution of individual welfare. A similar measure of poverty reflects society's willingness to pay for redistributions that bring all individ-

¹¹ A detailed exposition of the econometric approach to normative economics is presented by Jorgenson (1990).

Figure 3
Poverty and Inequality



uals to the minimum level of well-being represented by a poverty line. We illustrate these concepts geometrically in Figure 3.

For simplicity we consider a society consisting of two identical individuals, one poor (W_1) and the other rich (W_2). We represent the contours of a concave social welfare function in Figure 3. The 45-degree line through the origin represents perfectly egalitarian distributions of individual welfare ($W_1 = W_2$). The actual distribution of welfare corresponds to the point A with social welfare level W^0 . Next, we consider the locus of individual welfare levels that result from lump sum redistributions of aggregate spending ($M = M_1 + M_2$). We refer to this as the *redistribution locus*.

If the poverty threshold is set at w_L , the level of social welfare that results from the elimination of poverty, say W^1 , corresponds to the point B . This is obtained by moving along the redistribution locus until the welfare of the poor attains this threshold. We refer to the resulting level of welfare of the rich as the *threshold of affluence*. To represent the level of welfare corresponding to the

elimination of inequality, we continue along the redistribution locus to the point C with level of social welfare W^2 equal to the maximum that can be attained through lump sum redistributions. In Figure 3, the point A' represents perfect equality at the same level of social welfare W^0 as at point A. Similarly, the point B' represents perfect equality at the same level of welfare W^1 as at point B.

Finally, we decompose the measures of inequality illustrated in Figure 3 into the sum of measures of poverty and the remaining inequality. The level of social welfare that results from the elimination of poverty W^1 is intermediate between the actual level W^0 and the potential level W^2 . Measures of poverty and the remaining inequality sum to the measure of inequality illustrated in Figure 3, while relative measures of poverty and the remaining inequality sum to the corresponding relative measure of inequality.¹²

From Individual to Social Welfare

The first step in measuring inequality is to derive individual welfare functions for all households. The second step is to evaluate the social welfare function.¹³ The third step is to transform social welfare into a money metric by means of a social expenditure function, defined as the minimum aggregate spending on consumption required to attain a given level of social welfare. While the social expenditure function is a much less familiar concept than the individual expenditure function, the application of these concepts is precisely analogous.¹⁴

We define a measure of the loss of welfare due to failure to eliminate poverty as the difference between the values of the social expenditure function at W^1 and W^0 . Expressing both values in terms of base period prices, this corresponds to the difference between aggregate expenditures at B and A, namely, $M(p^0, W^1)$ and $M(p^0, W^0)$. This represents a society's willingness to pay to eliminate poverty. The ratio between this difference and aggregate expenditure is a relative measure of poverty. This is the willingness to pay to eliminate poverty expressed as a proportion of aggregate consumer spending.

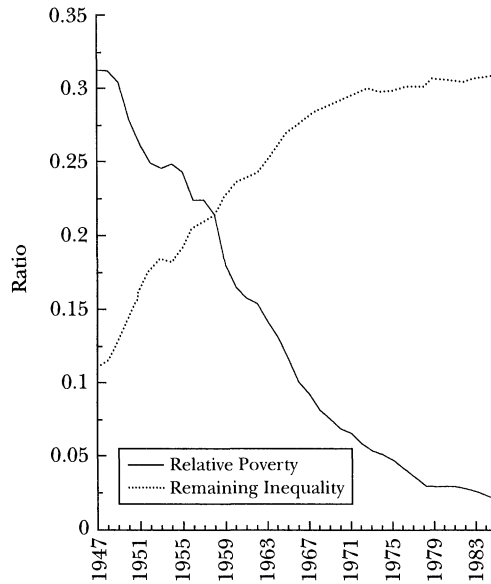
Similarly, we define a measure of the inequality remaining after poverty is eliminated as the difference between the values of the social expenditure functions at C and B, namely, $M(p^0, W^2)$ and $M(p^0, W^1)$. The ratio between this difference

¹² Sen (1976) presented an alternative approach to measuring poverty that also captures the intensity of deprivation of households in poverty.

¹³ Since the pioneering work of Atkinson (1970) and Kolm (1969), the measurement of social welfare has been based on explicit social welfare functions. However, the social welfare functions introduced by Atkinson and Kolm are defined on the distribution of income rather than the distribution of individual welfare.

¹⁴ The social expenditure function was originated by Pollak (1981).

Figure 4
Relative Poverty and Remaining Inequality



and aggregate expenditure is a relative measure of the remaining inequality. The relative measures of poverty and the remaining inequality sum to the relative measure of inequality. These measures represent a society's willingness to pay to eliminate poverty and the remaining inequality as a proportion of aggregate consumer spending.

Jorgenson and Slesnick (1989) presented consumption-based measures of relative poverty and inequality like those illustrated in Figure 3 for the period 1947–1985. As before, we employed the poverty threshold constructed by Orshansky (1965, 1966). Consumption is the measure of household resources, cost-of-living indexes for individual households are employed to adjust for price changes, and household equivalence scales based on total consumption are used to compare standards of living for different households. The results are presented in Figure 4. Our measures show that American society's willingness to pay to eliminate inequality has declined as a proportion of aggregate consumer spending over the period 1947–1985, and that willingness to pay to eliminate poverty has been a sharply declining proportion of inequality. However, the decline in inequality occurred only during 1958–1978 and 1983–1985.

Slesnick (1994) presented consumption-based measures of inequality for the period 1947–1991 that reveal little change in inequality since the early 1970s. Slesnick also assessed the sensitivity of inequality measures to several factors: the choice

of income rather than consumption as a concept of household resources; omission of adjustments for changes in the cost of living; and the selection of different household equivalence scales. Consumption-based inequality measures differ drastically from those based on income. These measures are insensitive to the omission of price changes, but depend critically on the choice of appropriate household equivalence scales.

The Bureau of the Census publishes a measure of inequality for family income (based on a Gini coefficient), which shows a widely reported U-turn, with decreases in inequality until 1973 and rising since then. By contrast the measure of inequality presented in Figure 4 shows a steady decline throughout the period 1958–1985. However, the Census uses income rather than consumption as a concept of household resources, omits adjustments for price changes, and does not incorporate household equivalence scales like those employed in the official poverty estimates.

Poverty and Inequality Within and Between Groups

Jorgenson and Slesnick (1984) decomposed a social welfare function by defining group welfare functions for a set of mutually exclusive and exhaustive groups—for example, age groups. We define a welfare function between groups on the group welfare functions in the same way that a social welfare function is defined on individual welfare functions. Using these concepts and the corresponding group and social expenditure functions, we decompose relative inequality into the sum of between- and within-group components.

Focusing on groups defined in terms of age of the head of household, we first consider relative inequality for each group. These measures of inequality have declined over the period 1958–1978, but much of the decline is concentrated in the early part of the period. The great predominance of inequality for the United States is within rather than between age groups. Overall, inequality within groups falls steadily from 1958 to 1970 and then remains almost unchanged through the remainder of the period. Inequality between groups falls after 1958 and then rises to a peak in 1969, falling gradually through 1978.

Jorgenson and Slesnick (1989) exploited the decomposition of social welfare into within- and between-group components to decompose measures of poverty. We define poverty within groups in terms of welfare gains due to redistribution within the group so as to eliminate poverty. We then define poverty between groups in terms of additional gains in welfare that result from redistribution between groups. The results reveal substantial gains from redistribution within age groups, while gains from redistribution between groups are negligible.

Slesnick (1994) analyzed the decomposition of inequality among groups in much greater detail. Inequality between age groups is a relatively small proportion of overall inequality and changes relatively little over the period 1947–1991. The

decline in overall inequality through the 1970s is largely within age groups. Inequality between groups classified by size of household is about half of total inequality, but there is little change during the period. A fall in inequality within size groups accounts for essentially all of the decline in overall inequality.

Inequality between regions falls sharply over the period 1947–1980, reflecting the rise in the standard of living of the South. However, most of the fall in overall inequality can be attributed to a reduction in inequality within regions. Inequality between farm and nonfarm groups of the population is a very small part of overall inequality and nearly vanishes over the period 1947–1991. Inequality between racial groups is a very modest proportion of total inequality and has not changed over this period.

Measuring the Standard of Living

The standard of living appears at first glance to be one of the most straightforward ideas in the conceptual toolkit of the normative economist. A measure of household resources is divided by a cost-of-living index to obtain an index of the standard of living. The first issue is selection of an appropriate measure of household resources. A second issue is how to allow for changes in distributional equity. A satisfactory resolution of this issue requires combining measures of individual welfare into an overall indicator of social welfare.

Jorgenson and Slesnick (1990b) presented a consumption-based measure of the U.S. standard of living for the period 1947–1985. As before, we choose consumption as the measure of household resources, adjust for price changes on the basis of cost-of-living indexes for individual households, and compare standards of living by means of the household equivalence scales constructed by Jorgenson and Slesnick (1987). The standard of living grows 40 percent faster than real expenditure per capita, defined as the ratio of aggregate personal consumption expenditures per capita to the CPI-U. Important biases in the real expenditure measure arise from the use of the CPI-U to adjust for price changes, utilization of the head-count definition of the population in place of the number of household equivalent members, and the omission of equity considerations.

The U.S. Bureau of the Census constructs a measure of the standard of living based on median real family income. According to this measure, the U.S. standard of living has been stagnant for the past two decades. The fundamental difficulty with this income-based approach is that the standard of living should be defined in terms of consumption rather than income. Consumption-based measures of the standard of living do not exhibit the stagnation reported by the Census. Slesnick (1991b) traced important biases in the Census measure to biases in the CPI, the definition of the population, and the omission of equity considerations.

In summary, the econometric approach to normative economics unifies the treatment of inequality and poverty, as well as the cost and standard of living. How-

ever, this approach brings to light some significant flaws in statistical programs that cover these important areas. The stagnation of the U.S. standard of living and U-turns in inequality and poverty are revealed as statistical artifacts. The most important deficiency in the Census programs that generate the official statistics is the use of income rather than consumption as a measure of household resources. Serious deficiencies also arise from biases in the CPI-U and the use of household equivalence scales based on food consumption.

Recommendations and Conclusions

For some practitioners of normative economics, the application of an econometric model to the measurement of poverty is a highly innovative but also unfamiliar and even disturbing idea. Multi-million dollar budgets are involved in statistical reporting of price index numbers and millions more are spent on measures of poverty, inequality, and the standard of living. Unfortunately, these well-established programs give highly misleading results and require a total overhaul.

The key to revision of existing programs for measuring poverty and inequality and the cost and standard of living is the exploitation of surveys of household consumption. The Consumer Expenditure Survey provides the information required for consumption-based measures. However, the value of this survey could be greatly enhanced by increasing the sample size. Additional resources will be required to reconcile estimates of personal consumption expenditures from the Consumer Expenditure Survey with the U.S. National Income and Product Accounts and to add information on in-kind transfers.

Census programs for measuring poverty, inequality, and the standard of living should be put onto a consistent basis. All three programs should employ a common framework for measuring household standards of living. Consumption should be used as a measure of household resources. Cost-of-living indexes should be employed in place of the current Consumer Price Index. This requires consistency in the treatment of components of the index, such as housing services, over time. It also requires elimination of the biases that have been identified by the Advisory Commission to Study the Consumer Price Index (1996). A cost-of-living index could be implemented on an annual basis, using information from the Survey of Consumer Expenditures.¹⁵ Comparisons among households should be based on the cost of total household consumption, rather than the cost of food alone. The resulting measures would provide a far more accurate guide to the impact of economic growth and income support programs on the level and distribution of household well-being.

¹⁵ Further details on implementation of a cost-of-living index are given by Jorgenson and Slesnick (1998).

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