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ABSTRACT

This paper examines changes in the distribution of income and consumption in the United States during the 1980s, using data from the Current Population Survey (income) and Consumer Expenditure Survey (consumption). We reach three primary conclusions. First, changes in the distribution of consumption parallel changes in the distribution of income. The lowest quintile of the consumption distribution received 0.9 percentage points less of total consumption in 1988 than in 1980; the corresponding decline for income was 0.6 percentage points. Second, broad conclusions concerning recent changes in the consumption distribution are not very sensitive to the exact choice of a measure of family needs. Under a wide variety of alternative household equivalence scales, there is a widening in the consumption distribution in the 1980s. Third, the use of consumption measures of well-being in place of measures based on current money income does change conclusions concerning the extent of poverty in the United States. Using the official federal poverty thresholds, we find that the overall consumption poverty rate was three percentage points below the income poverty rate in 1988. Comparisons of the poverty rates of the elderly and the non-elderly are substantially affected by the choice of poverty measure. The consumption poverty rate for the elderly was only 60 percent of the rate for adults and one-third of the rate for children in 1988.

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The 1980s were a period of substantial increase in family income inequality in the United States. Between 1980 and 1990 the share of income accruing to the poorest quintile of the family income distribution fell from 5.2 percent to 4.6 percent; the share to the richest quintile, in contrast, rose from 41.5 percent to 44.3 percent (U.S. Department of Commerce, 1991). The large increases in income poverty and income inequality observed from 1979 to 1983 are not surprising given the deep recession of the early 1980s. But, the continued widening of the income distribution and sluggish decline in the official poverty rate during the strong macroeconomic expansion of 1983 to 1989 represent a sharp break from the postwar historical record (Rebecca Blank, 1991; Cutler and Katz, 1991).

Although income statistics suggest a deterioration in the living standards of a substantial minority of American families over the last two decades, some researchers (e.g., Christopher Jencks, 1984; Daniel Slesnick, 1991) question whether such income data accurately capture changes in the level and distribution of material well-being. Changes in in-kind transfers, for example, can change the distribution of economic resources without commensurate changes in measured money income. The rapid growth of means-tested in-kind transfers in the 1970s implies that standard income measures understate improvements in living standards for low-income households during this period. On the other hand, the slow growth of government in-kind transfers over the last decades suggests that this source of bias is unlikely to be important in the 1980s. Systematic misreporting of income may also make changes in the distribution of self-reported income an unreliable measure of true changes in the income distribution. Finally, economic theory suggests that permanent income or consumption is a more accurate measure of the distribution of resources than is current money income. To date, the evidence on changes in the distribution of

consumption has been limited.

In this paper, we analyze changes in the distribution of consumption in the 1980s. We conclude that changes in the distribution of consumption correspond closely to changes in the distribution of income over this period. Changes in the family income distribution thus appear to primarily reflect changes in permanent income, not transitory income. A "hidden prosperity of the poor" is not apparent in data on the consumption of disadvantaged individuals.

I. The Distribution of Economic Resources

We use data from the March Current Population Surveys (CPS) to measure income, and the Consumer Expenditures Surveys (CES) to measure consumption.[1] The annual demographic files of the March CPS are available annually from 1964; the CES, in contrast, was conducted only periodically prior to the 1980s, and has since been continuous. We use data from 1960-61 (1964 for the CPS), 1972-73, 1980, 1984, and 1988 for our estimates. Since the CES sampling framework and survey methodology are much more consistent over the 1980s than they are between the earlier surveys, we focus on the period since 1980.

The CPS income measure we employ is total family money income. To create a variable that approximates economic consumption, we make four adjustments to the total expenditures measure (total out-of-pocket expenditures of a consumer unit) typically presented in summaries of CES data. First, we exclude contributions to social

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[1]The emphasis in the CES is on gathering expenditure data rather than income data. Since CES income data appear to be of lower quality than CPS income data, we use the CPS data for income inequality comparisons. See the appendix to our earlier paper (Cutler and Katz, 1991) for detailed descriptions of our CPS and CES samples and for definitions of our income and consumption measures.

security and insurance from expenditures, as these more accurately measure savings than consumption. Second, we exclude spending on owner-occupied houses and include the rental value of housing. Third, we exclude spending on new vehicles and include the consumption equivalence of the vehicle stock. Finally, we exclude cash contributions to persons and organizations outside the consumer unit, since these are measured less frequently than other expenditures. We adjust for family needs using the equivalence scale implicit in the federal poverty guidelines established in 1981; the scale distinguishes families by the total number of household members, the number of children, and whether the household head is elderly or not. We examine alternative equivalence scales in the next section.

Table 1 shows the distribution of income and consumption over the past 30 years. The upper panel presents the share of income by quintile along with the Gini coefficient. The lower panel presents analogous measures for consumption. The consumption and current money income distributions do provide somewhat different portraits of the distribution of economic resources at any point in time. The consumption distribution is substantially more equal than the income distribution in every year, exactly as is predicted by the permanent income hypothesis.

On the other hand, Table 1 illustrates that the consumption and income distributions tell a similar story about changes in the distribution of resources. Both measures indicate that the period from the early 1960s to the early 1970s was one of increased equality. The share of income to the lowest quintile of the income distribution increased by 0.4 percentage points over this period. The share of consumption to the lowest quintile of the consumption distribution increased by 1.1 percentage points. There were corresponding declines in resources at the top end of

Table 1: Distribution of Income and Consumption Per Equivalent Person 1960-1988

Quintile	Year				
	1960-61*	1972-73	1980	1984	1988
			Income Shares		
1	4.9%	5.3%	5.0%	4.4%	4.4%
2	11.5	11.6	11.6	10.8	10.7
3	17.0	17.0	17.3	16.6	16.6
4	23.7	23.6	24.6	24.1	24.3
5	43.1	42.6	41.5	44.1	44.2
Gini	.379	.371	.366	.397	.397
			Consumption Shares		
1	8.2%	9.3%	8.4%	7.8%	7.5%
2	14.0	14.5	14.0	13.8	13.5
3	18.3	18.5	18.5	18.1	18.2
4	23.3	23.0	23.2	23.3	23.6
5	36.2	34.7	35.9	37.0	37.2
Gini	.278	.253	.275	.290	.296

Note: Income data are from the CPS Annual Demographic Supplements, and consumption data are from the CES. Equivalent persons are defined using the federal poverty thresholds in place after 1981. Each family and unrelated individual in the CPS and each consumer unit in the CES is weighted by its sampling weight times the number of persons in the unit.

* Income data are for 1963; consumption data are for 1960-61.

the income and consumption distributions. Since 1972, however, and particularly in the 1980s, there has been an increase in inequality in both the income and consumption distributions. The share of income to the lowest quintile declined by 0.3 percentage points from 1972 to 1980, and by 0.6 percentage points in the subsequent four years. The consumption changes were 0.9 and 0.6 percentage points over the same time periods.

Since 1984, the distributions of income and consumption have remained relatively flat. As the experience of the 1960s suggests, however, this result is quite surprising given strong macroeconomic performance post-1983. Had the relationship between income inequality and macroeconomic activity estimated for the 1947 to 1983 period continued to hold for the remainder of the 1980s, the share of income to the lowest quintile would have been 1 percentage point higher in 1989 than it was actually observed to be (Cutler and Katz, 1991).

Conclusions concerning changes in the consumption distribution in the 1980s do not appear to be very sensitive to the exact consumption measure used. If we use total expenditures in place of total consumption, the results are extremely similar. The results are also similar if we eliminate the imputed service flows from durables and just use non-durable consumption. Our findings of a widening in the distribution of consumption closely parallel the much-discussed increase in income inequality of the 1980s.

In addition to a reduced share of total consumption, consumption of the poor fell in absolute terms as well. Between 1980 and 1988, average real per equivalent consumption of the lowest quintile fell from $6,152 to $5,873, a 4.5 percent decline. Consumption of the upper quintile, in contrast, increased from $26,353 to $28,948,

a 9.8 percent growth.

II. Adjustments for Family Size

An important issue in the distribution of resources is adjusting for family needs. While aggregate income or consumption comparisons often are expressed in per capita terms, economic theory does not naturally suggest this family equivalence scale. The need for family public goods (security services or lighting), for example, may be independent of the number of family members. Goods may also be subject to scale economies if there are fixed costs in their provision (house size) or reductions in the amount wasted with increases in family size. Finally, some goods (such as home production) may be complements or substitutes for households of different sizes or age compositions.[2]

Adjusting for household needs is potentially quite important. Since wealthier households are larger than less wealthy households, assuming needs increase linearly with family size may overinflate the relative income of the poor. Although the equivalence scales in the federal poverty guidelines make some adjustments for family size, the scale is based the amount of income required to purchase a nutritionally adequate diet for a family and does not directly consider other goods.[3]

We consider alternative equivalence scales varying along two dimensions: the number of persons in the family and the distribution between adults (persons over 18) and children. Defining A as the number of adults and K as the number of children, we

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[2]Edward Lazear and Robert Michael (1988) discuss these issues in more detail.

[3]Patricia Ruggles (1990) and Brigitte Buhmann et al (1988) review the poverty thresholds in greater detail and summarize empirical studies of family equivalence scales.

parameterize equivalent persons (E) as:

(1) $E = (A + cK)^e$,

where c is a constant reflecting the resource cost of a child relative to an adult, and e reflects the overall economies of scale in household size. Estimating equation (1) by nonlinear least squares for the 45 elements of the federal poverty scales for non-elderly households yields $\hat{c} = 0.76$ and $\hat{e} = 0.61$.

We use several other choices of c and e to form equivalence scales. The first, termed total consumption, assumes needs are unaffected by family size ($e = 0$), so that all members receive the amount of total consumption. This assumption is most appropriate for goods subject to large economies of scale. A second measure, per capita consumption, assumes needs increase linearly with family size and that children have needs identical to adults ($c = 1$, $e = 1$).

Existing literature suggests that neither of these two equivalence scales is appropriate, however. Angus Deaton and John Muellbauer (1986) and Edward Lazear and Robert Michael (1988), for example, estimate child care costs at about 40 percent of adult costs. Estimates of the scale parameter (e) are less uniform (Brigitte Buhmann et al, 1988). We combine an intermediate estimate of $e = 0.5$ with the consensus estimate of $c = 0.4$ to form our final measure of family needs, which we denote consumption equivalents.

Table 2 shows the effect of the choice of alternative measures of family needs on the distribution of consumption. We draw two conclusions from this comparison. First, the level of inequality is quite sensitive to the measure of household needs. Using the federal poverty scale, the lowest quintile received 7.5 percent of total consumption in 1988. With the per capita scale, the share of the bottom group was

Table 2: Distribution of Consumption, Alternative Equivalence Scales

	Year		
Quintile	1980	1984	1988
Family Consumption (e = 0)			
1	8.2%	7.7%	7.9%
5	35.2	37.0	36.5
Gini	.270	.291	.286
Per Capita Consumption (c = 1, e = 1)			
1	7.3%	6.9%	6.4%
5	39.8	40.6	41.0
Gini	.323	.335	.344
Consumption Equivalents (c = .4, e = .5)			
1	9.1%	8.4%	8.4%
5	34.3	35.9	35.8
Gini	.251	.272	.273

Note: Consumption data is from the CES. The number of equivalent persons in a family is $E = (A + cK)^e$, where A is the number of adults (over 18 years old), and K is the number of children. Each family and unrelated individual in the CPS and each consumer unit in the CES is weighted by its sampling weight times the number of persons in the unit.

only 6.4 percent, while the consumption equivalent scale suggests an 8.4 percent share of total consumption.

Second, provided there is some reasonable adjustment made for family size, trends in the distribution of consumption appear similar for different measures of needs. The poverty equivalence scale suggests a decline in consumption of the lowest quintile of 0.9 percentage points over the 1980s. The per capita measure also suggests a decline of 0.9 percentage points, and the consumption equivalent measure suggests a similar change (0.7 percentage points). In all of these measures, there is an equally dramatic increase in consumption of the top quintile.

Inequality trends for the total consumption measure ($e=0$) are different from those with a scale adjustment. With the total consumption measure, there is a decline in the consumption share of the bottom quintile between 1980 and 1984, but this is somewhat reversed in the succeeding four years. While there is no evidence of an increase in consumption at the lower end, there is only a small decline in consumption over the 1980s.

Since economic theory suggests that some adjustment for family size is important, and since estimated equivalence scales generally reject the total consumption formulation, we believe the poverty equivalence scale or consumption equivalent scale are much more natural measures of household needs. Both of these measures suggest increases in consumption inequality in the 1980s similar to widely cited trends in family incomes.

III. Who Are The Poor?

Although trends in the distribution of income and consumption in the 1980s are

similar, a comparison of the two at a point in time is likely to be different. Since the consumption distribution is more concentrated than the income distribution, poverty rates computed using consumption are likely to be lower than poverty rates using current income. In addition, the service flow component of consumption (housing and vehicles) is not uniform among the population, suggesting a different composition of the poor using a consumption measure of poverty relative to an income measure.

We examine these issues in Table 3. The first panel of the Table shows income and consumption measures of the overall poverty rate and of poverty rates by age.[4] Income poverty rates (13.1 percent) are higher than consumption poverty rates (10.3 percent), as the permanent income hypothesis suggests. The difference is particularly acute for the elderly. In 1988, income poverty for the elderly was above that for adults, although the gap has narrowed over time. Consumption poverty of the elderly is far below that for adults and children, however. The difference between income and consumption poverty for the elderly is driven by the substantial underestimate of the consumption value of housing for the elderly in standard income-based measures coupled with the lower share of income devoted to social insurance expenditures of the elderly. As the consumption column makes clear, the most substantial poverty problem in the United States today is among the non-elderly, and particularly children. Poverty rates among children, for example, are over three times those for the elderly.

The remaining panels of Table 3 show income and consumption poverty rates for various demographic components of the population. With the exception of families headed by non-whites, consumption poverty rates are lower than income poverty

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[4]We use the official poverty thresholds for 1988 to maintain comparability with published estimates. Daniel Slesnick (1991) compares income and consumption poverty rates using alternative measures of consumption and family needs.

Table 3: Income and Consumption Poverty, 1988

	Percent in Poverty	
	Income	Consumption
Total	13.1%	10.3%
Children (0-17)	19.7	17.7
Adults (18-64)	10.5	8.0
Elderly (65 +)	12.0	5.1
By Sex of Family Head		
Male	7.7	5.3
Female	28.4	22.4
By Race of Family Head		
White	10.2	6.7
Non-White	29.0	29.8
By Education of Family Head		
< High School	28.7	24.1
High School	12.1	9.5
Some College	7.7	4.6
College Grad	2.8	1.3

Note: Income data are from the CPS Annual Demographic Supplement, March 1989, and consumption data are from the 1988 CES. Poverty rates are calculated using the official federal poverty thresholds for 1988. All poverty rates are for individuals; persons in families and unrelated individuals are included in all calculations.

rates for all groups. The largest differences between income and consumption poverty thus appear to be for different age groups.

IV. Conclusions

Our work on income and consumption distributions leads to two primary conclusions. First, trends in income and consumption inequality closely parallel each other during the 1980s. We have also found in earlier work (Cutler and Katz, 1991) that changes in the distribution of labor market earnings are the key factor in recent changes in family income and consumption inequality. Although shifts in relative labor demand against less-educated and "less-skilled" workers undoubtedly are a major reason for these shifts in the labor market outcomes, research on the underlying reasons for these demand shifts (e.g. technological change, increased international competition, etc.) is still incomplete (see Frank Levy and Richard Murnane, 1992, for a survey).

Second, our results suggest that macroeconomic growth is not the panacea for the disadvantaged that many had thought it to be. Historically, the poor have gained substantially during periods of strong macroeconomic performance. The period from 1983 to 1989, however, suggests that other, coincident changes in labor demand have been large enough to overwhelm the traditional benefits to the disadvantaged of macroeconomic expansion. While the recent recession is proof enough that poor macroeconomic conditions adversely affect the standing of the poor, it no longer appears true that macroeconomic growth alone will boost the fortunes of low-income families.

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