

Impacts of Adding Net Worth to the Poverty Definition

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I. INTRODUCTION

A basic problem in assessing poverty status is how to properly measure family resources. The Bureau of the Census bases its poverty definition only on current family income with adjustments for family size, age of householder, and number of related children under 18 years. Yet many nonincome factors, including literacy, health, housing conditions, and household wealth, clearly affect the current and potential economic position of a household. These nonincome factors may be especially crucial to those on the lower end of the economic scale. In this paper we examine the impact of including the factor most readily convertible to income, household wealth, on the measurement of poverty in the U.S.

Omitting wealth (net worth) from the official income-based poverty measure would be less important if wealth and income were perfectly or very closely correlated, for then income would be a good proxy for both factors. However, the correlation between net worth and income is quite low.¹ In addition, wealth is far more unequally distributed than income: the Gini index of inequality for U.S. families was .42 for income and .74 for net wealth.² Further, the distributions of income and wealth differ systematically with various family characteristics. For example, net worth generally rises with age while current income tends to fall with age in the older age categories (Lerman and Lerman, 1986, p. 327). Wide differences between wealth and income distributions by occupation and region have also been found.³ Therefore, including wealth in the measurement of poverty could significantly alter the makeup of the poverty population, and in turn affect the optimum targeting of public assistance.

In this paper, we analyze the effects of wealth on the poverty status of U.S. households. To do this, we examine poverty both by the conventional income-based measure and by a combined income/wealth measure given by the sum of current income and the annual annuity value of net worth. This study uses the 1983 Survey of Consumer Finances, a household level data source containing income and wealth plus considerable demographic information. We explore whether the alternative income/wealth measure generates significant differences in the composition of the U.S. poverty population by age, race, sex, marital status, education, tenure, occupation, urban/rural status, and other selected characteristics. We also estimate the extent to which (1) households now classified as poor are also poor under the new income/wealth measure, (2) households now classified as poor are brought out of poverty by their wealth under the income/wealth measure, and (3) households not currently classified as poor fall into poverty under the revised measure because of their lack of assets. In this paper, we label the group described by (1) as the "hardcore" group, group (2) as "overrated", and group (3) as "overlooked."

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A brief summary of previous poverty measures is in Section 2. Section 3 describes the data source and methodology for the income and income/wealth measures and discusses hypothesized findings. Actual findings are presented in Section 4. First, we examine the effect of including wealth on the overall size of poverty in the U.S. using poverty thresholds developed for the current income-based poverty measure. Second, we explore whether the income/wealth measure produces changes in the demographic composition of the poverty population when poverty thresholds are adjusted to explicitly consider wealth. Special attention is paid in this analysis to the relative sizes of the hardcore, overrated, and overlooked groups. Finally, policy implications and limitations are discussed in Section 5.

2. MEASURING POVERTY

Prior to the mid-1960s and the War on Poverty, poverty for U.S. families was commonly defined by a fixed family income standard. In the late 1940s, those with annual family income below \$2000 were typically regarded as being in poverty. By 1957, a poverty line of \$2500 was common. The Johnson Administration originally (1963) adopted \$3000 (all dollar figures in current dollars) as a rough measure of poverty. However, fixed income standards did not consider the differing basic needs of families of various sizes and composition, let alone considering variation in wealth.

In 1965 Molly Orshansky proposed a new poverty measure with poverty lines that varied by family size, age composition, and farm/nonfarm status. The adjusted poverty thresholds were estimates of comparable minimum standards of consumption by families in differing circumstances. Proposed poverty lines ranged from \$1280 for a single person over 65 on a farm to \$5250 for a nonfarm family of seven or more. While wealth was not explicitly included in the Orshansky measure, thresholds were set lower for both farm families and elderly households partly because of the greater frequency of homeownership (thus greater home equity wealth and associated housing services) for those groups than for the general population.⁴

Weisbrod and Hansen (1968) first attempted to explicitly account for wealth as well as income in measuring poverty. They measured a family's economic position by current income plus the annual annuity value of net worth, a measure which we refer to as the WH measure. Using 1982 data and fixed \$3,000 poverty line for both current family income and WH, Weisbrod and Hansen found both a lower incidence of poverty and a younger age distribution of poverty households under the WH measure than under the simple income measure. Habib, Kohn, and Lerman (1977) applied the Weisbrod-Hansen technique by examining distributions of income, wealth, and the combined WH measure in estimating poverty status in Israel over the 1963-64 period. Adopting poverty lines that were 40 percent of the median for each measure of resources, they found that the composition of poverty by age, period of immigration, and country of origin differed significantly when measured by WH rather than by income alone. A special feature of this research was to study the degree of overlap between measures, isolating groups counted as poor by both measures and by one measure but not another.

This research adds several new wrinkles to the work pioneered by Weisbrod and Hansen. First, estimates of income-based and WH-based poverty were based on more recent data, the 1983 Survey of Consumer Finances. Second, poverty thresholds were adjusted for family size and composition, in contrast to the fixed single poverty income limit used in the Weisbrod-Hansen study. Third, we extended analysis of the composition of poverty by the income and WH measures to include several demographic characteristics, while Weisbrod and Hansen limited their attention to the age dimension. Finally, as in Habib et al., we examined the overlap

between measures, but again extended this analysis to several demographic characteristics of interest.

3. DATA AND METHODOLOGY

The 1983 Survey of Consumer Finances (SCF) contains detailed information on the balance sheets of 4103 households nationwide (see Avery, 1983). We removed a supplemental sample of 438 high-income households (unlikely to be helpful in analyzing poverty and low-income households)⁵ and 156 households containing unrelated individuals (since the poverty income thresholds apply to family income only),⁶ leaving a sample of 3509 families. Properly weighted, this sample is designed to represent all families in the coterminous U.S. except those on military reservations and in institutional quarters. With information from the SCF on both income and wealth, assets, debts, and a wide range of demographic characteristics of surveyed households, we were able to estimate poverty by both the traditional income measure and by the income/wealth measure.

Poverty status under the conventional income definition is determined by 1982 family income and composition. Capital gains and food stamp income, included in the SCF income measure, were deducted to arrive at Y_1 , our estimate of the income measure used to define poverty status by the Census Bureau of the U.S. Department of Commerce.⁷ The mean value of Y_1 in our sample was \$26,101. We then used the official census "poverty line," or set of income thresholds used to determine poverty status in 1982 (replicated in Table 1), to obtain a family's poverty threshold according to its size and number of children.⁸ A family was then classified as in or not in poverty under the conventional income measure according to whether its income Y_1 fell below or above its respective poverty threshold figure.

To determine a family's poverty status under the Weisbrod-Hansen income/wealth definition, we defined its WH value as the sum that could be spent annually so that all its wealth is consumed in its lifetime:

$$(1) \quad WH = Y_2 + NW * A,$$

where Y_2 is income net of the yield from net worth, NW is net worth, and A is the annuity value

TABLE 1
Thresholds at the Poverty Level in 1982, by Size of Family and Number
of Related Children under 18 Years Old

Size of Family Unit	Related Children under 18 Years								
	None	One	Two	Three	Four	Five	Six	Seven	Eight or More
One person	4,901								
Two persons	6,230	6,638							
Three persons	7,546	7,765	7,772						
Four persons	9,950	10,112	9,783	9,817					
Five persons	11,999	12,173	11,801	11,512	11,336				
Six persons	13,801	13,855	13,570	13,296	12,890	12,649			
Seven persons	15,897	15,979	15,637	15,399	14,955	14,437	13,869		
Eight persons	17,760	17,917	17,594	17,312	16,911	16,403	15,872	15,738	
Nine persons or more	21,364	21,468	21,183	20,943	20,549	20,008	19,517	19,397	18,649

Source: U.S. Bureau of the Census, Table A-2 [6, p. 181].

of one dollar of net worth. This net income measure Y_2 differs from the income measure Y_1 used to determine income-based poverty status in that Y_2 excludes all returns on wealth holding. In addition to deducting capital gains, Y_2 excludes income from IRA or Keogh accounts, dividends, interest, and rental income.⁹ These are reflected in the annuity value of net worth and would otherwise be counted twice in the measure of WH. Net worth is gross assets of the household (including value of businesses owned and net present value of pensions) minus total household debts (including real estate and consumer debt). The annuity value of net worth (A) depends on life expectancy of the family head and/or spouse. Its calculation assumes that net wealth becomes zero upon the death of both husband and wife, and that a family headed by a surviving spouse consumes at a rate of $\frac{2}{3}$ of the original family unit.¹⁰ The mean value of WH in the sample was \$33,687. Income taxes and taxes on wealth (such as real estate taxes) are ignored in this analysis.

With WH computed as outlined in (1) above for all families, we require a WH poverty line to determine family poverty status under the WH measure. There are two approaches to setting a WH poverty line based on two competing interpretations of the meaning of current poverty income thresholds set out by Weisbrod (1965). The first view is that current poverty income limits reflect total resources needed by families of differing size and composition to avoid living in poverty. Thus if we previously measured family resources by income but now have an improved measure which includes the potential income value of household wealth as well as income, we may simply use the existing threshold figures along with the improved measure of family resources and expect resulting estimates to come closer to the "true" level of poverty. Since the income/wealth estimates of family resources generally exceed those by the income measure, this procedure is expected to yield lower estimated poverty rates.¹¹ Yet it is not clear by how much poverty would decline as a result of including wealth.

A second view is that current poverty income limits were originally set to allow for some "normal" or "typical" level of family assets. In fact, differences in official thresholds between elderly and nonelderly households (and in previous years between farm and nonfarm households) were partially intended to reflect differences in wealth (in the form of home equity) of these groups. Thus if wealth is explicitly included in family resources, poverty thresholds should be adjusted upward to reflect the fact that the minimum standard of family consumption implied by the income measure will differ from the new income/wealth measure.

By how much and by what method poverty thresholds should be adjusted under the WH measure are difficult questions. If we assume that on average current poverty income thresholds properly account for household wealth, income-based poverty estimates should approximate the "true" level of poverty, and the current official count in poverty may be used as a benchmark in setting WH poverty thresholds. We adopt this interpretation and calibrate WH thresholds to replicate the poverty count of 34.5 million persons based on official 1983 poverty income thresholds, adjusted so that their relative levels are unchanged.¹² After weighting the WH measure to adjust for family size and composition,¹³ we designated the 34.5 million persons with lowest weighted WH values as being in poverty by the WH measure. While the overall size and rate of WH-based and income-based poverty are the same using this method, the composition of poverty populations may be quite different.

We measure WH-based poverty using both of the above approaches to setting WH poverty thresholds. Findings on WH-based poverty under the "unadjusted poverty line" approach focus on the magnitude by which overall poverty rates fall after accounting for wealth in measuring family resources. Findings on WH-based poverty under the "adjusted poverty line" approach focus on the composition of the poverty population by numerous demographic characteristics.

What findings do we expect on the size and composition of poverty under the WH measure? Overall poverty should decline when measured by WH as compared to official estimates, under the unadjusted poverty line approach. Using the adjusted poverty line approach, we anticipate marked differences in the age makeup of the poverty population. Since older persons tend to have more wealth (much of it in the form of home equity) than do younger persons and have shorter life expectancy (thus higher annuity value for any given net worth figure), we expected a younger population in poverty under the WH poverty measure than the income-based measure, as was found in the Weisbrod-Hansen and Habib et. al. studies. Lower poverty rates under the WH measure are also expected for owners (compared to renters) and farmers (compared to other occupations) since these groups tend to have more wealth. Recipients of public assistance tend to lack assets and generally must have limited assets to qualify for benefits. Thus they are expected to have higher poverty under the WH measure.

Competing factors are at work for most other demographic characteristics in their effect on poverty populations. For example, rural areas generally contain a higher proportion of owner and older households, leading us to expect lower poverty rates under the WH measure. However, Federal Reserve data indicates lower median net worth in rural than in urban areas (Lerman, 1988). Thus it was unclear whether taking account of wealth would increase or decrease rural poverty. Similarly, it was not clear how sex, race, marital status, education, and other characteristics are related to poverty status under the alternative measures.

The relationship between poverty measures is readily expressed in terms of the overrated (OR) and overlooked (OL) groups as follows:

$$(2) \quad WP = YP + (OL - OR)$$

$$(3) \quad YP = WP + (OR - OL),$$

where WP and YP represent the number in poverty by the WH and income measures, respectively.¹⁴ Either equation implies that $WP > YP$ is equivalent to $OL > OR$.

4. FINDINGS

Unadjusted poverty line approach

Adding the annuitized income value of wealth at an 8 percent interest rate to income reduced the poverty population by 20 percent when Census poverty thresholds are applied, unchanged, to the combined measure (Table 2). Poverty fell from 34.5 million people (or 15.6 percent of the U.S. population) by the conventional income measure to 27.7 million people (or 12.5 percent of the population) by the WH measure. The percentage drop in the poverty population for assumed interest rates of 4 and 12 percent was 16 and 27 percent respectively (Table 2). The reduction in poverty is greater the higher the interest rate since higher rates generate higher annuity values for the same level of current wealth.

Adjusted poverty line approach

The adjusted poverty line approach raises the WH poverty thresholds while keeping their relative levels unchanged so that the number (34.4 million) and percentage (15.6 percent) of persons in WH-based poverty are the same as those under the conventional measure.¹⁵ Approximately 30 million persons (or 13.6 percent of the U.S. population) were in poverty by both measures (Table 3). The overlap between poverty measures (extent to which the measures classify the same persons in poverty) is 87 percent (30/34.4). This leaves 13 percent of those in

TABLE 2
Comparing Poverty under Income and Income/Wealth Measures—
Unadjusted Poverty Line Approach

Poverty Measure	Number in Poverty (millions)	Percent in Poverty	Percent Drop in Income-Based Poverty
Income	34.5	15.6	—
Income/wealth			
r = 4%	28.9	13.1	16.2
r = 8%	27.7	12.5	19.9
r = 12%	25.4	11.5	26.5

Source: Tabulations from 1983 Survey of Consumer Finances.

income-based poverty whose poverty status is altered by taking account of wealth. That is, approximately 4.5 million people would be removed from conventional poverty under the WH measure. Of course, since the total in poverty was constrained to be equal under the two measures, an equal number was added to the current poverty population by the WH measure (Table 3).

While poverty rates under the two measures are equal (by construction) for the overall population, WH-based and income-based poverty rates may differ within various subgroups of the population. Table 4 lists findings for U.S. families by several groups of variables. For each subgroup within these variables (for example, for the 25–34 age subgroup), we list the following information: (1) poverty rate (percentage in poverty in subgroup to total in subgroup) under the conventional income measure; (2) poverty rate under WH; (3) percentage overrated; (4) percentage overlooked; and (5) percentage hardcore.

In comparing poverty rates under the alternative measures for the various subgroups considered, we explore (a) differences across subgroups and (b) differences between measures for a given subgroup. Under the seven age categories listed, poverty rates are lowest in the middle (35–64) age categories and highest in the youngest and oldest categories by both

TABLE 3
Distribution of Poverty and Nonpoverty Groups Under Alternative Poverty Measures

Income Measure	WH Measure		Totals
	Not in Poverty	In Poverty	
Millions of persons			
Not in poverty	181.8	4.4	186.2
In poverty	4.5	30.0	34.5
Totals	186.3	34.4	220.7
Percent of total population			
Not in poverty	82.4	2.0	84.4
In poverty	2.1	13.6	15.6
Totals	84.4	15.6	100.0

Source: Tabulations from 1983 Survey of Consumer Finances.

TABLE 4
Demographic Distribution of the Poverty Population Under Income & WH Measures

Demographic Characteristic	Income-Based Poverty	WH-Based Poverty	Overrated: in Poverty by Income, Not WH	Overlooked: In Poverty by WH, Not Income	Hardcore: In Poverty by Both Measures
U.S. Total	15.6	15.6	2.1	2.0	13.6
Age			Percent		
Under 25	24.7	31.5	0.4	7.2	24.3
25 to 34	17.6	19.8	0.3	2.5	17.2
35 to 44	11.8	12.1	1.2	1.4	10.6
45 to 54	14.4	13.0	2.4	1.0	12.0
55 to 64	13.1	11.4	2.9	1.3	10.1
65 to 74	15.4	11.8	5.2	1.6	10.2
75 or older	30.1	24.1	9.3	3.2	20.9
Tenure					
Owner	9.1	6.8	2.7	0.5	6.3
Renter	29.8	34.8	0.4	5.4	29.5
Occupation, Full Time					
Workers					
All full time workers	7.3	5.5	1.9	0.1	5.4
Professional, technical	2.6	2.9	0.2	0.5	2.4
Manager, administrative	2.0	1.2	0.8	0.0	1.2
Self-employed manager	6.8	4.2	2.6	0.0	4.2
Sales, clerical	6.0	6.9	0.8	1.8	5.1
Crafts, protective service	6.8	6.9	0.8	1.0	6.0
Labor, service	13.5	15.9	1.2	3.7	12.2
Farm	16.7	10.1	8.0	1.4	8.7
Miscellaneous	4.5	8.7	0.0	4.2	4.5
Public Assistance					
Recipients	71.0	74.3	1.9	5.2	69.1
Nonrecipients	8.3	7.9	2.1	1.6	6.2
Sex					
Male	10.3	10.5	1.6	1.8	8.7
Female	39.7	38.5	3.9	2.7	35.8
Race					
White	10.3	10.1	1.9	1.8	8.4
Nonwhite	35.0	35.2	2.7	2.9	32.3
Marital Status					
Married	9.6	9.9	1.5	1.9	8.0
Unmarried	34.8	33.3	3.8	2.3	31.0
Number of Children					
0	11.9	10.3	3.1	1.5	8.8
1	13.3	14.0	1.7	2.3	11.7
2 or more	20.2	21.2	1.3	2.3	18.6
Health					
Excellent	8.6	9.3	0.9	1.6	7.7
Good	13.8	14.4	1.5	2.1	12.3
Fair	27.8	26.3	3.7	2.2	24.2
Poor	44.6	39.3	9.3	4.1	35.3
Employment Status					
Working (full or part time)	8.7	9.1	1.1	1.6	7.5
Unemployed	36.6	38.2	3.1	4.7	33.5
Retired, student or housewife	34.2	31.8	5.3	2.8	29.0

TABLE 4 (Continued)

Demographic Characteristic	Income-Based Poverty	WH-Based Poverty	Overrated: in Poverty by Income, Not WH	Overlooked: In Poverty by WH, Not Income	Hardcore: In Poverty by Both Measures
Education					
0-8 years	38.8	35.7	6.3	3.2	32.5
9-12 years	29.4	30.5	2.1	3.2	27.3
High school graduate	12.8	13.4	1.7	2.4	11.1
Some college	7.5	7.4	1.3	1.2	6.3
College degree	3.8	3.9	0.7	0.9	3.1
Region					
Northeast	13.7	13.3	1.7	1.3	12.0
North Central	12.7	12.9	1.8	1.9	11.0
South	20.9	20.9	2.6	2.6	18.3
West	12.2	12.2	2.0	1.9	10.3
Rural/Urban Status					
Rural	21.1	21.1	3.0	2.9	18.1
Urban	14.7	14.7	1.9	1.9	12.8
Central City (CC) Locational Status					
Central city over 2 million	25.3	28.3	1.2	4.2	24.1
Central city under 2 million	18.0	18.0	1.4	1.4	16.6
Suburb of CC over 2 million	5.8	4.7	1.5	0.4	4.4
Suburb of CC under 2 million	13.0	13.9	1.9	2.8	11.2
Adjacent	16.1	14.8	3.0	1.7	13.1
Rural	21.1	21.1	3.0	2.9	18.1

Source: Tabulations from 1983 Survey of Consumer Finances.

measures. However, poverty under the WH measure has a younger age distribution than under the income measure, as expected. Put differently, more households were overlooked than were overrated in the younger age groups, which from equation (2) is equivalent to $WP > YP$. We find the opposite in the older age groups; that is, more overrated than overlooked households (or equivalently, $YP > WP$). This is expected since older households have typically accumulated more assets than younger households, and current income tends to fall with age in the upper age categories (Lerman and Lerman, 1986, p. 327). The hardcore poor were found most frequently among those households headed by someone below 35 or above 74 years of age.

Renters had far higher poverty rates than did homeowners by both measures. As expected, however, taking account of wealth caused poverty to appear even more severe among renters and less severe among owners. While the poverty rate of renters was 3 times that of homeowners with the conventional income measure, it was 5 times as high under WH. Nearly 3 percent of all homeowners were poor by the conventional measure but had enough assets (probably home equity) to avoid poverty by the WH measure. However, over 5 percent of renters were not poor by the income measure but were in WH-based poverty because they lacked sufficient assets.

Among the 75 percent of families who had either the head and/or the spouse working full time, those occupations with higher than average poverty rates were laborers and service

employees, and farmers and farm managers. Poverty among laborers and service employees was far more often overlooked than overrated. Farmers were relatively often in the overrated category probably because of higher than average holdings of property assets.¹⁶

Recipients of public assistance were in more severe poverty under the WH measure (74 percent poverty rate) than the conventional measure (71 percent). This was expected in part because recipients are generally required to have limited assets.

Female-headed and nonwhite families had far higher poverty rates than did male-headed and white families, respectively. Including wealth reduced the male/female difference a bit but had little effect on the white/nonwhite difference.

Poverty was much higher in unmarried households than in married households, but the difference narrowed slightly under WH. Nearly 4 percent of unmarried households were in poverty by the conventional measure but were not poor by WH standards.

Poverty was especially high for families with 2 or more children, according to both measures. In addition, families with children had relatively more overlooked than overrated households while the opposite was true for families with no children. Including wealth thus increased the difference in poverty rates between families with no children and those with two or more children. Table 5 shows that the total number of children in poverty rose from 13.2 million under the income measure to 14.0 million under the WH measure, an increase of 5.5 percent.

Health condition reported by family head was a major factor in the incidence of poverty. Poverty increased as health deteriorated, no doubt partly because poor health means inability to work and to earn. However, the difference in poverty rates between healthy and unhealthy households was less under WH, probably because those in poorer health are also often older households, who tend to have higher net worth.

While poverty is extremely high (over 30 percent) for the unemployed compared to those working full or part time, incorporating wealth causes poverty to be even higher among the unemployed. This is reflected in the relatively high presence of overlooked families among the unemployed. By contrast, the retired, student and housewife group has a relatively large share of families whose poverty status is overrated. This group is likely to have a high percentage of older households (because of the retired component), who tend to have relatively high wealth.

Poverty was much lower for families with high educational levels. While poverty was highest among those with less than 8 years of education, this group has a significant presence of overrated households (probably because the least educated are often older households) and thus a lower poverty rate by the WH measure.

The final household characteristics we consider are locational factors. The South had the highest rate of poverty (over 20 percent) of all regions, followed by the Northeast, the North

TABLE 5
Children in Poverty

Poverty Measure	Children in Poverty	Total Persons in Poverty	Percent of Children to Total
Income	13,262,423	34,512,270	38.4
WH	13,990,058	34,412,400	40.7

Source: Tabulations from 1983 Survey of Consumer Finances.

Central, and the West. Accounting for wealth in the poverty measure appears to make little difference in the regional distribution of poverty. The rural/urban distribution of poverty which at 21 percent in rural America is well above the 15 percent level in urban areas, is also not affected by including wealth. As suggested in Section 3, the factors of older age distribution and lower median wealth in rural areas may offset one another.

When urban America, where by our definition 85.5 percent of the population lives, is broken into large (over 2 million people) and small central cities, suburbs of large and small central cities, and areas adjacent to central cities, dramatic differences in poverty rates emerge and some differences between poverty measures also appear. Large central cities had by far the highest incidence of poverty, and counting wealth caused their poverty rate to be even higher. In contrast, the area with by far the lowest poverty rate was the suburbs of large central cities, with 6 percent in income-based poverty and less than 5 percent in poverty by the WH measure.

The second and third highest in poverty of the locational categories were rural areas (21 percent in poverty) and central cities of under 2 million population (18 percent in poverty). Including wealth did not change the rate of poverty for these groups. However, in adjacent areas (outside suburbs but within 50 miles of a central city), poverty fell from 16 percent by the conventional measure to 15 percent by the WH measure. By contrast, poverty in suburbs of small central cities grew from 13 percent to 14 percent after accounting for wealth, narrowing the difference between central city and suburban poverty rates in cities of under 2 million population.

Since some of the above demographic variables may be interrelated (for example, poor health is likely to be more common among older persons), we performed a multivariate analysis reported in Table 6. Regressing the demographic characteristics (recoded as zero-one dummy variables) on the difference between the WH measure and income, we obtained the average dollar and percent margin of the WH measure over income for each demographic characteristic, all others held constant. Since our interest in differences between measures of family resources was in the poor and near poor, we ran the regression on families below either median WH or median income. We find that the elderly, for example, have on average \$2,806 higher WH than income (or 25 percent higher WH than mean income) compared to nonelderly households, and this margin was statistically significant. Homeowners, farmers, high school graduates, retirees, and West residents also appeared significantly better off by the WH measure than by income among families below median WH or income.¹⁷ Recipients of public assistance had significantly higher income than WH, other things equal. Some characteristics found in the crosstabulations to have different poverty rates under the two measures do not show significant differences between WH and income in the regression findings. For example, large central cities residents in the bottom half of the WH or income distribution do not have significantly lower WH than income, *ceteris paribus*, although poverty was higher by WH than by income among residents of large central cities.¹⁸ One explanation is that the crosstabulations may be capturing the relatively high renter population in large central cities, whereas the regression results control for tenure.

5. CONCLUSIONS

The net wealth of a family clearly affects its welfare. Yet the current poverty measure considers only income and family composition. The goal of this paper is to explore what would happen to the size and composition of the poverty population if the poverty measure were expanded to explicitly include household net worth.

TABLE 6
Regression Results: Effects of Demographic Variables on Difference
Between Poverty Measures

Variable	Effect on Excess of WH Measure Over Income		Significance
	Dollar Effect	Effect as Ratio of Mean Income	
Single	-681	-0.06	
Elderly	2806	0.25	**
Male	725	0.07	
Married	-576	-0.05	
Owner	4694	0.42	**
Farm	20273	1.83	**
White	366	0.03	
HS graduate	1854	0.17	**
Poor health	-615	-0.06	
Unemployed	83	0.01	
Retired	1437	0.13	**
Public assistance recipient	-1268	-0.11	*
2+ children	-674	-0.06	
Central city (CC) locational status:			
Large CC	141	0.01	
Small CC	116	0.01	
Suburb large CC	480	0.04	
Suburb small CC	-196	-0.02	
Rural	868	0.08	
Region:			
North Central	656	0.06	
West	1268	0.11	*
South	-125	-0.01	
Intercept term	-5328	-0.48	**

OLS regression run on all families below median WH or income (mean income for this group = \$11,049).
Dependent variable = WH measure minus income.

R squared = .22.

n = 1897

Significance at .05 level = *.
at .01 level = **.

We learn that in total, the new WH poverty measure "overlaps" the current measure (counts the same households in poverty) by 87 percent of those in income-based poverty. The remaining 13 percent, who comprise 4.5 million of the 34.4 million in income-based poverty, have enough assets to be removed from poverty under the more comprehensive definition. Similarly, 13 percent of those in poverty under the new measure are not currently counted as poor.

Under the new WH income/wealth measure, the poverty population has a different makeup. Compared to the income-based poor, those in poverty by the WH measure are more often young persons, renters, laborers and service workers, males, married families, large families, children, unemployed persons, and residents of large central cities or suburbs of small central cities. The current poverty measure, determined by family income without consideration of wealth, as compared to the WH determined poor has more farmers, retired persons,

persons in poor health, and residents of suburbs of large cities or adjacent areas. Multivariate analysis suggested that age, homeownership, farm status, education, retirement status, public assistance participation, and residence in the West are significant factors in explaining the divergence of the WH and income measures.

The WH measure falls short of fully accounting for a person's financial well-being. Differences in income needs, deriving from such factors as poor health or the lack of publicly provided assistance, are not considered. There is no consideration of human capital holdings. It is also assumed that assets would be amortized over the expected lifetime, which assumes no bequest motive. While the sample size of our survey is rather small, limiting analysis of smaller subgroups, this research does provide some valuable insights on how an alternative poverty measure can change our view of who is poor. The tabulation of poverty by various population characteristics also uncovered some interesting information on the poor and where they live, independent of the poverty measure used.

FOOTNOTES

1. For example, in 1983 the correlation coefficient between income and wealth was .49. If income is measured net of the yield from net worth (i.e., if capital gains, IRA income, dividends, interest, and rent are removed from total income), the correlation between income and wealth falls to .26 (all estimates based on 1983 Survey of Consumer Finances data).
2. Ginis were calculated by the authors from 1983 Survey of Consumer Finances data.
3. For example, median net wealth as a proportion of median income was especially high among farmers and those in the West region, according to 1983 Survey of Consumer Finances data.
4. For farmers, lower thresholds also accounted for the value of food produced and consumed on the typical farm.
5. Some of our empirical work was run including the high income sample, but results were unchanged.
6. While the poverty status of a person living with his or her family is determined by family income, for an unrelated individual poverty status is determined by his or her own income, according to census procedure. However, data was not available on family income for households containing unrelated individuals since income in the SCF was given for the entire household and not supplied for individual household members. Thus, we removed households containing unrelated individuals (this group comprised less than 5 percent of the sample).
7. The official census income measure used in measuring poverty status is money income received in the previous calendar year by family members of the household from each of the following sources: wages and salaries, net self-employment income, dividends, interest income, rental income, alimony or child support payments received, retirement income, and public assistance benefits in money form. Capital gains and all in-kind income (eg., food stamps) are not included. We estimated food stamp income to be 27 percent of total public assistance income (based on Bureau of Economic Analysis data on the proportion of total welfare income represented by food stamps).
8. The official census poverty thresholds also adjusted for elderly/nonelderly status of household head for one and two person households. Because the adjusted elderly/nonelderly thresholds were nearly identical, we chose not to make this adjustment and instead averaged them into a single threshold.
9. In the SCF, self-employment income reflecting owned business assets may have been reported, causing double counting. For families reporting both self-employment income greater than \$30,000 (the 75th percentile of self-employment earners) and also owning a business worth over \$134,644 (the 75th percentile of present values of all family-owned businesses), we reset self-employment income to half its reported value.
10. Hence for a single individual,

$$A = \frac{r}{1 - (1 + r)^{-n}}$$

where r is the real rate of interest and n is the life expectancy of the individual or of both spouses if they have equal life expectancy. Estimates of life expectancy were based upon U.S. Department of

Health and Social Services estimates by age (from 16 to 96 years old) and sex. If one spouse has greater life expectancy ($m > n$) than the other, A is given by

$$A = \frac{r}{1 - \frac{1}{3}(1 + r)^{-n} - \frac{2}{3}(1 + r)^{-m}}$$

We assumed an interest rate of 8 percent. Some estimates were also performed for interest rates of 4 percent and 12 percent.

11. However, WH could be less than Y_1 for two reasons: (1) Net worth could be negative. This resulted in $WH < Y_1$ and occurred for 4.9 percent of all families. (2) A family with nonnegative net worth could have enough of its Y_1 in the form of yield from its net worth that $WH < Y_1$. This occurred for another 2.8 percent of the sample. However, in only 2.0 percent of total cases did a family fall into poverty under WH while being out of poverty under Y_1 and none of these had negative net worth. The bankruptcy option is good reason to reset all negative net worth values to zero. While this was done in the estimation of WH-based poverty by demographic groups, this adjustment had no impact on our findings since no families had their poverty status affected by negative net worth.
12. A poverty count of 34.5 million was calculated using our data base and 1983 official poverty thresholds, closely approximating the official 1983 poverty count of 34.4 million. The former "synthetic" figure was used rather than the official figure since we will use our data base to construct the income/wealth poverty population. Since the two poverty populations will be compared in this paper, it is appropriate to use the same approach in constructing both poverty populations.
13. Smaller households would tend to cluster into the lower rankings of WH and larger households into the higher rankings. Since larger households need more resources to feed their members at subsistence levels, we weighted the WH by a factor equal to the reciprocal of its official poverty threshold, where these factors are normalized to sum to one over all households. That is, let t_i represent the official (income-based) poverty threshold for a particular family based on its size and composition. Let $r_i = (1/t_i)$, and \bar{r} = mean of the r_i over all families. Then weight this family's WH by

$$s_i = (r_i/\bar{r})$$

As noted in Habib, Kohn, and Lerman (1977), adjusting poverty lines of the WH measure for family size and composition is appropriate if savings serve primarily to redistribute consumption over time for the existing family unit and not primarily to provide children with an inheritance or to provide for new family members.

14. To see this, note that the number of WH-based poor must equal the total of the hardcore (HC) plus overlooked groups ($WP = HC + OL$). Similarly, $YP = HC + OR$. Subtracting the latter equation for the former yields equation (2).
15. However, in our sample each household represented on average about 71,000 people, and thus discontinuous jumps occurred in the cumulative total number of households ranked from lowest to highest by the WH measure. Since such a jump occurred at the WH poverty threshold, we counted slightly fewer people (34.4 million) in poverty under the WH measure than the number (34.5 million) in poverty under the conventional measure.
16. Farm findings should be interpreted with caution. Farm income can vary greatly from year to year, and the value of many agriculture related assets has fallen dramatically since 1983.
17. The significance and estimated coefficient of West residence is measured relative to the Northeast/adjacent reference category. The regional dummy variables as a group were significant at the .10 level.
18. Estimates for the central city variables are to be compared with the Northeast/adjacent reference category. As a group, the central city locational dummy variables were not significant at the .10 level.

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