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4 Poverty among the Elderly: Where Are the Holes in the Safety Net?

Michael J. Boskin and John B. Shoven

A substantial body of research, combined with aggregate and average official government statistics, documents the absolute and relative real income gains made by the elderly population of the United States in the last 15 years. The large increase in real Social Security benefits in the early 1970s, and their subsequent indexing, were a major source of this improved economic position. This period also witnessed a substantial acceleration of early retirement, a lengthening of life expectancies, and other factors affecting the welfare of the elderly.

Among the most important documented factors concerning the economic status of the elderly from 1970 to 1985 are the following:

1. A sharp reduction in the incidence of poverty among the elderly, even during the 1981–82 recession.
2. The substantial increase in absolute and relative real income of the nonpoor elderly.
3. The (historically) approximate neutrality of inflation on the cost of living of the elderly, relative to the rest of the population; and the likely lower inflation vulnerability of the elderly, given their typical asset ownership (especially housing and Social Security).
4. The substantial increase in economic resources, given various conceptual adjustments, of the elderly during their retirement years, relative to their own career average earnings.¹

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Various other factors could be mentioned, and we do not mean to imply that more research on the factors mentioned above is unnecessary; certainly, we are in need of improved understanding of these phenomena. However, it is our tentative conclusion that subsequent research is unlikely to alter the qualitative results of this set of findings.

Previous research¹ has referred primarily to the typical, or average, situation of elderly retirees, in particular, to the younger cohorts of elderly retirees, since those are the groups for which data are most readily available. A correlative, important question is, given this remarkable social achievement of lifting the bulk of the elderly out of poverty and substantially increasing the real incomes of many of them, what fraction were not so fortunate? How many stayed poor? Who were they? Who was so unfortunate as to suffer substantial declines in their incomes relative to career average earnings? Who had particularly low or particularly high replacement rates?

The purpose of this paper is to begin to answer such questions. Again, we focus on a particular data set and a particular cohort of the elderly. Even within this data set, described in section 4.1, we must winnow our sample down for various reasons. Our analysis is nonetheless revealing. A nontrivial fraction of the elderly were left behind, and various characteristics of this group can be ascertained. Also, a modest fraction of elderly retirees, although well-off prior to retirement, suffered substantial real income declines and could now be described as relatively poor. Again, our analysis suggests that this phenomenon is not randomly distributed across the elderly population, but heavily concentrated in particular groups, for example, widows.

Thus, our goal is both to supplement previous studies of the average or typical real incomes or replacement rates of the elderly during retirement and to highlight the heterogeneity of the changes in the economic well-being of the elderly. Toward this end, section 4.1 describes our data and methodology. We basically attempt to examine three sets of phenomena using the Longitudinal Retirement History Survey. We examine (1) who among the elderly were poor in the late 1970s; (2) who among the elderly were well-off prior to retirement but suffered substantial declines in real incomes postretirement; and (3) who among the elderly had quite low or high (unadjusted) replacement rates. In our previous research, we concluded that various important adjustments should be made to the typical way replacement rates are calculated to gain a more accurate scalar measure of the economic well-being of typical, or average, elderly individuals and families, relative to their own earlier working lives. We adjusted replacement rates for such things as taxes, career average versus high three years of earnings, risk, childrearing costs, and so forth. In this paper, as described in more detail below, we take a somewhat more conventional view and

just examine income during retirement unadjusted for taxes, risk, child-rearing, and other expenses. We do this both to make this research comparable with other studies and to separate the issue of finding a preferable way to approximate the well-being of typical elderly retirees and families from the detailed study of the poor elderly.

Section 4.2 presents two types of information to help address each of the questions posed above. The first consists of cross-tabulations of postretirement income by preretirement earnings by various characteristics. We examine, in this way, the fractions of the elderly who are poor, suffer substantial income declines, and have high and low replacement rates, as well as characteristics of these groups relative to the general elderly group under study. The second presents a probit analysis of some characteristics potentially correlated with each of these outcomes. This is just a richer way of examining the data. We do not present a structural interpretation of factors associated with, for example, poverty in old age, just a probabilistic analysis of factors associated with it.

Section 4.3 concludes the paper with a summary of the results, some of the potential implications of the analysis, and some avenues for further research.

4.1 Data

All of the empirical results of section 4.2 are based on the Retirement History Survey conducted from 1969 to 1979 by the Social Security Administration. The survey initially included 11,153 households whose heads were born between 1905 and 1911. There was substantial attrition (due to placement in nursing homes or loss of contact as well as to death) for each successive biennial survey, so that only 7,352 original respondents or their widows remained to answer the last survey in 1979.

Respondents were surveyed in odd-numbered years concerning current family composition, labor force participation, health, activities, assets and wealth, and the previous (even-numbered) year's income and benefits. Replacement rates are calculated here for the years *prior* to the survey years. The Social Security Administration prepared a matched data set of its records of the survey respondents' and their spouses' covered earnings through 1974. This information was used to determine the earnings histories forming the denominator in the calculation of replacement rates.

Social Security Administration records consider only the earnings for each year in each job which totaled less than the year's maximum taxable earnings. In cases where reported covered earnings equaled or exceeded the taxable maximum, the following imputation procedures

were used: the few cases of covered earnings above the taxable maximum were taken as given. In these instances the person paid taxes from two or more jobs. We assumed that earnings in neither job exceeded the taxable maximum. In cases where covered earnings equaled the taxable maximum, we assumed that the taxable maximum was attained in the middle of the last quarter in which taxes were paid. If, for example, the respondents finished paying Social Security taxes in the third quarter, we imputed their year's wage income to be $8/5$ times the taxable maximum. This method should prove relatively unbiased, if inexact.

A household was excluded from our tabulations if at least one of the following conditions held (number excluded in parentheses):

1. Household reports federal or military pension income in 1971, 1973, 1975, 1977, or 1979 (N = 239).
2. Respondent never reports self retired or partly retired, or the respondent's spouse is always reported either working or looking for work (N = 825).
3. Household shows no earnings subject to Social Security taxes between 1958 and 1974 (N = 553).
4. Household dies or is lost from the survey before 1977 (N = 664).

For the regressions of section 4.2, we also eliminated those households who had 1977 income, 1969 financial or nonfinancial wealth, or expected total income after retirement of less than \$100. This left us with a sample of 5,644 households for 1977.

This paper reports total income replacement rates relative to career average indexed earnings. Total income was constructed by summing the household's income from wages, interest and dividends, rent, annuities, pensions, relatives, disability benefits, state welfare benefits, workers' compensation, AFDC, unemployment insurance, SSI, and Social Security (old age, disability, survivor's, and black lung benefits). Career average indexed earnings measures the average earnings during the period from 1951 to the year of retirement or 1974, whichever was earlier. The indexing was done with the Personal Consumption Expenditure deflator.

Before turning to the empirical results, it is worth mentioning that these data are not for the elderly in general, but for a particular cohort of people who were 67–72 years old in 1977. These households are not representative of the entire elderly population for many reasons. First, none of them is extremely old. Second, almost all of them benefited from the sharp increase in the level of real Social Security benefits which occurred in the 1960s and early 1970s. Third, they enjoyed the rapidly rising real wages of the 1950s and 1960s. The main point is simply that we are looking at a fairly narrow age cohort at a particular

moment in time (1977 for the most part). The experiences of this group should be generalized only with extreme caution.

4.2 Analysis of Who Has Low Incomes and/or Replacement Rates

4.2.1 Cross-tabulation of Postretirement Income with Preretirement Earnings

Table 4.1 gives a cross-tabulation of 1976 postretirement income on career average preretirement indexed earnings for all retired households in the 1977 Retirement History Survey which met our selection criteria and which did not have missing information for any of the income categories. It also shows the median replacement rate for each cell, where this replacement rate is total retirement income relative to price-indexed "career average" preretirement earnings.² The figures are not adjusted for family size, taxes, and risk. If those adjustments were made (and we feel that there is a good case for them), the replacement rates would be significantly higher.

Of particular concern to us are the 941 households (or 23 percent of the sample) whose postretirement income was below \$3000 in 1976. Of

Table 4.1 Numbers of Households and Median Replacement Rates: Cross-Tabulation of 1976 Postretirement Income and Career Average Preretirement Earnings, for All Households

Post-retirement 1976 Income	Career Average Preretirement Income							Row Totals
	\$0– \$1K	\$1– \$3K	\$3– \$5K	\$5– \$10K	\$10– \$20K	\$20– \$30K	> \$30K	
\$0–	9	12	12	25	26	11	3	98
\$1K	118%	23%	10%	8%	2%	2%	1%	7%
\$1–	168	202	150	197	107	13	6	843
\$3K	1333%	274%	130%	78%	47%	26%	9%	138%
\$3–	56	100	104	281	344	54	9	948
\$5K	2304%	374%	184%	106%	68%	46%	23%	96%
\$5–	37	45	64	198	747	269	60	1420
\$10K	5463%	724%	329%	180%	90%	70%	46%	92%
\$10–	20	16	19	59	204	230	106	654
\$20K	9696%	941%	456%	306%	154%	99%	73%	120%
\$20–	4	2	2	6	31	25	25	95
\$30K	7221%	1534%	1021%	389%	270%	160%	104%	204%
>	2	1	2	2	15	9	29	60
\$30K	8528%	2232%	1128%	641%	632%	299%	138%	249%
Column	296	378	353	768	1474	611	238	4118
Totals	1833%	348%	169%	112%	87%	78%	64%	105%

those households, 553 had career average household earnings of less than \$5000, indicating that their relative poverty was a lifetime phenomenon. It is quite rare that those with above average earnings (say, those with career average earnings in excess of \$20,000) end up with less than \$3000 in retirement. For the entire sample this happened in only 33 instances, although the frequency of occurrence was about 4 percent for those whose earnings did, indeed, exceed \$20,000.

A small minority of households end up with more real income in retirement than their career average earnings. While this is not precisely illustrated in table 4.1, that table does show that about 8 percent of those with career average earnings under \$10,000, have postretirement incomes above \$10,000. The corresponding figure for crossing the \$20,000 threshold is 2 percent (i.e., 2 percent of those whose career average earnings were below \$20,000 have retirement incomes in excess of \$20,000).

Tables 4.2 and 4.3 contain the same information as table 4.1, but separately for married couples and widows. The most obvious result is that widows are far more likely to suffer a sharp fall in retirement income relative to the household's preretirement earnings. Of those widows whose households' career average earnings were between

Table 4.2 Numbers of Household & Median Replacement Rates: Cross-Tabulation of 1976 Postretirement Income & Career Average Preretirement Earnings, for Married Couples

1976 Income	Career Average Preretirement Income							Row Totals
	\$0- \$1K	\$1- \$3K	\$3- \$5K	\$5- \$10K	\$10- \$20K	\$20- \$30K	> \$30K	
\$0-	2	2	3	4	5	3	1	20
\$1K	111%	10%	8%	7%	4%	7%	3%	7%
\$1-	12	24	26	38	18	3	2	123
\$3K	776%	207%	108%	64%	33%	19%	7%	85%
\$3-	13	40	52	108	112	10	3	338
\$5K	1173%	266%	151%	90%	58%	34%	20%	87%
\$5-	14	24	33	102	514	214	42	943
\$10K	3482%	663%	313%	158%	85%	68%	44%	83%
\$10-	9	10	15	45	157	195	94	525
\$20K	5778%	845%	427%	279%	143%	97%	73%	111%
\$20-	2	1	1	5	27	20	23	79
\$30K	7221%	2149%	1021%	389%	263%	160%	97%	193%
>	1	1	2	2	11	7	27	51
\$30K	8528%	2232%	1128%	641%	628%	257%	136%	214%
Column	53	102	132	304	844	452	192	2079
Totals	1901%	334%	177%	117%	87%	79%	68%	92%

Table 4.3 **Numbers of Households & Median Replacement Rates: Cross-Tabulation of 1976 Postretirement Income & Career Average Preretirement Earnings, for Widows**

1976 Income	Career Average Preretirement Income							Row Totals
	\$0– \$1K	\$1– \$3K	\$3– \$5K	\$5– \$10K	\$10– \$20K	\$20– \$30K	> \$30K	
\$0–	5	6	7	12	13	5	1	49
\$1K	107%	32%	13%	8%	6%	0%	0%	10%
\$1–	117	128	86	110	75	10	3	529
\$3K	1411%	306%	139%	82%	52%	31%	9%	160%
\$3–	36	47	40	112	165	40	6	446
\$5K	2716%	491%	238%	125%	75%	48%	25%	104%
\$5–	16	17	27	64	146	42	15	327
\$10K	5964%	765%	382%	209%	126%	78%	50%	148%
\$10–	7	4	3	11	27	20	8	80
\$20K	9696%	1174%	710%	417%	256%	130%	97%	247%
\$20–	2	0	0	0	3	2	2	9
\$30K	7023%	0%	0%	0%	391%	219%	122%	314%
>	0	0	0	0	2	1	2	5
\$30K	0%	0%	0%	0%	783%	299%	169%	299%
Column	183	202	163	309	431	120	37	1445
Totals	1812%	366%	177%	118%	84%	67%	53%	133%

\$10,000 and \$20,000, fully 59 percent of them have retirement incomes under \$5000. Thirty-nine percent of those with career average earnings between \$5000 and \$10,000, 39 percent wind up with retirement income under \$3000. This collapse into relative poverty for widows partly reflects inadequate insurance and lack of joint survivor pension annuities.

Table 4.4 contains some detailed characteristics of households with low and high unadjusted career average earnings replacement rates. Columns 1 and 2 of the first part of the table contrasts the average figures for those with replacement rates greater than 200 percent with those whose replacement rates are under 67 percent. For those with total income replacement rates of greater than 200 percent, 1976 Social Security income amounted to 27 percent of 1976 income and 55 percent of career average earnings. For those with low replacement rates, Social Security in 1976 amounted to 67 percent of 1976 income and 15 percent of career average earnings. In absolute dollars, those with low replacement rates on average received more from Social Security than those with high replacement rates.

One aspect of table 4.4 which we find interesting is that the low and high replacement rate households expected to have roughly the same postretirement income in 1973. However, the high replacement rate

Table 4.4 Financial & Other Characteristics of Households with High and Low Replacement Rates

Variable	1976 Total Income Rep. Rate > 200%		1976 Total Income Rep. Rate < 67%		1976 Total Income Rep. Rate < 67%, for Married		1976 Total Income Rep. Rate < 67%, for Widowed	
	Income (1976)	\$ 8345	\$ 4712	\$ 6320	\$ 2845			
Income Expected (73) ^a	5884	6361	7325	5236				
Soc. Sec. Inc. (76)	2266	3159	4005	2185				
Soc. Sec. Inc. Exp. (73)	1668	2616	2589	2365				
Pension Inc. (76)	1970	854	1364	210				
Pension Inc. Exp. (73)	1430	1175	1538	799				
Earnings Inc. (76)	983	122	203	50				
Earnings Inc. Exp. (73)	478	719	652	745				
Financial Wealth (69)	10430	9288	10134	8435				
Financial Wealth (76)	18559	12335	16445	8341				
Non-Fin. Wealth (69)	9658	13636	15605	13608				
Non-Fin. Wealth (76)	24983	23660	29358	20281				
Career Average Earnings	4086	21134	24093	18611				
High-3 Earnings	7808	28437	31846	26040				

Race: (69)								
White	82%	92%	94%	92%				
Black/Other	18	8	6	8				
Sex (69)								
Male	50%	93%	98%	94%				
Female	50	7	2	6				
Median Age (69)	60	60	60	60				
Employment Status (77)								
Retired	55%	68%	91%	33%				
Keeping House	31	21	1	56				
Disabled	10	6	6	7				
Unemployed	1	1	0	1				
Job/Not at work	0	0	0	0				
Working	0	0	0	1				
Other	4	4	1	3				
Health vs. Others' Health (survey before retirement)								
Better	29%	28%	32%	22%				
Same	44	48	47	50				
Worse	22	19	15	23				
Marital Status (69/77)								
Married	43% 32%	85% 54%	97% 100%	90% 0%				
Widowed	40% 51%	4% 33%	1% 0%	8% 100%				
Div./Sep.	11% 10%	3% 4%	2% 0%	1% 0%				
Never married	5% 5%	7% 7%	0% 0%	0% 0%				

Table 4.4 (continued)

Variable	1976 Total Income Rep. Rate > 200%	1976 Total Income Rep. Rate < 67%	1976 Total Income Rep. Rate < 67%, for Married	1976 Total Income Rep. Rate < 67%, for Widowed
Pension				
Yes	66%	34%	47%	17%
No	34	66	53	83
Survey Retires				
1969	34%	16%	11%	17%
1971	15	18	16	23
1973	18	29	32	24
1975	16	22	25	19
1977	16	15	15	17
1979	0	0	0	0
Preretirement				
Income (77 survey)				
< \$7500	84%	7%	4%	10%
\$7500-\$12,500	9	17	10	20
\$12,500-\$20,000	5	37	37	38
\$20,000-\$30,000	2	24	28	23
> \$30,000	1	16	21	9
Number of Households	994	812	435	267

NOTE: Percentages may not sum to 100% due to both rounding errors and nonresponses.

*Respondent's expected postretirement income, as reported in 1973.

group actually received 77 percent greater income in 1976 than the low replacement group. Social Security, pensions, and earnings were all well above expectations for the high replacement rate group, whereas pensions and earnings were below expectations for the low replacement rate households. Fully 29 percent of the low replacement rate group are widows who husbands died since 1969.

Table 4.5 contains the same detailed figures for those whose retirement income is low in absolute terms. Social Security and a small amount of earnings amounts to 78 percent of their income. Pension income is very low and below expectations. Earnings are also below expectations. Note that these groups with low and very low incomes are 55 percent and 61 percent widows, respectively. As was apparent in table 4.1, most of these people had low career average earnings.

Table 4.6 contains some summary information regarding those excluded from our selection criteria. Several observations can be made. First, those with military or federal pensions are very well-off, with very high pensions relative to other people. They also have more than \$30,000 in financial wealth in 1977, more than any other group. Those who had not retired by 1977 also have above average incomes and substantial amounts of financial wealth.

Table 4.5 Financial and Other Characteristics of Low-Income Households

Variable (year reported)	1976 Income < Poverty Line	Very Low 1976 Income ^a
Income (77)	\$ 2574	\$2072
Income Expected (73) ^b	2909	2784
Social Security Inc. (77)	1966	1627
Social Security Inc. Exp. (73)	1740	1706
Pension Income (77)	158	57
Pension Income Expected (73)	279	198
Earnings Income (77)	48	29
Earnings Income Expected (73)	461	427
Financial Wealth (69)	2876	2794
Financial Wealth (77)	3575	2886
Non-Financial Wealth (69)	5637	5080
Non-Financial Wealth (77)	11082	9754
Career Average Earnings	6746	5914
High-3 Earnings	10353	9227

Race (69)		
White	79%	77%
Black/Other	21	23
Sex (69)		
Male	60%	53%
Female	40	47
Median Age (69)	60	60
Employment Status (77)		
Retired	47%	42%
Keeping House	36	41
Disabled	12	11
Unemployed	1	0
Job/Not at work	0	0
Working	1	0
Other	3	5
Health vs. Others' Health (in survey before retirement)		
Better	22%	21%
Same	45	46
Worse	27	27
Marital Status (69/77)		
Married	51% 25%	43% 15%
Widowed	30 55	34 61
Divorced/Separated	12 11	14 14
Never Married	7 7	8 8
Pension		
Yes	13%	7%
No	87	93

Table 4.5 (continued)

Variable (year reported)	1976 Income < Poverty Line	Very Low 1976 Income ^a
Survey Retires		
1969	30%	33%
1971	20	21
1973	21	19
1975	18	16
1977	12	11
1979	0	0
Preretirement Income (77)		
< \$7500	66%	71%
\$7500–\$12,500	20	18
\$12,500–\$20,000	10	8
\$20,000–\$30,000	4	3
> \$30,000	1	1
Total Income Replacement Rate (77)		
< 67%	38%	39%
67%–100%	18	15
100%–200%	18	17
> 200%	26	29
Number of Households	1320	926

^a< \$3000.

^bRespondent's expected postretirement income, as reported in 1973.

Table 4.7 illustrates the distribution of replacement rates for six different preretirement earnings classes. Only 20 percent of the \$7,500–\$12,500 category had a replacement rate below 60 percent (when only Social Security and pension income are included);³ we conclude from the second column of table 4.7 that less than 30 percent of these households are forced to make significant downward adjustments in their consumption potential. The percentages of households with low replacement rates are slightly higher for the higher earnings categories, but it should be mentioned that other sources of income certainly reduce the number of households who face these downward resource adjustments.

We can summarize some of the tabular results thus far. First, despite the high average or median replacement rates, a significant fraction of elderly households end up with very low incomes and/or with sharply lower resources than they had during their working careers. There is a wide distribution of replacement rates. A nontrivial percentage of households actually have higher real income in retirement than their career average earnings history. The group most likely to have a low

Table 4.6 Financial Characteristics of Households Excluded from Main Analysis

Variable	Had Federal or Military Pension	Had No Covered Soc. Sec. Earnings	Did Not Retire	Dies or Is Lost from Survey
Income (in 1969 survey)	\$11862	\$ 2948	\$10445	\$ 6380
Income (76)	15103	5058	14470	6617
Income Expected (73) ^a	9530	3804	6277	4819
Social Security Inc. (76)	2354	1469	2080	2781
Social Security Exp. (73)	1347	741	2282	1891
Pension Inc. (76)	6337	1719	1001	1131
Pension Inc. Exp. (73)	4602	1313	1252	1212
Earnings Inc. (76)	5270	481	10569	602
Earnings Inc. Exp. (73)	1692	176	4019	1222
Financial Wealth (69)	9232	7671	12451	6921
Financial Wealth (77)	30081	10353	24487	12465
Non-Financial Wealth (69)	16019	9013	15939	9901
Non-Financial Wealth (77)	39047	14299	41697	20661
Career Average Earnings	9117	0	16359	13022
High-3 Earnings	14500	0	25067	18953
Number of Households	239	553	825	664

^aRespondent's expected postretirement income, as reported in 1973.

Table 4.7 Distribution of 1976 Social Security + Pension Replacement Rates for Married Couples

Percentile	Preretirement Career Earnings					
	\$0– \$7.5K	\$7.5– \$12.5K	\$12.5– \$20K	\$20– \$30K	\$30– \$50K	> \$50K
95%	1574%	204%	118%	106%	93%	80%
90%	772	156	104	92	84	67
80%	338	111	90	81	71	55
70%	209	95	81	74	65	43
60%	165	86	76	68	60	40
50%	130	78	71	63	57	33
40%	115	74	66	57	47	26
30%	98	68	61	53	40	20
20%	84	60	54	47	33	12
10%	65	49	44	36	28	8
5%	7	35	32	27	18	5

*EXAMPLE: Married couples who received between \$20,000 and \$30,000 in career average earnings had a median replacement rate of 63 percent. Ten percent of these couples had replacement rates of 92 percent or higher.

income or to have suffered a large income decline is widows. The sharply higher incidence of poverty and income loss by widows suggests that public policy may have failed in this particular area.

Our tabular results also show that based on expectations reported in 1973, both those with high and low actual 1976 replacement rates received more Social Security income than they had anticipated. This clearly indicates that the increase in Social Security which occurred between those years conveyed a windfall gain to this population. Likewise, those with high replacement rates, most of whom have a history of low earnings levels, received more in pensions than expected and more in labor market earnings in 1976. On the other hand, those with low replacement rates received less in pensions and earnings than they had expected.

4.2.2 Probit Analysis of Low Incomes and Low Replacement Rates

Beyond the simple cross-tabulation of postretirement incomes and preretirement career average earnings and an examination of the average characteristics of poor and low replacement rate families within the general elderly population, it is worthwhile to attempt to examine the factors most closely associated with low incomes and low replacement rates. Our analysis of these phenomena are presented in tables 4.8 and 4.9. These report, respectively, probit analyses of the probability of moving from relatively high preretirement career average earnings to low postretirement income, and the probabilities of being very poor and of having low replacement rates. The analyses are performed on a relevant subset of the data described in section 4.1. For example, the analyses of movement from well-off to poor is done on the subset of individuals who had preretirement career average earnings above \$20,000 (indexed).

For each of the three dichotomous dependent variables we report two probits. The first includes a large group of explanatory variables, while the second uses a smaller set of theoretically or empirically most important variables. Each of the analyses in tables 4.8 and 4.9 provides some preliminary insights into the characteristics associated with higher probabilities of the economic circumstances described.

The definitions of the variables used in the probit analyses tables are:

- RICHPOOR = 1 if career average preretirement income > \$20,000 and postretirement income < \$5,000.
= 0 otherwise.
- VPOOR = 1 if 1976 postretirement income < \$3000.
= 0 otherwise.
- LOWRR = 1 if 1976 total income replacement rate < 50%.
= 0 otherwise.

FEMALE	= 1 if female in 1969. = 0 otherwise.
NEWWSD	= 1 if marital status in 1969 was <i>not</i> widowed, separated, or divorced <i>and</i> marital status in 1977 was widowed, separated, or divorced.
RETSUR	= Survey in which household retires (1 = 1969, . . . , 5 = 1977).
LCAEARN	= log career average preretirement earnings.
LEXPINC	= log total expected retirement income in 1973.
OWNHOME	= 1 if house market value > \$10,000. = 0 otherwise.
AGE	= Age in 1969.
BLACK	= 1 if black/other in 1969. = 0 if white.
HSHSIZE	= Household size in 1969.
BADHLTH	= 1 if health reported as "worse than others" in the last survey before retirement. = 0 if health reported as "same as others" or "better than others."
SMSA	= Code for city size (goes from 1 to 7 as population class goes from < 25,000 to > 1,000,000).
EDUC	= Years of education.
WSD69	= 1 if marital status was widowed, separated, or divorced in 1969. = 0 otherwise.
LFW69	= log 1969 financial wealth.
SINGLE	= 1 if marital status was single, = 0 otherwise.

Table 4.8 presents two probit analyses of the probability of moving from high preretirement income (over \$20,000) to low postretirement income (less than \$5,000). Our probit coefficients tell us the change in the probability of this event that is associated with the respondent having various characteristics.

The first probit reported includes a large number of potential variables which have been discussed in the literature, such as race, health, location, and education. The most important in terms of the size of the coefficient and statistical significance appear to be newly widowed, separated, or divorced and low expected income. The coefficient for widows as of 1969 is large, but so is its standard error. Older people in this cohort are slightly less likely to move from rich to poor; those retiring later are also somewhat less likely to see their incomes collapse; and increases in the log of financial wealth appear to decrease the probability of income collapse for those with incomes above \$20,000. The other variables tend to have small coefficients and are not statistically significant.

Table 4.8 Probit Analysis of Characteristics of Households Suffering Severe Income Declines in Retirement

	Probit 1: RICHPOOR ^a	Probit 2: RICHPOOR ^a
Constant	2.810 (4.383)	6.66 (3.46)
AGE	-0.085 (0.056)	-0.084 (.051)
NEWWSD	0.975 (0.187)	0.937 (0.176)
RETSUR	-0.252 (0.080)	-0.257 (0.075)
LEXPINC	-0.279 (0.081)	-0.245 (0.078)
LFW69	-0.067 (0.054)	-0.033 (0.051)
FEMALE	-0.444 (0.602)	
BLACK	-0.117 (0.616)	
OWNHOME	-0.048 (0.198)	
LCAEARN	0.401 (0.259)	
WSD69	0.645 (0.444)	
SINGLE	0.510 (0.492)	
SMSA	-0.019 (0.034)	
EDUC	0.018 (0.014)	
HSHSIZE	0.019 (0.081)	
BADHLTH	0.172 (0.242)	
No. Obs.	628	628

NOTE: The second regression includes only variables found significant in the first regression. Standard errors are given in parentheses.

^aThe mean value was 0.0780.

The second probit in table 4.8 omits the variables that had insignificant coefficients in the first probit. Again, we note that the factor associated with the greatest increase in the likelihood of moving from high preretirement career average earnings to low postretirement income is that the respondent was newly widowed, separated, or divorced in the sample period. Respondents who had high expected retirement income or who retired later, on the other hand, were less likely to suffer

Table 4.9 Probit Analysis of Characteristics of Very Poor and Low Replacement Rate Households

	Probit 1: VPOOR ^a	Probit 2: VPOOR ^a	Probit 1: LOWRR ^b	Probit 2: LOWRR ^b
Constant	6.99 (1.612)	5.377 (0.482)	-4.856 (1.714)	-4.706 (1.600)
FEMALE	0.240 (0.166)	-0.177 (0.109)	-0.104 (0.184)	— —
NEWWSD	0.481 (0.110)	0.562 (0.096)	0.541 (0.094)	0.064 (0.090)
RETSUR	-0.120 (0.033)	-0.114 (0.030)	-0.119 (0.034)	-0.110 (0.032)
LCAEARN	-0.361 (0.042)	-0.375 (0.041)	0.993 (0.089)	0.913 (0.075)
LEXPINC	-0.283 (0.039)	-0.317 (0.037)	-0.203 (0.040)	-0.232 (0.038)
OWNHOME	-0.125 (0.083)	-0.193 (0.080)	-0.017 (0.085)	
AGE	-0.022 (0.024)		-0.043 (0.024)	
BLACK	0.293 (0.177)		0.064 (0.214)	
HSHSIZE	0.017 (0.036)		-0.035 (0.040)	
BADHLTH	0.016 (0.010)		0.105 (0.104)	
SMSA	0.017 (0.016)		-0.009 (0.007)	
EDUC	0.025 (0.007)		-0.018 (0.007)	
WSD69	-0.411 (0.169)		— —	
LFW69	-0.040 (0.027)		-0.077 (0.026)	
No. Obs.	2003	2003	2003	2003

NOTE: For each dependent variable, the second regression includes only variables found significant in the first regression. Standard errors are given in parentheses.

^aMean value was 0.135.

^bMean value was 0.146.

a sharp drop in economic resources. Factors such as age (within the six years of age cohorts we examine) and the log of financial wealth in 1969 have coefficients suggesting modest negative impacts on this probability.

We should not be surprised that we are unable to identify precisely which of these many factors strongly correlate with substantial reduc-

tions in income. Among other things, there are undoubtedly a variety of case-specific considerations which cause events that cannot be captured by most of our variables. The newly widowed, separated, or divorced variable, however, is one we can observe, and it obviously has an immense impact on the probability of income collapse.

Table 4.9 presents analogous probit analyses for the probability of postretirement income roughly below the poverty line. The probit in column 1 reveals that those who are newly widowed, separated, or divorced are much more likely to be very poor than the general population. Those who retire later, have greater preretirement earnings (hardly a surprise), have greater expected retirement income, or own a home have substantially lower probabilities of being very poor. Being black and/or female also seems to greatly boost the likelihood of severe poverty, though these coefficients cannot be estimated very precisely. The coefficients of other variables measuring household size, location, poor health, widowed in 1969, and the log of financial wealth, have very small coefficients and are not statistically significant. Column 2, again, reports results for a subset of variables. Again, females and newly widowed have substantially higher probabilities of very low incomes in their retirement years than do the general population. Once again, those retiring later, with substantially greater career average earnings, or with greater expected retirement income are much less likely to be poor in old age. The probability of low income decreases substantially for the group that owns their homes.

Taken as a whole, this way of arranging the data suggests that despite the enormous reduction of the incidence of poverty among the elderly by 1977, a trend which has continued since that time, some glaring problems remain: particularly those associated with elderly females, especially those newly widowed, separated, or divorced. Perhaps this reflects the characteristics of pensions discussed above. One curiosity is that the widow's benefit was raised to 100 percent and should be replacing a very high fraction of the first few thousand dollars of earnings. Apparently for many elderly widows, there is virtually no other income source besides Social Security, and for some elderly widows, Social Security has not bridged the poverty gap.

Columns 3 and 4 of Table 4.9 provide an analysis of the population group which has a 1976 postretirement replacement rate of less than 50 percent. This is the unadjusted replacement rate, the ratio of 1976 postretirement income to preretirement career average indexed earnings. The price indexing and the career averaging are the only adjustments made to the traditional replacement rate figures (although we do look at total income, not just Social Security). We do not make any of the adjustments we made in our previous paper for factors such as risk, taxes, cost of children, and so forth. Some of a large list of

characteristics come in as significant mainly because of the progressive nature of the benefit formula. The benefit formula replaces a much higher fraction of the first few thousand dollars of earnings than of subsequent earnings, and therefore, one can be poor and have a replacement rate substantially in excess of 50 percent. Thus, in examining those with low replacement rates, we are much more likely to be discussing those further up the income scale.

Turning to the results, we see that once again the newly widowed are much more likely to have low replacement rates. Also apparent, though hardly surprising in view of the progressive nature of the benefit formula, is the substantial positive impact of higher career average earnings on the probability of low replacement rates. Quite simply, those with substantial career average earnings are much more likely to have lower replacement rates due to the progressive nature of the benefit formula. The factors which appear to have a negative effect on the probability of low replacement rates are, most importantly, the retirement age, financial wealth, and expected retirement income. That those who retired later are less likely to have low replacement rates reflects both the double indexing of Social Security for several years prior to the retirement date involved and the "Gordon" effect, replacing low wage years with high wage years in the benefit computation. Most of the other variables have coefficients which are quite small and not statistically significant. Education, however, does have a small but statistically significant negative effect on the probability of having a low replacement rate.

Taken as a whole, the results reported in tables 4.7, 4.8, and 4.9 suggest, historically, some substantial gaps in the safety net for the elderly. An enormous social achievement occurred in the reduction of the incidence of poverty among the elderly, although the cost in terms of society's transferring resources to the elderly was substantial, and the target effectiveness of these transfers is open to question. Various types of conclusions can be drawn. Perhaps the most important is that females, especially widows, were much more likely to be left behind than males or intact couples.

Finally, we are not at this point able to provide a structural interpretation of these events. Is it due to problems in the annuities and survivorship rights in pensions? Or to case-specific events which we cannot identify? If the primary purpose of a social insurance program is to prevent destitution among the elderly and to provide a floor to replacement rates, we will need to generate better data and methods to answer these questions in order to design more cost-conscious and target-effective public income support systems for the elderly.

4.3 Conclusion

We have attempted to complement previous research on the general economic status of the elderly with an examination of who fell through the safety net in the 1970s. The analysis must be regarded as preliminary in some respects and as suggestive in others. Clearly, the most important finding is that a nontrivial fraction of the elderly in the age group we studied either remained poor, became poor, or had very low replacement rates in terms of their total income. This occurred despite the enormous general improvement of the economic status of the elderly, part of which was made possible by very large increases in real Social Security benefits.

Examination of the characteristics of those who fell through the safety net reveals that females, especially widows, were the most likely candidates for economic difficulty in this cohort in this stage of their lives.

A variety of other variables seems to impact the probability of low incomes and/or low replacement rates. For example, those who retired relatively early tended to be more likely to be poor and/or to have low replacement rates. This partly reflects particular institutional features surrounding Social Security and its double indexing for a brief period, but it also partly reflects factors influencing retirement in the first place.

A variety of other intriguing findings were mentioned, including the sharp differences in realizations of retirement income expectations among those who were poor and/or had low replacement rates relative to those who did well. Perhaps much of this seems self-evident in retrospect, but it is important to attempt to get behind these numbers to reasons why these events occurred. Undoubtedly, many of them had case-specific causes. The results here are suggestive of a need for further research on the structure and nature of the survivorship and annuity features of pensions; the coverage and marital status provisions of Social Security; and the relationships between actual retirement income outcomes and expectations.

We hope that this work will stimulate research on those left behind in the general improvement of the economic status of the elderly and on the private and governmental income support systems designed to assist them.

Notes

1. These facts are documented in numerous recent studies. While numerous authors have commented on various factors related to the improved economic status of the elderly, we refer the reader to the following as examples: Boskin (1986); Boskin and Shoven (1984); Hurd and Shoven (1982); Hurd and Shoven

(1985); and Boskin and Hurd (1982). These papers provide references to the research of others on the topic. The other research comes to quite similar qualitative conclusions.

2. We use average indexed earnings from 1951 to 1974 or 1951 to retirement; thus, "career average" is roughly the average over the two decades prior to retirement.

3. In Boskin and Shoven (1984), we demonstrated that an unadjusted replacement rate of around 70 percent translated into full replacement when tax, family size, and risk adjustments are included. Thus, an unadjusted replacement rate of 60 percent would be marginally below full replacement.

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Comment Thomas A. Gustafson

Boskin and Shoven present an examination of poverty among the elderly that seeks to peer behind what has become accepted over the past several years as the new conventional wisdom, that is, (crudely put) that the elderly are no longer poor. This view, which has been developing for some time among those, the authors among them, who have been active in this area, has been gradually diffusing in the public consciousness and now appears to have achieved widespread acceptance. It received a boost in prominence as a result of an extensive discussion in the 1985 report of the President's Council of Economic Advisors (1985).

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This view holds that the elderly are, on average, about as well-off as the rest of the population. Poverty is no longer an automatic correlate of old age to the extent it was in the past. Some observers appear to have rushed from this point to the conclusion that the problem of poverty in old age needs no further attention. Boskin and Shoven provide a useful tonic to such casual thinking. There is, after all, still poverty among the elderly. The problem may no longer be systemic, but we need to examine the specific causes of the poverty that remains. Is it like poverty at other ages, or is it different in character because of the nature of the population?

Basically, what Boskin and Shoven have done is to use the 1977 wave of the Retirement History Survey to examine income poverty and replacement rates in a cohort of the elderly aged 65–71. This analysis excludes from the original sample those households in which both husband and spouse had not retired, as well as those with federal or military pensions, those with no Social Security covered earnings, and those lost to the survey through death or attrition. The authors then examine the 1976 income and a simple measure of career average earnings (that is, without making extensive adjustments) for the two-thirds of the original sample that are left. They discover a great deal of heterogeneity. Some households are poor for their whole careers, some suffer a drastic fall in income at retirement, while others maintain or improve their situations. They identify widows as a particular concern.

The study suffers from several methodological limitations, among them the way earnings are treated in the preretirement and postretirement comparisons. First, using 1976 income in the calculations creates problems because it may contain preretirement earnings and thus give a distorted view of postretirement income. (By the same token, of course, recent retirees may not report a full year of retirement benefits.) Second, Boskin and Shoven use self-description as their definition of retirement. As all who have labored in this vineyard know, selecting a definition of retirement is not straightforward, and theory usually provides little guidance (Gustafson 1982, especially chap. 4). Self-description is one way of operationalizing this definition; other obvious candidates are being out of the labor force or receiving retirement benefits from Social Security or employer pensions. A problem with the one chosen is that individuals can be working and still describe themselves as retired.

The central point is not necessarily that superior methods are available, but that both of these characteristics of the study affect the results. This problem is evident in the comparisons presented by the authors in table 4.4. For those with replacement rates over 200 percent, earnings are prominent in postretirement income. The number with earnings is not presented, but it is probably much greater than in the less than 67

percent group. On the other hand, career average earnings is much higher for the less than 67 percent group. Probably part of what is going on is that the high replacement rate group is using the “poor man’s pension”—many have relatively poor earnings histories, and many are still at work. This group will probably look much different in a few years, once they have withdrawn from the labor force entirely. The high replacement rates observed for these households may thus be unstable indicators of their welfare: they may be partly an artifact of measurement lags and partly a result of use of earnings to supplement inadequate retirement benefits.

Another problem, given the prominence attached to widows in the paper, is the failure to adjust for family size in making the preretirement/postretirement comparisons. It’s hard to make much out of well-offness comparisons that do not account for the shrinkage of the household resulting from the loss of a spouse that characterizes all the cases under consideration. The extent of poverty among widows may still be clear; what we should conclude about a fall in income after retirement is clouded.

The effects of retirement on the income of widows varies greatly, as it does for the rest of the aged population. Table 4.4 reveals that half of those with replacement rates over 200 percent are widows. A simple calculation based on the results presented in tables 4.1, 4.2, and 4.3 reveals that 65 percent of all households fall in the triangle above the diagonal and thus have 1976 income at least one category lower than their career average preretirement earnings. For married couples, the figure is 68 percent, while for widows the figure is 61 percent. While one should not deny that falling income is a problem among widows, this group may do better than the population as a whole.

The authors call attention to the results about expectations of retirement benefits in comparison to what is actually received several years later. Note that these results suffer from measurement problems. The survey questions on expectations refer to benefits expected after the respondent stops working, but not all those considered retired in this analysis had stopped working in 1976, and benefits received are probably understated, both because benefits may not have started and because of the operation of the Social Security earnings test. On the other hand, expectations may have been understated by failure to account for spouse or dependent benefits in answering the original question.

The authors conclude that those who had low or high replacement rates received a “windfall” in Social Security—receipts were greater than expectations—because of changes in the system in that period. This conclusion is overstated. Divergence of expectations from realizations is widespread in these results, and we need a fuller examination and explanation of expectation formation before we conclude that the

cause was a windfall. If expectations are based on fuller information, then the changes should already have been factored into expectations, since the major legal changes in Social Security predate the 1973 survey. Hence, divergence of expectations and experience must have some other cause. If we do not assume fully informed expectations, legal changes would affect expectations only slowly as they were implemented, but the divergence might be due to other aspects of imperfect information, including misunderstanding of such features of the benefit structure as the earnings test or spouse benefits.

In conclusion, I think this study is a provocative start. It suffers from some inevitable limitations imposed by the data and from some methodological shortcomings. It serves to document the substantial heterogeneity of well-offness in the face of retirement among the elderly, even among fairly recent retirees, the "young elderly." This diversity is not all that surprising, but we need to be reminded of it in the face of the new wisdom that the elderly are just fine and need little further attention.

What remains to be done, I think, is a much more systematic sorting out of the causes of residual poverty and of income collapse in this age range. To what extent are these problems associated with too early retirement, bad health, loss of spouse, and so forth? To what extent can policy solutions be crafted to deal with them? Depending on what we think the problem is, the set of solutions may differ greatly.

If the problem is poverty, is this a failure of the welfare system? Clearly some people are poor much of their lives, and we would expect this in old age as well. But the thorny question that remains is whether Supplemental Security Income, the major antipoverty program for the elderly, and other antipoverty measures are getting to those that need them.

On the other hand, retirees may also suffer from a problem of income collapse upon retirement. Although this problem may be less poignant than that of poverty—not all with sharply lower incomes become poor—our society clearly regards it as significant and has erected an extensive system of social insurance and other institutions to guard against it. If we observe a substantial problem in this area, we must look at these institutions, the various "legs" of the retirement income "stool."

The authors have rightly focused our attention on widows as a group with special problems, not that this is any great surprise (see, for instance, Warlick 1983). In time, this group's problems should be less pressing as more and more women have significant earnings records of their own on which retirement benefits will be based. Many individuals may continue to suffer a substantial fall in income, however, and we need to scrutinize further how our institutions are responding to loss of a spouse. Social Security's benefit structure suggests a not

unreasonable treatment of widows, but the role of joint-and-survivor benefits under employer pensions seems to deserve further scrutiny.

The economic welfare of widows may also be substantially affected by the medical needs of their husbands in their last years, which may spell financial catastrophe depending on the nature of the needs and the operation of Medicare, Medicaid, and private health insurance. For instance, a nursing home stay of any length may have devastating effects on accumulated assets, another leg of the retirement income stool. Little empirical work has been done on this problem.

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