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13   The Economic Status of the Elderly

Michael D. Hurd and John B. Shoven

Introduction

This chapter seeks to present a picture of the economic status of the elderly. We examine the change in their cost of living relative to that of the rest of the population; the size, composition, and distribution of their income; and, correspondingly, the size, composition, and distribution of their wealth. We develop and calculate a measure of their vulnerability to one-time unexpected changes in the price level and to an unexpected increase in the long-run rate of inflation (and interest rates). In order to assess the economic welfare of the elderly, we use a variety of data sources, but most of our analysis comes from the Social Security Administration's *Retirement History Survey*. We use the 1969, 1971, 1973, and 1975 surveys from that longitudinal data file.

We seek to determine how the elderly have been faring economically for a number of reasons. First, they are usually considered to be the segment of the population most vulnerable to inflation. The image of an elderly household struggling to get by on a fixed pension or meager interest income from a modest savings account is an enduring one. The past 15 years have seen a marked and, presumably, unexpected increase in the rate of inflation. So, how have they coped? Second, the size and number of governmental programs to assist the aged have increased. At the federal level, social security, Supplemental Security Income (SSI),

and medicare have all grown rapidly. How significantly have these programs affected the incomes and wealth of the elderly? Third, it is well known that the labor force participation of the elderly has been falling secularly. Has this meant lower incomes? Finally, some of the assets in which elderly invest for retirement, particularly common stocks, have performed very poorly. How much has this hurt their position?

We want to emphasize that we evaluate the economic welfare of the elderly only in the narrowest sense. A major determinant of the happiness of the elderly is their health, which we do not take into account. Further, we do not evaluate the increased leisure which accompanies their reduced labor force participation. Nor can we assess a number of other factors determining their well-being, such as life expectancy, changing living arrangements and housing, and decreasing intergenerational contact. Without these considerations we do not present our results as a complete assessment of the welfare of the elderly, but we do believe that our data give a good appraisal of how the financial position of the elderly has changed in the past decade or so.

13.1   Cost of Living

In order to assess the incomes and wealth of the elderly, all of which are available only in nominal terms, we must examine what has happened to their cost of living. First we attempt to answer whether their cost of living has changed relative to that of the rest of the population. The possibility of a difference arises because of the elderly's particular expenditure patterns and because of the fact that relative prices have changed. To address this question, a researcher usually compares the Department of Labor's consumer price index (CPI), which uses the expenditure weights of the entire population, with a Laspeyres index which uses the expenditure weights of the elderly. Virtually all researchers who have done this (see, for example, Bridges and Packard 1981) have reached the same conclusion: while expenditure weights vary by age, prices have changed in such a way that over reasonably long time periods the price index of the elderly has risen the same amount as the CPI. Recent results of Boskin and Hurd (1982) are shown in table 13.1. They divide expenditure into 17 categories and calculate cost of living indices for five age groups. The measures are set at 100 in 1967. The first result which is apparent in Table 13.1 is that there is essentially no variation in the index across age groups for the years shown.[1] Thus, the percentage increase in the cost of living since 1967 has been the same for each age group despite significantly different expenditure patterns and sharp changes in relative prices. A second finding, of equal importance for this paper, is shown in table 13.1. For all age groups, the Boskin and Hurd cost-of-living indices have grown more slowly than the official CPI. While their figures show that the cost of

Table 13.1 Cost-of-Living Indices in 1980 by Age (1967 = 100)

	Age (Years)					
Year	< 60	60–64	65–69	70–74	75 +	CPI
1967	100.0	100.0	100.0	100.0	100.0	100.0
1968	103.6	103.6	103.5	103.5	103.5	104.2
1969	108.0	108.0	107.9	107.9	108.0	109.8
1974	142.1	142.9	142.9	143.2	144.5	147.7
1975	153.9	154.9	154.8	155.2	156.6	161.2
1980	227.0	229.2	228.4	229.3	230.4	246.8

Sources: First five columns, Boskin and Hurd (1982); last column, *Economic Report of the President* (1982), table B-52.

living was roughly 128% higher in 1980 than 1967, the CPI indicates that the increase was 147%. The reason for this is that the official index weights housing far more than the estimates of Boskin and Hurd, which use a rental value measure of housing expenditure similar to that to be adopted by the U.S. Department of Labor in 1983. The overstatement of inflation by the CPI is important for the elderly, as social security benefits are tied to this measure during the payout period.

13.2 Incomes of the Elderly Population

Given that the cost of living of various age groups has risen proportionately, we can compare real income growth of the elderly with that of the total population by comparing the growth of nominal incomes. Table 13.2 shows per household and per capita income data for both the

Table 13.2 Income of the Elderly and the Entire Population

	1970	1973	1976	1978
Elderly				
1. Personal income ($ billions)	81.84	112.06	160.55	199.53
2. Real income per household ($)	5,692	6,258	6,363	6,718
3. Real income per capita ($)	3,503	3,947	4,104	4,250
Entire population				
4. Personal income ($ billions)	801.	1,052.	1,381.	1,708.
5. Real income per household ($)	10,863	11,581	11,116	11,497
6. Real income per capita ($)	3,362	3,767	3,752	3,997
Income ratios				
7. Per household	.52	.54	.57	.58
8. Per capita	1.04	1.05	1.09	1.06

Source: Statistical Abstract of the U.S., various years.
Note: Conversion from nominal to real incomes used Bureau of Labor Statistics' CPI (1967 = 100).

elderly (head of household age 65 or over) and the entire population. Row 1 in that table shows a series on personal incomes (before tax incomes) of the elderly. It includes, besides the usual sources of income, imputed returns from owner-occupied housing and the income value of medicare and medicaid.[2] Rows 2 and 3 show that real income per household and per capita grew continuously over the period 1970–78, although more than half of the growth occurred between 1970 and 1973. The conversion from nominal to the real incomes of this table used the Bureau of Labor Statistics' CPI. If the CPI overstated the rate of inflation, as we mentioned in section 13.1, then the growth in real income is actually higher than shown. This would be true for the entire population as well, of course. Rows 5 and 6 show real income per household and per capita for the entire population. The percentage growth is substantially higher in the per capita series because of the sharp decline in the number of persons per household in the below-65 group.

Row 7 of table 13.2 displays the ratio of average elderly household personal income to average household personal income for the entire population. We see that elderly households, which are much smaller than nonelderly households in size, had on average 52% as much personal income as the average household in the entire population in 1970. By 1978 the relative household personal income of the elderly had risen to 58%. This change in the relative position of a large subpopulation over such a short time interval is remarkable. Another measure of the relative position of the elderly is shown in row 8 of table 13.2, where the ratios of per capita personal incomes are reported.[3] The elderly have higher per capita incomes than the nonelderly, and they gained on the rest of the population in the first 8 years of the 1970s. The gain in the per capita figures is more modest than in the per household figures because of the decline in the number of persons per household in the nonaged group.

The results of table 13.2 are even stronger when one considers that during this period labor force participation declined among the elderly but increased sharply among the nonelderly. For example, the participation rate of males 65 and over declined from 25.8% in 1970 to 19.7% in 1978; the participation rate of elderly females declined from 9.2% to 7.8%; yet the participation rate of the entire population rose from 60.3% to 62.7%. Despite this, the elderly gained on the nonelderly in terms of relative income. This relative income shift was partly due to the slow growth in real wages. Real before-tax wages grew by only 4.85% for the entire period 1970 to 1978.

In table 13.3 we examine how the poorer households and individuals among the elderly have done relative to an arbitrary real income standard, the official poverty level. It shows a very substantial decrease in the fraction of elderly with incomes less than this standard.[4] This is particularly striking for elderly families, 27% of whom were below the poverty level in 1959. By 1978 only 7.6% of such families had incomes below the

poverty level. The incidence of poverty is much higher for unrelated elderly individuals, primarily women, but here, too, significant progress is shown.

Table 13.4 augments the income data of the previous two tables by providing a time series of income composition of the elderly. The figures

Table 13.3   **Persons 65 Years and Over Below the Poverty Level**

	Total (%)	Total Number Below (1,000)	Families (%)	Families Number Below (1,000)	Unrelated Individuals (%)	Unrelated Individuals Number Below (1,000)
1978	14.0	3,233	7.6	1,180	27.0	2,053
1976	15.0	3,313	7.9	1,185	30.3	2,129
1974	15.7	3,308	8.5	1,243	31.8	2,065
1972	18.6	3,738	10.4	1,444	37.1	2,295
1970	24.5	4,709	14.7	1,975	47.1	2,735
1968	25.0	4,632	15.4	2,048	48.8	2,584
1959	35.2	5,481	26.9	3,187	61.9	2,294

Source: Bureau of the Census, *P-60 Series*, various years.

Table 13.4   **Shares of Aggregate Income of Aged Units 65 and Older: Percentage Distribution from Particular Sources of Income**

Source	1963[a]	1967[b]	1976[c]	1978[d]
Retirement pensions	35	39	44	41
Social security	27	29	32	30
Railroad retirement	<1	<1	1	1
Government employee pensions	5	6	5	5
Private pensions or annuities	3	4	6	5
Veteran's benefits	4	3	<1	<1
Earnings	29	25	18	18
Income from assets	14	13	14	15
Income from housing assets	8	8	7	7
Medicaid/medicare	2	7	13	16
Public assistance	5	3	2	2
Other	4	3	2	2
Mean income[e]	$3,504	$4,306	$ 8,708	$10,291
Mean housing services[f]	$ 306	$ 392	$ 736	$ 957
Mean medicaid/medicare[g]	$ 69	$ 330	$ 1,405	$ 1,879
Mean total income	$3,879	$5,028	$10,849	$13,127

Sources: [a]Epstein (1964).
      [b]U.S. Department of HEW, SSA Report No. 45 75-11802.
      [c]U.S. Department of HEW, SSA Publication No. 13-11865.
      [d]*Income of the Population 55 and Over, 1978*, SSA Staff Paper No. 41.
      [e]U.S. Bureau of the Census, *P-60 Series*, various years.
      [f]U.S. Bureau of the Census, *Annual Housing Survey: 1973–1979.*
      [g]*Statistical Abstract of the U.S.*, various years.

show the percentage of total income derived from particular sources. The table shows that social security pensions and private pensions have both become more important income sources. However, the more dramatic shifts involve medicare/medicaid and labor earnings. Labor earnings accounted for 29% of all income of the elderly in 1963 but only 18% in 1976 and 1978. This fall of more than 50% in relative importance and a total of 11 percentage points is more than matched by the growth in medicare/medicaid.[5] Public assistance and veteran's benefits have declined in relative importance. This is probably because they have been displaced by the more generous pensions and medicare benefits.

13.4   Income of the Retirement History Survey Population

The remainder of this chapter uses the Social Security Administration's Retirement History Survey (RHS) as the primary data source. It contained 8,244 households whose ages ranged from 58 to 63 in 1969, whom we could track to 1975, and whose records were complete enough to be usable. We report on their economic status in 1969 and 1975, but we used the intervening 1971 and 1973 surveys to impute values which were missing in either 1969 or 1975. It should be noted that the remainder of our results are not necessarily accurate for the entire elderly population, but rather for a group which was 58–63 in 1969 and 64–69 in 1975.

Table 13.5 divides the RHS sample into six vintages by age of head of household in January 1969. It then shows the mean real income in 1968 dollars of each vintage in 1968 and 1974. The results are presented for couples, singles, and total households. For couples and households, one observes a noticeable decline in income with age in both 1968 and 1974. However, the real incomes in 1974 are higher than one would project

Table 13.5   Mean Real Income (1968 $), by Age and Family Status of RHS Sample

Age in 1969/ Age in 1975	58/64	59/65	60/66	61/67	62/68	63/69
Couples						
1968	10,764	10,128	10,041	10,204	10,116	8,934
1974	9,853	9,517	8,871	9,276	9,112	8,832
Singles						
1968	4,558	4,245	4,270	4,304	4,178	4,198
1974	4,214	4,796	4,552	4,761	4,503	4,599
Households						
1968	8,868	8,336	8,077	8,172	7,976	7,239
1974	7,757	7,781	7,154	7,396	7,148	6,978

Note: Age is age of family head in 1969 and 1975.

simply from the income-age profile in the 1968 cross section. For couples, we roughly estimate that there is an upward shift in the income-age relationships of at least $1,000, or about 10%. This can be seen in figure 13.1. One would imagine that incomes would continue to drop at age 64, reflecting increased retirement; instead, income is substantially higher among couples whose heads were 64 in 1974.[6] The upward shift is less for households. The figures for singles are clouded by compositional changes—there are more singles in 1974 than in 1968, particularly widows. These new entrants into the single category bring with them assets and corresponding income from the previous couples category.

Two other observations should be noted here: (1) among couples and households real income is lower in 1974 than in 1968 for all age groups. This is a normal pattern with aging, and it is due to the sharp increase in the fraction of the RHS population retired. The drop in the real income of each vintage is not an indication that consumption or welfare of each vintage decreased. (2) In this table and in subsequent ones, we have
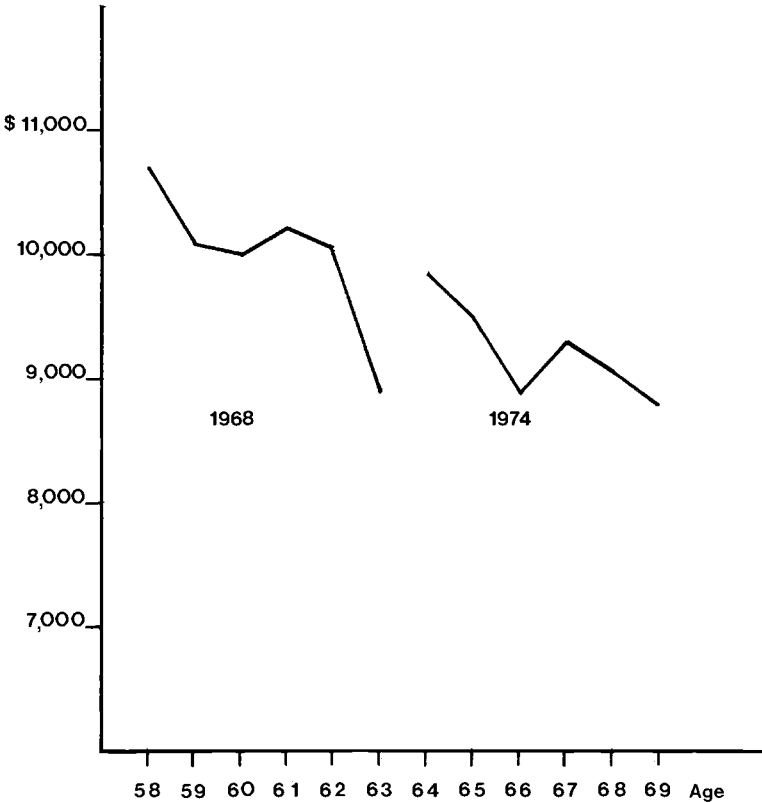

Fig. 13.1   Real income of couples.

used the Boskin-Hurd cost-of-living deflator (of table 13.1) rather than the official CPI.

Table 13.6 shows the distribution of real income in 1968 and 1974 by family type. Several points can be made about them. First, the median real incomes are substantially less than the mean incomes. For example, for households in 1968, the median income was $6,658 whereas the mean was $8,136. The most striking fact about these distributions, however, is the increase in the incomes of those in the lower tail of the distribution. Most dramatically, single women in the lowest 5% of the income distribution had incomes less than $208 in 1968.[7] This figure was raised more than sixfold to $1,327 in 1974. The largest single contributor to this increase was the eligibility for medicare at age 65, although social security receipt was also a major factor. The lower tail of the other income distributions also was raised substantially from 1968 to 1974, while the real income of those in the upper tail of the distribution was lowered (with the exception of the single-women category, which again particularly reflects the compositional changes previously discussed). The reduction of the real incomes of those in the upper tail of the income distribution is primarily a result of decreased labor force participation.

Table 13.7 gives additional information about the distribution of income in the RHS sample. It displays the Gini coefficient of income inequality for both 1968 and 1974. The Gini coefficient has been constructed so that a measure of zero reflects complete equality and one complete inequality. This commonly used measure has been estimated at .4746 for family income for the entire U.S. population in 1966 (Okner 1975). Table 13.7 shows that inequality is lower than this for our sample of elderly. Further, it shows that inequality was substantially lower in 1974 for this population than in 1968. We hypothesize that the increase in inequality observed in the population aged 62 and 63 in 1969 relative to the younger members of the sample is due to the fact that some of the 62- and 63-year-olds have retired, while others have not. Inequality is sharply reduced for this vintage by 1974 when the vast majority of them have retired. In general, we cannot separate out the effects of aging from those of time on income inequality, but we believe that most of the reduction in inequality from 1968 to 1974 in our population does reflect its aging.

13.5   Wealth of the Retirement History Survey Population

Our results of the last two sections have shown that the elderly's income has grown faster than the rest of the population, that the composition of their income has changed, and suggest that income inequality is less among the aged than the nonaged and decreases with age. A measure of the elderly's economic position at least as important as their income is their wealth. In this section, we calculate nonhuman capital balance

**Table 13.6** **Income Distribution (1968 $) of Retirement History Survey Population, Ages 58–63 in 1969**

Percentile Points	Households		Couples		Single Males		Single Females	
	1968	1974	1968	1974	1968	1974	1968	1974
5	840	1,840	1,840	3,007	484	1,673	208	1,327
10	1,455	2,413	3,050	3,783	919	2,217	676	1,775
25	3,492	3,538	5,400	5,351	2,180	3,003	1,484	2,560
50	6,658	5,681	8,551	7,504	4,844	4,302	3,198	3,525
75	10,600	8,775	12,201	10,665	7,820	6,231	5,250	5,160
90	15,310	13,073	17,626	15,566	11,030	8,111	7,840	7,763
95	20,160	17,007	23,232	21,188	14,000	11,955	9,786	9,608
Mean	8,136	7,219	10,072	9,276	5,731	5,237	3,870	4,302
N	7,947	8,074	5,785	4,585	603	795	2,059	2,694

Source: Retirement History Survey.

Table 13.7   **Gini Coefficients of Income Inequality**
                        for RHS Sample by Age and Family Status

Age in 1969	58 and 59	60 and 61	62 and 63
Couples			
1968	.357	.368	.380
1974	.349	.332	.340
Singles			
1968	.447	.432	.462
1974	.372	.311	.311
Households			
1968	.415	.427	.440
1974	.400	.366	.373

Note: Gini coefficient is defined as 2A in the chart below.
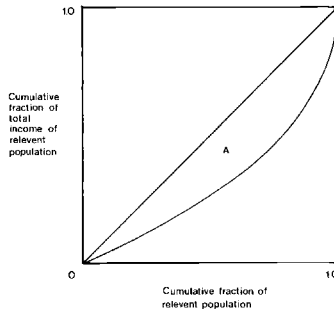
sheets of the Retirement History Survey population. Information on
means and the distribution of wealth will be presented. Our wealth
calculation includes the capitalized value of all cash flows except labor
income. That is, the entries under pensions and annuities, SSI, welfare
and other transfers, medicare, social security, and transfers from rela-
tives are all capitalizations of current or anticipated flows using a real
discount rate of 4% and the correct life expectancy for each unit.

Table 13.8 gives mean assets over households reporting positive values
and the percent reporting positive values.[8] This permits us to separate the
change in mean value into a change in "participation" and a change in
mean value of those participating. The table indicates a decrease in the
fraction of the sample owning homes from 68.3% to 64.8%. The average
house appreciated 62% in nominal terms or about 9.3% real. Among
participants, farm values only increased at about the inflation rate, even
though farmland generally increased at a much faster rate. This probably
was due to a higher rate of retirement among wealthy farmers. Both farm
and business ownership decreased substantially. The people in the sam-
ple were paying off home mortgages (only 15.3% had them in 1975,
vs. 22.8% in 1969) and farm mortgages. The participation in United
States bonds is down sharply and the participation in the stock market is
down slightly. There is an increase in both the real balance and the

Table 13.8   **Mean Wealth and Income over Households**
                        Having Positive Values, RHS Sample

	1969		1975	
	% Having Positive Values	Mean ($)	% Having Positive Values	Mean ($)
Wealth				
House, market value	68.3	18,411	64.8	28,880
House, mortgage	22.8	6,743	15.3	8,495
Farm, market value	10.6	36,515	6.9	52,269
Farm, mortgage	2.9	13,287	0.6	27,114
Business, market value	8.3	48,301	4.2	62,506
Other property, market value	17.2	22,352	14.8	31,209
U.S. bonds	24.0	3,088	17.8	4,147
Stocks/bonds/shares	19.0	24,593	18.4	25,406
Loan assets	9.2	8,697	9.9	15,489
Checking accounts	56.6	1,072	61.5	1,224
Savings accounts	53.0	6,735	58.1	12,122
Income				
Government pensions	7.4	3,063	10.5	4,730
Private pensions	16.9	2,291	22.5	2,438

participation in savings accounts. As one would expect, there is an increase in the fraction of the RHS population receiving or anticipating receiving pensions. This is partly due to vesting and partly due to the lack of accurate information before retirement about pension rights.

As far as inflation vulnerability is concerned, it is difficult to see any shift away from vulnerable assets between 1969 and 1975, even though inflation had increased substantially.

In table 13.9 we present average asset and liability holdings in 1969 over our entire sample and over a number of subsamples.[9] Mean wealth in 1969 was a rather modest $71,302. We view the distribution of wealth, however, to be the most striking information in the table. The mean wealth of the poorest 10% of the population was $15,324, or only 21% of the average for the whole sample. Over 86% of their wealth is in the form of social security and medicare. On average, all other assets sum to only $2,123 for this group. In contrast, social security and medicare amount to 43% of the wealth of the whole population and only 15% of the wealth of those in the upper 10% of the wealth distribution.

Those in the wealthiest 10% of the RHS sample in 1969 had on average 3.3 times as much wealth as the entire RHS population. The value of their corporate stocks and bonds was almost eight times as great as for the sample population, and their business wealth was over eight times as great as for the average of the whole sample. Their shares of farm wealth, United States bonds, other property, and loan assets was also higher than their share of total wealth. Proportionately, they had less of their wealth

Table 13.9   Balance Sheet of the RHS Sample, 1969, Mean Values

| | | | 10% Wealth | 90% Wealth | | | Singles | |
	All	Nonfarm	Tail	Tail	Couples	Singles	Males	Females
1. Net house	11,343	10,346	635	24,710	13,528	6,996	5,470	7,449
2. Net farm	3,574	. . .	109	31,079	4,789	1,115	3,201	496
3. Net business	3,580	3,385	17	31,149	5,028	671	1,111	538
4. Net other property	4,179	3,984	175	23,840	5,323	1,878	2,064	1,816
5. U.S. bonds	807	822	32	3,673	897	627	995	515
6. Corporate stocks and bonds	5,247	5,050	36	41,806	6,839	2,046	2,635	1,866
7. Loan assets	841	674	22	5,548	1,018	486	642	438
8. Bank accounts	4,775	4,584	371	18,509	5,274	3,770	4,039	3,680
9. Nonproperty debts	(388)	(317)	(162)	(1,571)	(499)	(166)	(360)	(108)
10. Pensions and annuities	6,645	7,033	269	22,956	7,670	4,585	6,574	3,974
11. SSI	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
12. Welfare and other transfers	338	345	619	716	333	348	350	346
13. Medicare	7,086	7,021	5,061	8,010	8,225	4,797	3,828	5,088
14. Social security	23,275	23,598	8,140	28,516	27,067	15,654	12,530	16,560
15. Transfers from relatives	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
16. Total wealth	71,302	66,423	15,324	238,942	85,474	42,811	43,078	42,657
17. N	8,164	7,201	813	816	5,452	2,712	622	2,090

in houses, SSI, welfare, social security, and medicare. Bank accounts and pensions form roughly the same proportion of the portfolio of the wealthy as of the average portfolio for the RHS sample.

Singles were substantially poorer than couples, with their wealth barely half that of couples. Single women have roughly the same wealth as single men, although the composition varies somewhat. On average, single women have smaller financial assets but a more valuable claim on social security and medicare. This latter fact is primarily due to their longer life expectancies. If their longer life expectancy is taken into account, their financial position may be worse than that of single men in that they have to use about the same wealth to finance a longer expected retirement. Farmers were much wealthier than the rest of our sample: their mean wealth was $108,083.

Table 13.10 contains the balance sheets for the same subpopulations of the RHS sample as table 13.9, but the figures are for 1975. Mean wealth for the whole sample has risen to $107,243 in current dollars. The mean wealth of those below the tenth and above the ninetieth percentile points are $25,682 and $321,455, respectively. By examining row 17, we can see the compositional changes. The number of couples is down by 759, while the number of single women is up by 652 and the number of single men by 187. The mean wealth of the single women now exceeds that of single men.

The relative amounts in tables 13.9 and 13.10 can best be assessed by referring to table 13.11, which reports the percentage change in real mean values of the various balance sheet entries. It shows a 16.7% average real gain in house value between 1969 and 1975, a 34% decrease in average farm value, and a 52% decrease in real business value. The real value of stocks and bonds was down more than 20% for the entire RHS population, and about 26% for those in the top 10% of the wealth distribution. This is at least partly due to decreased participation. Substantially more real wealth was held in the form of bank accounts in 1975, perhaps because of the effective deregulation of interest rate ceilings during this period. Pensions and annuities were up 22% for the whole population.

The overall gain in real wealth was 4.8%. Apparently, the wealth distribution became somewhat more equal in that the mean wealth of the poorest 10% increased 16.8% while that of the richest 10% fell 6.2%. The poor performance of the stock market may account for much of this decline.

Table 13.12 gives a more complete picture of the wealth distributions in 1969 and 1975. The first point to make is to contrast these distributions with the income distributions of table 13.6. The wealth distributions changed far less between 1969 and 1975. This is because the 1969 wealth figures include the capitalized value of assets (such as social security and

Table 13.10   Balance Sheet of the RHS Sample, 1975, Mean Values

	All	Nonfarm	10% Wealth Tail	90% Wealth Tail	Couples	Singles	Singles Males	Females
1. Net house	19,000	17,085	1,147	56,013	24,629	11,562	10,664	11,828
2. Net farm	3,366	(54)	10	25,942	4,828	1,434	2,353	1,163
3. Net business	2,479	2,456	(118)	20,846	3,992	480	644	430
4. Net other property	5,934	5,514	254	34,042	8,297	2,811	2,940	2,774
5. U.S. bonds	894	885	37	3,243	1,077	653	859	592
6. Corporate stocks and bonds	5,683	5,542	38	42,383	7,898	2,755	3,378	2,572
7. Loan assets	1,620	1,476	48	9,517	2,236	807	930	770
8. Bank accounts	9,185	8,816	671	33,186	11,153	6,583	6,972	6,468
9. Nonproperty debts	(520)	(488)	(469)	(1,661)	(716)	(263)	(337)	(242)
10. Pensions and annuities	11,618	11,798	624	36,943	14,404	7,935	10,032	7,315
11. SSI	710	754	2,393	144	423	1,089	736	1,193
12. Welfare and other transfers	708	727	632	718	710	709	1,082	596
13. Medicare	10,954	10,858	7,728	12,923	13,527	7,553	6,725	7,797
14. Social security	35,152	35,117	12,499	45,411	44,148	23,262	18,803	24,578
15. Transfers from relatives	461	421	186	1,806	433	497	121	608
16. Total wealth	107,243	100,905	25,682	321,455	137,033	67,865	65,903	68,444
17. N	8,244	7,676	815	824	4,693	3,551	809	2,742

Table 13.11   **Percentage Real Change in Mean Value of Balance Sheet Entries between 1969 and 1975 for RHS Sample**

	All	Nonfarm	10% Wealth Tail	90% Wealth Tail	Couples	Singles	Singles Males	Singles Females
1. Net house	+16.7	+15.1	+25.9	+58.0	+26.9	+15.2	+35.9	+10.7
2. Net farm	−34.4	. . .	−93.6	−41.8	−29.7	−0.1	−48.8	−63.4
3. Net business	−51.7	−49.4	. . .	−53.4	−44.7	−50.1	−59.6	−44.3
4. Net other property	−1.0	−3.6	−2.4	−0.6	+8.6	+4.3	−0.7	+6.4
5. U.S. bonds	−22.8	−25.0	−19.4	−38.4	−16.3	−27.4	−39.8	−19.9
6. Corporate stocks and bonds	−24.5	−23.5	−26.4	−29.3	−19.5	−6.2	−10.7	−3.9
7. Loan assets	+34.2	+52.6	+52.0	+19.6	+53.1	+15.7	+0.9	+22.5
8. Bank accounts	+34.0	+34.0	+26.0	+24.8	+47.4	+21.7	+20.3	+22.5
9. Nonproperty debts	(−6.6)	(+7.3)	(+101.7)	(−26.4)	(−0.0)	(+10.4)	(−34.8)	(+56.1)
10. Pensions and annuities	+21.8	+16.9	+61.7	+12.8	+30.9	+20.6	+6.3	+28.3
11. SSI	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
12. Welfare and other transfers	+46.0	+46.8	−29.6	−30.7	+48.6	+42.0	+115.4	+20.0
13. Medicare	+7.7	+7.8	+6.4	+12.5	+14.6	+9.7	+22.4	+6.8
14. Social security	+5.2	+3.7	+7.0	+11.0	+13.7	+3.6	+4.6	+3.4
15. Transfers from relatives	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
16. Total wealth	+4.8	+5.9	+16.8	−6.2	+11.7	+10.5	+6.6	+11.8

Table 13.12   Wealth Distribution of RHS Sample

Percentile Points	All Households	Nonfarm	Couples	Singles	Single Males	Single Females
			1969			
N	8,164	7,201	5,452	2,712	622	2,090
5%	16,415	15,824	27,658	10,833	10,298	11,323
10%	21,990	21,356	33,926	14,877	13,237	15,688
25%	35,070	33,681	46,027	21,708	18,847	22,544
50%	54,224	52,166	63,612	33,499	29,317	34,145
75%	79,430	76,262	89,737	52,315	52,594	52,019
90%	118,298	109,706	135,111	76,883	80,933	76,099
95%	161,817	145,283	190,298	102,978	105,767	102,592
Mean	71,302	66,423	85,474	42,811	43,328	42,657
			1975 (1969 $)			
N	8,244	7,676	4,693	3,551	809	2,742
5%	19,049	18,772	34,220	14,643	13,068	15,667
10%	23,701	23,267	40,602	18,371	15,688	19,386
25%	36,247	34,942	55,292	25,002	22,029	26,114
50%	59,142	57,074	76,310	36,419	33,475	37,146
75%	89,008	85,788	106,563	56,817	54,249	57,166
90%	131,778	122,097	154,835	86,191	87,393	85,302
95%	174,318	155,769	212,852	112,041	113,249	111,681
Mean	74,734	70,317	95,498	47,293	45,925	47,696

medicare) which generated no current income in 1969. Further, the income distributions were affected by labor income and retirement, whereas the wealth distributions exclude human wealth. Table 13.12 confirms that the wealth of couples was around twice that of singles throughout the distribution. Table 13.11 showed that the mean real wealth of the wealthiest ten percent of the sample fell by 6.2% while table 13.12 shows the ninety-fifth percentile point rising by 8.7%. The reconciliation is that the very richest households in the sample did quite poorly. In fact, the real wealth of the wealthiest household declined by 50%. Table 13.12 also confirms that single women were as well off as single men

Table 13.13   Percentage Growth Rates in Wealth from 1969 to 1975

		Position in Wealth Distribution			
	All	5%–25%	25%–50%	50%–75%	75%–100%
Mean wealth growth	65.3	83.5	71.3	64.4	46.7
Median wealth growth	54.8	62.3	60.7	56.9	39.6

Note: Prices grew by 43.5%.

whether the measure is the mean, the median, or the wealth distribution itself.

Table 13.13 shows mean and median growth rates in nominal wealth for different quartiles of the wealth distribution. As measured by either the mean or median, the top quartile in the wealth distribution had lower growth rates than the rest of the sample. Our overall assessment is that wealth inequality declined modestly for this population between 1969 and 1975.

The final table concerning the wealth of the RHS population is table 13.14. It shows wealth and real wealth appreciation by age and marital status. To avoid the compositional problems encountered in previous tables, we have included in this table only those whose marital status was unchanged from 1969 to 1975. The implications of table 13.14 are most easily seen by examining figures 13.2 and 13.3 in which median and mean real wealth by age may be found. We observe two important results in

Table 13.14   **Median Wealth by Age and Marital Status in 1969 (Holding Household Composition Constant)**

|	Age in 1969/Age in 1975 (Years)					
	58/64	59/65	60/66	61/67	62/68	63/69
All						
N	1,258	1,118	1,128	1,088	1,201	1,002
Wealth in 1969	52,907	52,892	54,685	56,375	56,394	54,938
Wealth in 1975	92,526	92,093	91,995	87,383	85,849	82,275
% real change	21.8	21.3	17.2	8.0	6.1	4.4
Couples						
N	865	769	729	687	735	611
Wealth in 1969	62,895	60,830	64,291	66,857	69,624	67,711
Wealth in 1975	111,154	109,740	112,395	109,726	111,221	103,351
% real change	23.2	25.7	21.8	14.4	11.3	6.4
Singles						
N	393	349	399	401	466	391
Wealth in 1969	31,686	29,949	34,829	35,098	33,428	38,154
Wealth in 1975	49,923	49,268	51,532	50,739	47,187	53,697
% real change	9.8	14.6	3.1	0.7	−1.6	−1.9
Single males						
N	80	66	88	84	107	72
Wealth in 1969	27,503	27,880	29,714	28,470	27,978	30,174
Wealth in 1975	47,890	47,538	53,804	44,498	42,142	56,267
% real change	21.3	18.8	26.2	8.9	5.0	29.9
Single females						
N	313	283	311	317	359	319
Wealth in 1969	32,205	30,347	35,358	36,228	34,513	38,692
Wealth in 1975	50,324	51,090	51,514	52,005	47,899	53,260
% real change	8.9	17.3	1.5	0	−3.3	−4.1
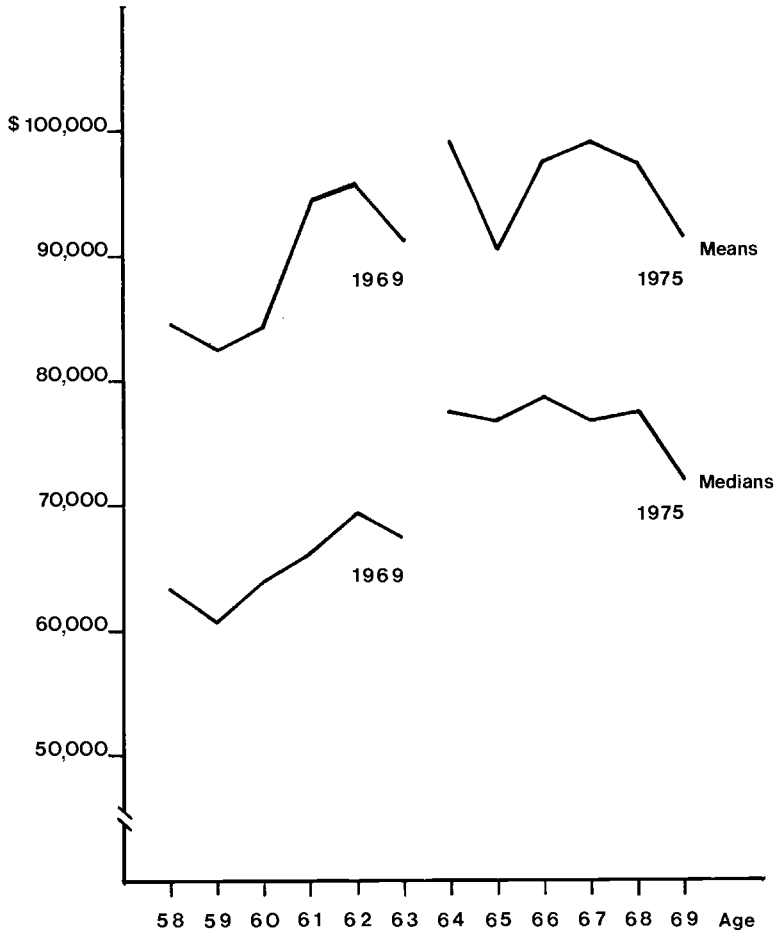
Fig. 13.2   Real wealth of couples by age.

figures 13.2 and 13.3. As measured by the medians, the wealth of couples and of the entire sample was about $10,000 higher in 1975 than in 1969, taking into account the aging of the sample. We base this observation on the shape of the wealth by age profile in 1969 and 1975: it appears to have shifted up by about $10,000. The second observation is that although most cohorts had an increase in real wealth over the period, the youngest cohorts had the largest increases and the oldest cohorts had the smallest. This may be seen more easily in figure 13.4, where we display the growth in real wealth by cohort. It is clear that the rate of wealth accumulation falls with initial age. We take this to be fully consistent with a life-cycle model of consumption in which there were unanticipated capital gains in some assets. These results indicate that even though the cross-section
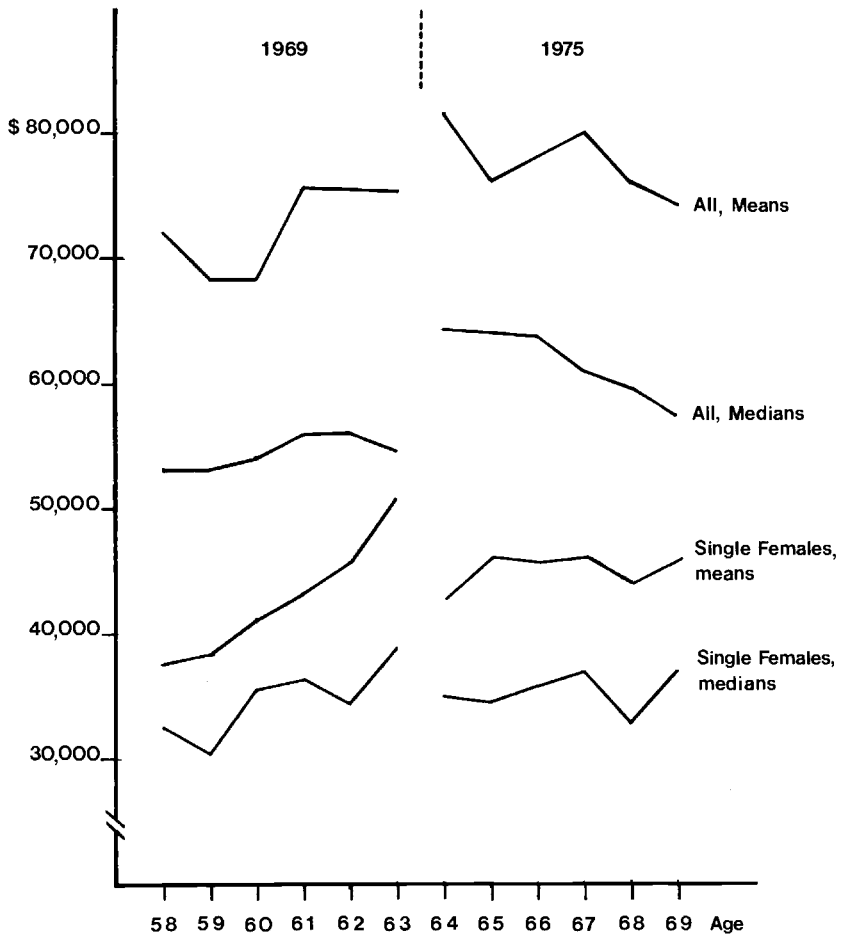
Fig. 13.3   Real wealth of single women and all by age.

wealth profile may not drop with age, the individuals in the cohort are consuming according to life-cycle theory.

13.6   Income and Wealth

Income is often taken to be an indicator of economic well-being; for example, poverty levels are defined by income. Most economists, however, would probably say that wealth is a better indicator as it is a better measure of permanent economic position. In this section, we study the stability of the income and wealth distributions over time and the correlation between income and wealth.

The first column in table 13.15 gives the probability that a household
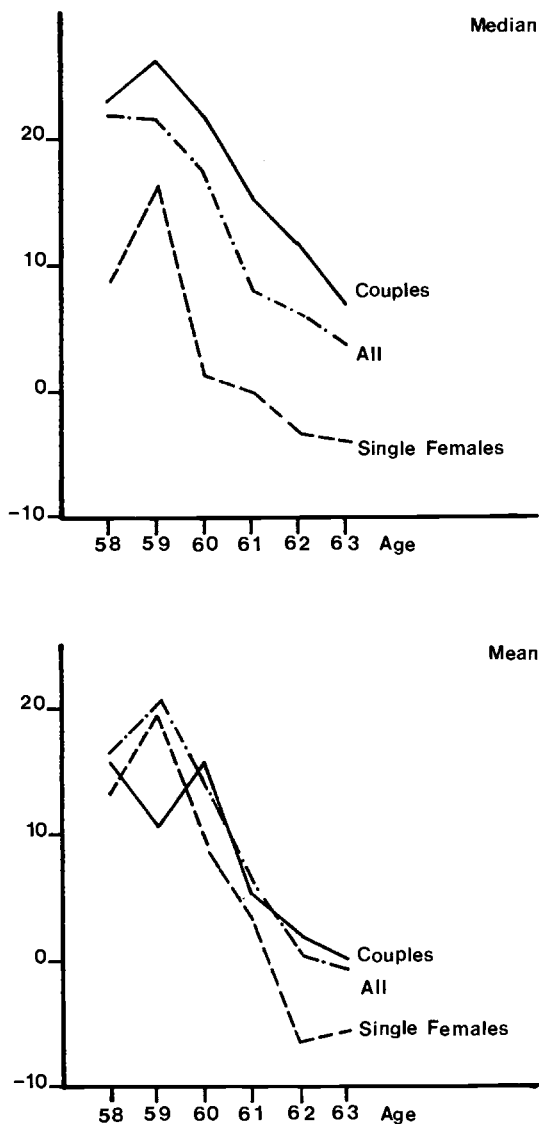
Fig. 13.4   Percentage change in real wealth by age in 1969.

will be in a specified part of the income distribution in 1975, given that the household was in that part of the distribution in 1969. The entries are, therefore, one minus the transition probabilities. For example, if a household was in the lower 5% income tail in 1969, the probability is .197 that it was in the lower 5% income tail in 1975. We see that the income stability of the lower tail is fairly weak, at least much weaker than the stability of the upper tail. Undoubtedly the reason is that the income at the upper tail

Table 13.15   **Conditional Probabilities in the Income and Wealth Distributions for the RHS Sample**

	Income	Wealth
Lower 5%	.197	.554
Lower 10%	.368	.616
Lower 25%	.599	.745
Lower 50%	.746	.822
Upper 25%	.639	.719
Upper 10%	.547	.630
Upper 5%	.518	.610

Note: Numbers shown are the probabilities of being in the specified tail of the 1975 distribution given that household was in that tail in 1969.

partly reflects wealth, which tends to be more stable than earnings. This result confirms the notion that there is considerable mobility in the income distribution and that it is generally not accurate to say that poverty as measured by income is a permanent state.

The second column of table 13.15 gives the corresponding conditional probabilities in wealth. It is evident that there is much more stability in the wealth distribution than in the income distribution. This calculation ignores an important and stable form of wealth, human capital. If that were included, the distribution would surely be even more stable. Even though the entire distribution of wealth moved up between 1969 and 1975, as reported in earlier tables, the lower wealth tail remained low. That fact and the stability of the lower wealth tail indicate that the same households that were poor in wealth in 1969 were poor in 1975.

The usefulness of income as an indicator of economic well-being can also be examined by studying the correlation between income and wealth. Tables 13.16 and 13.17 give the cross-tabulations of income quartiles by wealth quartiles in 1969 and 1975. In each cell two numbers are given: the upper is the absolute frequency of the cell; the lower is the percent of the row and column. Thus, 14.5% of the sample is in both the lower income and lower wealth quartiles, and 57.9% of those in the lowest income quartile are also in the lowest wealth quartile. We see that there is substantial but by no means exclusive concentration along the diagonals: in 1969 49.2% of the observations were in the same income and wealth quartiles. Although low income is a very good predictor of wealth, it is not completely accurate; for example, 15.7% of those in the lowest income quartile were in the upper half of the wealth distribution; about 26% of those in the lower half of the income distribution were in the upper half of the wealth distribution.

The 1975 data show a higher correlation between income and wealth: about 56% of the observations were in the same income and wealth quartiles. Income is a stronger indicator of wealth: 7.8% of those in the

Table 13.16	Cross-Tabulation of Income Quartiles by Wealth Quartiles, 1969, RHS Sample			

Income Quartiles	Wealth Quartiles			
	0%–25%	25%–50%	50%–75%	75%–100%
0%–25%				
Table %	14.5	6.6	2.8	1.2
Row and column %	57.9	26.4	11.1	4.6
25%–50%				
Table %	5.8	10.1	5.6	3.5
Row and column %	23.4	40.3	22.4	14.0
50%–75%				
Table %	1.6	7.3	10.0	6.2
Row and column %	6.5	29.2	39.9	24.5
75%–100%				
Table %	.4	2.5	7.5	14.6
Row and column %	1.6	10.0	30.0	57.4

Table 13.17	Cross-Tabulation of Income Quartiles by Wealth Quartiles, 1975, RHS Sample			

Income Quartiles	Wealth Quartiles			
	0%–25%	25%–50%	50%–75%	75%–100%
0%–25%				
Table %	17.5	5.6	1.3	.7
Row and column %	69.9	22.3	5.2	2.6
25%–50%				
Table %	5.5	11.5	6.1	1.9
Row and column %	22.0	46.2	24.5	7.4
50%–75%				
Table %	1.5	6.0	11.0	6.5
Row and column %	5.8	24.0	44.1	26.1
75%–100%				
Table %	.6	1.9	6.6	16.0
Row and column %	2.3	7.5	26.3	63.9

lowest income quartile were in the upper half of the wealth distribution. The most important reasons for the increased correlation are that before retirement an important component of income comes from an unmeasured component of wealth, human capital, and that several important measured components of wealth, social security and medicare, do not yet yield an income flow before retirement.

13.7   The Effects of Inflation on the Elderly

We next investigate the vulnerability of the elderly to unanticipated changes in the price level and the inflation rate. As we mentioned in the introduction, it is commonly held that the elderly are particularly vulnerable to inflation. To investigate the accuracy of this impression, we develop and calculate three different vulnerability measures. The first two reflect the vulnerability to a *price level* shock where interest rates, the rate of inflation, etc., all remain unaffected. The third measure calculates vulnerability to an inflation rate shock where the long-run expected rate of inflation and nominal interest rates are revised upward. For all measures we classify assets and liabilities into three categories: those which offer a real or indexed return and are therefore protected from unanticipated price changes or inflation changes, those whose real values are reduced by inflation, and those whose real values increase with inflation. The classification is shown in table 13.18.

Our first measure of vulnerability (V_1) measures the percentage loss in real wealth per percent unanticipated increase in the price level. It is simply defined as nominal assets less nominal liabilities (the sum of category 2 entries in table 13.18 less those in category 3) divided by total net worth. The idea is that the real value of nominal assets and liabilities decline point for point with unanticipated jumps in the price level. A V_1

Table 13.18

(1) *Protected from price level shocks and inflation*
Social security
Medicare/medicaid
Transfer payment benefits
Houses[a]
Other physical assets
Common stocks

	Price Sensitivity to Inflation Change	
	1969	1975
(2) *Vulnerable to price changes and inflation (financial assets)*		
U.S. bonds	3.5	2.4
Corporate bonds	8.0	6.1
Private pensions	9.4	5.0
Loan assets	1.0	1.0
Bank accounts	1.0	1.0
(3) *Gain from price changes and inflation (financial liabilities)*		
Mortgage liabilities	6.4	6.1
Other debts	2.5	2.5

[a]There is a theoretical reason for thinking that houses are overindexed: the value of houses will rise faster than inflation due to their tax treatment. Thus, our vulnerability measures may overstate true vulnerability.

value of zero would mean that the household is completely protected against price level jumps, whereas an index of one would indicate that the household's real wealth declines 1% for each 1% rise in the price level. Our second measure, V_2, differs only in that it treats common stocks as nominal assets and is therefore in category 2. Theoretically, stocks represent a claim to the income flows of real capital and unanticipated increases in the price level should increase their real value to the extent the company is leveraged. That is, the stockholders should gain at the expense of the bondholders. The performance of the United States stock market in the past 17 years is such that one would not want to carry this argument too far, and hence the calculation of V_2.

The third measure, V_3, differs in that it attempts to measure the sensitivity of the elderly's wealth position to an unexpected increase in the inflation rate and the long-term nominal interest rates. We assume a strict point-for-point Fisher effect. The difference between this vulnerability and V_1 and V_2 is that for V_3 the maturity of assets is important. For example, a 1% price level increase would depress the real value of a consol by 1%. However, a 1% increase in inflation which drove interest rates from 7% to 8% would immediately reduce the value of a consol by 12.5%. We attempt to calculate in V_3 the immediate fall in real wealth as a fraction of total wealth for a one point increase in inflation. The weights in table 13.18 give the sensitivity of the value of various balance sheet entries to a rise of 1% in nominal interest rates. In general, the items are less vulnerable to an interest rate increase in 1975 because of shorter durations. For example, the maturity of average government bonds was reduced from 50 months to 32, and of average outstanding corporate bonds from 12 years to 10.

The medians of our vulnerability measures are shown in table 13.19. For all households in the RHS sample in 1969, the median of the V_1 measure is .05. This means that a 10% unexpected increase in the price level would reduce the real wealth by one-half of 1%. Vulnerability does not seem to depend greatly on marital status, but is slightly lower for single women than for single men. We noted earlier that single women hold a somewhat higher fraction of their wealth in social security and medicaid and less in financial assets. The poorest 10% of the sample have essentially zero net financial assets and hence are unaffected by price changes. However, those in the top 10% of the wealth distribution are more vulnerable than average; the median value of V_1 over the group was .19 in 1969. Vulnerability was up somewhat in 1975 over 1969 due primarily to the large increase in bank accounts and private pensions.

V_2, which adds common stocks to the list of vulnerable financial assets, is somewhat higher than V_1, but the median is still very modest. In 1975, for instance, the median V_2 stood at .12 for the whole RHS population. At that point, a household is 88% indexed from price level shocks. Even V_3, the wealth sensitivity to long-run inflation increases, is not too great as

Table 13.19   **Measures of Vulnerability for Subpopulations of RHS Sample**

		All House-holds	Couples	Singles	Single Males	Females	Wealth Tails Lower 10%	Upper 10%
A. Medians								
V_1	1969	.05	.05	.05	.07	.04	0	.19
	1975	.10	.12	.08	.13	.07	0	.26
V_2	1969	.06	.06	.06	.08	.05	0	.35
	1975	.12	.13	.09	.14	.08	0	.37
V_3	1969	.06	.06	.06	.08	.05	0	.44
	1975	.15	.20	.10	.17	.08	0	.62
B. 90%								
V_1	1969	.39	.37	.45	.55	.41	.13	.53
	1975	.44	.42	.46	.56	.44	.16	.59
V_2	1969	.45	.43	.51	.62	.46	.21	.72
	1975	.48	.47	.51	.60	.48	.18	.69
V_3	1969	2.81	2.71	3.08	4.17	2.68	.16	3.70
	1975	1.63	1.54	1.75	2.12	1.63	.21	2.16

Note: V_1 and V_2 measure the percentage decrease in the real value of net worth per percent unexpected increase in the price level. They are defined as net nominal financial assets divided by total net worth. V_2 includes common stocks as a nominal asset while V_1 treats stocks as real assets. V_3 calculates the percent decrease in the real value of net worth for a 1% unanticipated change in long-run inflation reflected in a 1% rise in long-run interest rates. Common stocks are treated as real assets.

measured by the median figure. Here, as in all cases, those in the upper wealth tail are more vulnerable. The overall impression from the median is that the wealth positions of most of the sample are not substantially harmed by increases in the price level or in the inflation rate. Certainly these results indicate much less inflation vulnerability than the common impression.

The lower portion of table 13.19 gives the percentile point defining the upper 10% of the vulnerability distribution. It indicates that there is a wide distribution of vulnerability, particularly vulnerability to long-run inflation. While the median figure for V_3 in 1969 for the entire population was .06, those in the upper 10% of the vulnerability tail had a V_3 of greater than 2.81%. That is, for each extra point of inflation, they immediately lost at least 2.8% in wealth. The 90% points indicate that not only is median vulnerability among the wealthy high, but there are substantial numbers with quite high vulnerability. For example, the ninetieth percentile point among the wealthy in 1969 was 3.70. Correspondingly, almost no poor had substantial vulnerability.

Although median vulnerability increased only slightly from 1969 to 1975, the upper part of the distribution decreased substantially. This is

shown in figure 13.5 in which some of the data of table 13.19 have been graphed. The incidence of high vulnerability has decreased. For example, the fraction of the sample having greater V_3 than V_2 decreased from 15% in 1969 to 6% in 1975.

Tables 13.20 and 13.21 give the distribution of V_1 and V_3, respectively, by age cohort for 1969 and 1975. They show a consistent, although weak, age effect in that the older cohorts have higher levels of vulnerability. More informative, however, may be that both tables indicate that more than 25% of the RHS sample would actually gain from a price level hike or an increase in inflation. Some of the data from tables 13.20 and 13.21 appear in figures 13.6 and 13.7. It appears that, at least at the median, there was a slight upward shift in the distribution of V_1 between 1969 and 1975. This is not conclusive, of course, as the difference could be due to a shift in the distribution at about age 63 or 64, rather than a secular shift. The distribution of V_3 by age shows some tendency to increase with age; however, the most important feature of figure 13.7 is the downward shift in the 90% point.

We have calculated vulnerability indices by classifying assets according to our view of their vulnerability to inflation. If the indices are useful predictors of real wealth changes of the elderly, we should find that households with small values of the indices in 1969 had greater growth in real wealth than households with large values of the indices. To test the predictive power of the indices, we regressed the percentage change in wealth between 1969 and 1975 on a constant, wealth in 1969, and vulnerability in 1969 (V_1). This regression was calculated for the entire sample and by age and by wealth quartile. Similar regressions were calculated with V_3 on the right-hand side instead of V_1. There were a total of 24 estimated coefficients on the vulnerability indices. All had a negative sign; the smallest t-statistic was 4.5 in absolute value. Thus, larger values of the vulnerability index were associated with smaller gains in real wealth between 1969 and 1975. The estimated coefficients indicated the differences associated with changes in the indices were not trivial. A typical result is that a change of either V_1 or V_3 by two standard deviations is associated with a change in wealth growth of about 25%. Average wealth growth over the period was 63%. Thus, typical variation in vulnerability observed in the data is associated with changes in wealth growth which are substantial compared with mean growth.

13.8 Conclusion

All of our calculations indicate that on average the elderly have done well economically over the last decade. The aggregate data taken from official sources show that incomes of the elderly have increased faster than incomes of the rest of the population even though the labor force
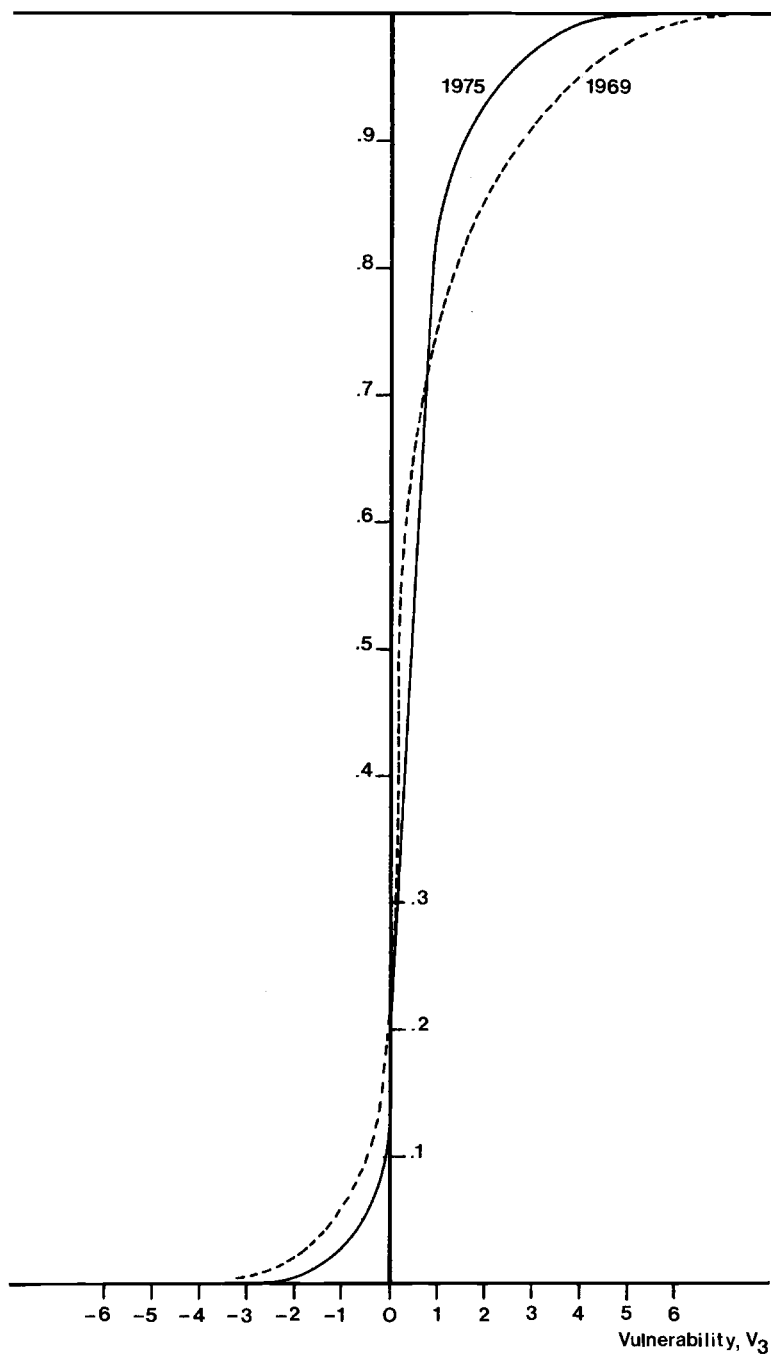
Fig. 13.5   Distribution of inflation vulnerability, V_3.

Table 13.20   **Price Vulnerability (V_1) Distribution by Age**

Percentile Points	Age in 1969/Age in 1975 (Years)					
	58/64	59/65	60/66	61/67	62/68	63/69
5%						
1969	−.24	−.21	−.20	−.18	−.14	−.16
1975	−.13	−.11	−.09	−.06	−.05	−.06
10%						
1969	−.14	−.12	−.11	−.08	−.06	−.07
1975	−.05	−.03	−.02	−.01	0	−.01
25%						
1969	−.02	−.01	−.01	0	0	0
1975	0	0	.01	.01	.01	.01
50%						
1969	.03	.04	.04	.06	.06	.06
1975	.07	.10	.12	.13	.13	.12
75%						
1969	.19	.20	.21	.21	.23	.24
1975	.23	.26	.29	.30	.31	.31
90%						
1969	.37	.37	.38	.40	.42	.42
1975	.41	.44	.45	.44	.47	.47
95%						
1969	.50	.49	.49	.51	.53	.53
1975	.52	.56	.57	.56	.57	.58

participation of the elderly declined in this period while the opposite is true for the nonelderly. Our data from the Retirement History Survey support this finding, although some caution should be used in extrapolating from our sample to the rest of the elderly population. However, the RHS data do show possibly larger income gains than the aggregate data show. This appears as a shift in the income profile by age between 1969 and 1975. Similarly, there appeared to be a shift in the wealth profile for the most important part of the sample—couples. Thus, although no cohort gained in real wealth, it seems that taking into account the aging of the sample, wealth was higher. These results offer support for the life-cycle hypothesis of consumption: wealth gain between 1969 and 1975 decreased systematically by age in 1969.

Our results on inflation vulnerability are consistent with the gains in wealth of the elderly. The popular conception is that the elderly are vulnerable to inflation; yet, during the inflation of the early 1970s, the elderly gained in wealth. Our vulnerability indices are consistent with this gain. Even though the elderly on average appear to have maintained their

Table 13.21   Inflation Vulnerability (V_3) Distribution by Age

Percentile Points	Age in 1969/Age in 1975 (Years)					
	58/64	59/65	60/66	61/67	62/68	63/69
5%						
1969	− 1.36	− 1.36	− 1.25	− 1.08	− .92	− 1.04
1975	− .78	− .63	− .64	− .43	− .35	− .36
10%						
1969	− .88	− .75	− .72	− .50	− .42	− .47
1975	− .40	− .22	− .14	− .09	− .04	− .05
25%						
1969	− .12	− .07	− .04	− .02	− .01	− .01
1975	0	0	0	0	0	0
50%						
1969	.04	.05	.06	.06	.08	.07
1975	.08	.15	.21	.24	.23	.19
75%						
1969	.63	.68	.78	.91	.90	.95
1975	.52	.72	.93	.96	.93	.90
90%						
1969	2.53	2.54	2.87	2.79	3.10	3.11
1975	1.43	1.63	1.75	1.69	1.74	1.75
95%						
1969	3.66	3.87	4.02	3.96	4.19	4.04
1975	1.98	2.19	2.31	2.21	2.31	2.30

income and wealth positions, our results indicate that there is a wide distribution of income, wealth, and inflation vulnerability. In the latter especially, a substantial part of the elderly population is inflation protected, yet some individuals are quite vulnerable. The situation is made more tolerable, however, because the highly inflation-vulnerable individuals are concentrated among the wealthy, who are better able to afford the inflation risk.

We may speculate that the inflation of the latter part of the decade has not overly harmed the elderly because in 1975 the elderly typically were not vulnerable as measured by our index, and that index seemed to have good predictive power of the effects of inflation during the early part of the decade. That this is the correct view rather than the popular view that the elderly have suffered during the inflation period is supported by a recent poll.[10] According to this poll, 68% of the people less than 65 years old think that finances are a very serious problem for most people over 65; but only 17% of the people over 65 think finances are a serious problem for the elderly.
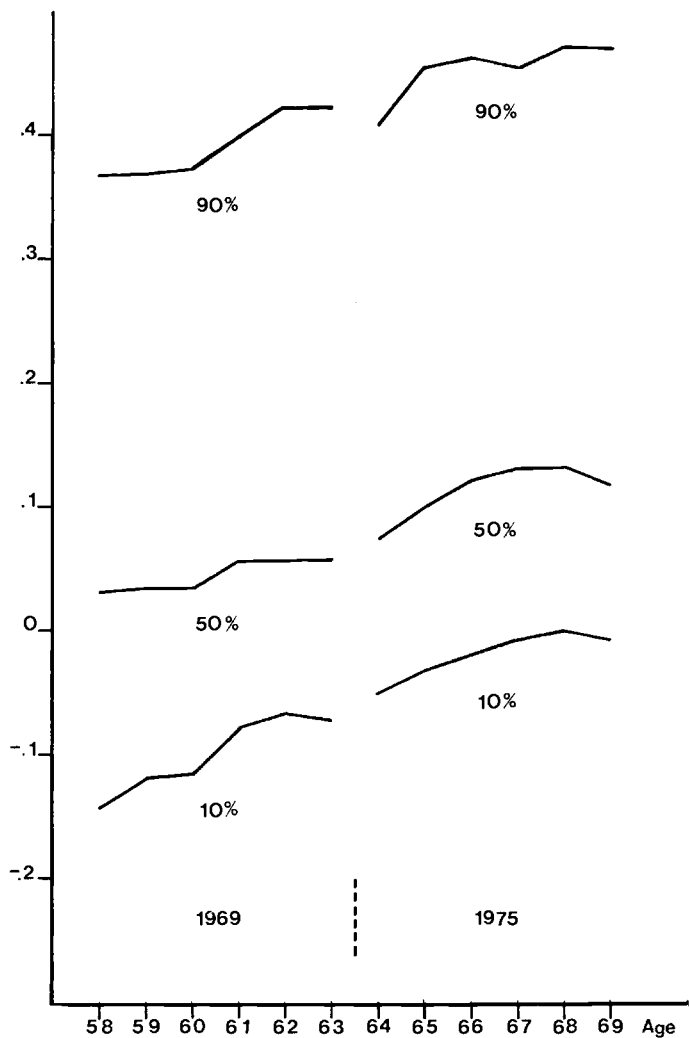
Fig. 13.6   Percentage points of price vulnerability by age.
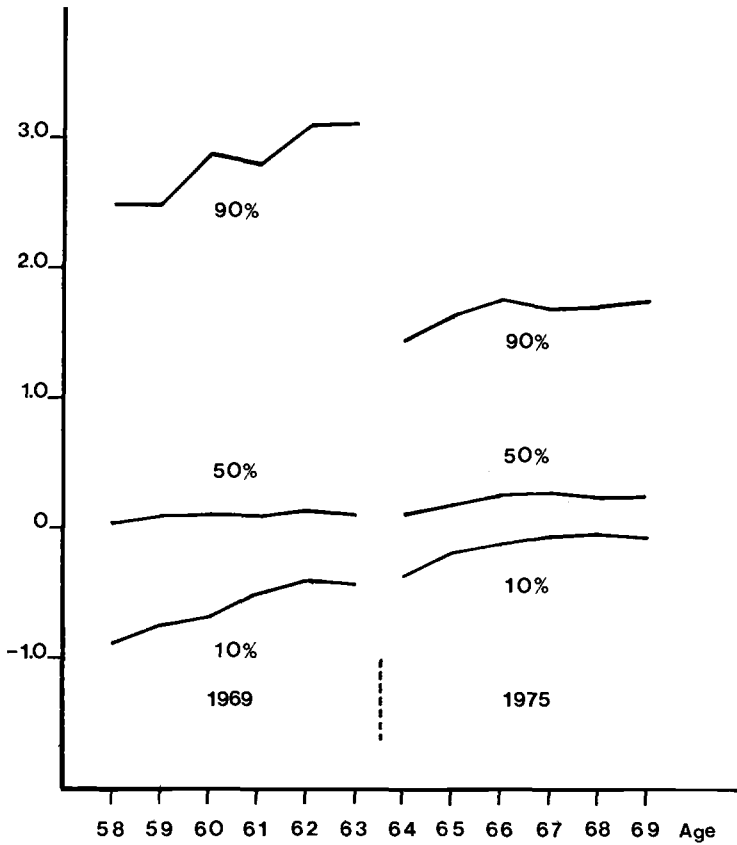
Fig. 13.7   Percentage points of inflation vulnerability by age.

Appendix

Description of the Data

   The Retirement History Survey (RHS) is a national longitudinal survey of 11,153 households whose heads were 58–63 years old in 1969. The surviving households were interviewed every 2 years through 1979. Detailed data on financial characteristics, work behavior, and health were obtained. The file is especially useful for this study because the RHS data were matched to social security earnings records which give contributions to social security throughout the working life through 1974. Therefore, it is possible to calculate exactly the social security benefits a worker would receive were he to retire.

Because we study changes in economic position, we dropped from the 1969 sample households that did not survive until 1975. We were left with 8,244 households.

For a variety of reasons, missing values occurred on the data tape.[11] If we had eliminated households on the basis of missing values, the resulting sample would have been small because of the large number of components of wealth. Therefore, we imputed missing values after carefully examining the raw data. We now describe how we calculated income and wealth.

Income Variables

In computing income for the sample in 1969 and 1975, we took a broad view of the components of income. In addition to such conventional income sources as social security, wage, rent, interest, pensions, government transfers, annuities, and contributions from relatives, we imputed income from medicare/medicaid and owner-occupied housing.

The following conventions were used to impute missing income components for 1969 and 1975.

Respondent's Wage Income — delete household from sample for income analysis.[12]

Spouse's Wage Income — If spouse's employment status was "working," then assign the median value for working spouses in the sample, otherwise assign zero.

Self-Employment Income — If the respondent was classified as self-employed, then assign the median value for self-employed respondents with valid responses; otherwise assign zero.

Respondent Rental Income — Assign median rental income for respondents with positive values.

Spouse Rental Income — Assign zero.

Interest Income 1969 — Assign .056 x [U.S. Bonds] + .04 x [Savings Accounts] + .06 x [Stocks + Bonds + Shares] + .06 x [Loan Assets].

Interest Income 1975 — Assign .078 x [U.S. Bonds] + .05 x [Savings Accounts] + .10 x [Stocks + Bonds + Shares] + .10 x [Loan Assets].

Other Variables 1969 — Assign zero.

Other Variables 1975 — If the response was coded that the household had the income source,

then assign the median value for all
households with the income source
and valid replies; otherwise assign
zero.

Housing services for owner-occupants were valued at 3% of the gross
housing value for 1969 and 1975.

Medicare/medicaid values for the 1975 income data are computed as
follows.[13] All households without social security income are assigned
medicare values of zero. For those households receiving social security,
male members are assigned the average medicare value for men their age
receiving medicare in 1975. Female members are assigned the average
medicare value for females their age receiving medicare in 1975. All
households are assigned the average medicaid value for households 65
and over in 1975.

Wealth Variables

The total wealth of each household was computed from the individual
wealth components, some of which were stock variables (e.g., house
value) and some of which were capitalized flow variables (e.g., present
discounted value of a stream of pension benefits). The first step was to
obtain a valid value for each component of each household's wealth.

The general strategy for imputing missing values was to retain the
individual component of each record. The hierarchy for imputations had
three levels. At the first level, we used all valid observations. Then, if an
item was missing for 1975 (1969), its value was imputed if possible from
the previous (next) wave of the RHS by multiplying the available value by
the growth rate in the median value of such assets or income for all
nonmissing respondents between the previous (next) wave of the RHS
and 1975 (1969). Imputations used the most recent wave of the RHS that
had a valid value, but could go as far back (forward) as 1969 (1973). If a
datum could not be imputed by reference to a similar question in another
year for the same respondent, the third level of the imputation hierarchy
was to set the datum equal to the median of all nonmissing replies for
other respondents in that year.

Flow variables were capitalized into stock variables using a 3% dis-
count rate. The horizons over which different variables were capitalized
were:

Pensions   — Until expected death date of respon-
                                dent.
AFDC Benefits   — For three years.
All Other Flow Variables[14]— Until the maximum expected death
                                date of respondent or spouse.

All capitalizations were compounded annually.

Medicare/medicaid wealth was computed using the mean 1975 (1969) benefits for elderly persons. This was capitalized at a 3% discount rate for both respondent and spouse with the expected date of death. Then the present value of the flow received before age 65 was subtracted off where the individual was not yet age 65.

Expected social security wealth is computed using the Social Security Administration Earnings Record (through 1974). The algorithm to compute 1975 (1969) social security wealth is based on the social security law in effect on January 1, 1975 (1969). The social security primary insurance amount (PIA) is calculated for each person based on his or her earnings record, assuming the individual retires as soon as possible (age 62 or as soon as sufficient quarters of covered employment are accumulated after age 62 for those not yet eligible by age 62). It is assumed that for married couples, the male's potential PIA is always greater than or equal to the female's PIA, so that the male's social security wealth is always based on his own PIA computed from his own earnings record. The female's social security wealth is taken as the maximum of her own PIA or her spouse or widow's benefit based on her husband's PIA. She is allowed to switch from her own benefit to her spouse or widow's benefit over time, but not from spouse's benefit to her own benefit.

Single men and women have a social security wealth based on their own PIA only. Widows at the time of the initial survey (1969) are treated as never married (no possible widow benefit calculated) because the SSA Earnings Record match file does not contain any information on their deceased spouse. For surviving widows of original 1969 male respondents, however, there is information on the deceased spouse. These widows are allowed to draw a widow's benefit if it is greater than the benefit based on their own PIA. In computing the potential widow's benefit for surviving spouses, the deceased husband is treated as if he had retired at the earliest possible age according to the rules normally applied to living male respondents, unless that age would be a year later than 1975, in which case he is treated as if he had retired at age 65.

If a respondent does not have sufficient covered quarters of employment by 1975 (1969) to be eligible for social security benefits on retirement, then his current work status and his expectation about receipt of social security benefits in the future are taken into account to estimate whether he ever will be eligible for benefits and at what date. These estimates are used to calculate social security wealth.

Average life expectancies for men and women are used to determine the length of the stream of income. The streams are capitalized at a 3% discount rate.

If a spouse of a respondent does not have sufficient quarters of covered employment by 1975 (1969) to be separately eligible for social security retirement benefits, then it is assumed that he or she will never accumu-

late sufficient quarters to be eligible. A male spouse then ends up with zero social security wealth, and a female spouse with a social security wealth based only on their potential spouse and widow benefits.

Notes

1. We choose 1968, 1969, 1974, and 1975 as much of the income and wealth data in later tables refer to those years.
2. The major exclusion is income in kind such as food stamps and subsidized housing.
3. Because we have no measures of scale effects in household size, we cannot say which is the better measure of economic position.
4. If we were to include the increase in subsidized housing and food stamps, the decrease would be even greater.
5. We have assumed that the elderly value these government programs at their insurance value. It is possible that this exaggerates their worth if the elderly would not have bought this coverage themselves. This type of valuation problem always exists for transfers that are in kind rather than cash transfers.
6. Income at age 63 is actually income of the year preceding when the head was 63. Thus the sharp drop at 63 reflects retirements at 62.
7. Of course these very low incomes do not necessarily show permanent economic status. We examine this issue further below when we study income transition and wealth.
8. Units reporting ownership of the asset but not its value are excluded from this table. Thus, participation is slightly higher than indicated here.
9. We estimated missing values. A description of our method may be found in the appendix to this chapter.
10. New York *Times*, November 19, 1981.
11. For example, respondent did not know the value of an income source, respondent did not answer the question, the response was miscoded.
12. These households, which accounted for less than 5% of the sample, were deleted because no other variables were good proxies for the major component of income.
13. It is assumed that medicare/medicaid was zero in 1969 based on the age of the survey respondents.
14. Supplementary security income, other public assistance, income from private insurance and annuities, benefits from private welfare agencies, income from relatives, income from other sources.

Comment   Daniel Feenberg

Michael Hurd and John Shoven address a number of questions related to the financial well-being of the elderly in the United States and come to relatively reassuring conclusions. Certainly they find nothing to substantiate widely held views that the elderly are an immiserized class. Here follows a brief recapitulation of their findings.

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From 1970 to 1978 the ratio of per capita income of the elderly to that of the general population has risen from 1.04 to 1.06 while per household income has risen from .52 to .58 times that of the general population. This increase in income came in spite of a decrease in labor force participation from 25.8% to 19.7% (males) and 9.2% to 7.8% (females) over the same period. In the general population, participation rates actually rose slightly, from 60.3 to 62.7. There has been a dramatic decrease in the fraction of elderly below the poverty line. For unrelated individuals the incidence of poverty has gone from 61.9% in 1959 to 27.0% in 1978, while for families the incidence is reduced from 26.9% to 7.6%.

Hurd and Shoven discuss the appropriateness of using the CPI to deflate the incomes of the elderly in the light of their quite different expenditure patterns. Their conclusion, that the CPI overstates inflation about equally for the elderly and nonelderly alike, is consistent with other studies.

The Retirement History Survey provides Hurd and Shoven with a rich source of data on the amount and form of wealth holdings for a sample of the population age 58–63 in 1969, and on the same group of individuals 6 years later. Hurd and Shoven adopt a comprehensive definition of wealth that includes the present value of medicare/medicaid, welfare, SSI, and social security in addition to the liquid assets and housing which constitute the more traditional definition. On the liability side, only current debts are included, however. In particular, expected tax liabilities are excluded.

The balance sheets constructed from these data provide much of interest. We learn that the average wealth among 64–69-year-olds in 1975 was $107,243, but that the lowest 10% of the distribution averaged only $25,682. Since that figure includes the present value of means-tested welfare programs, and since almost one-third is the form of expected medicare/medicaid benefits, it is clear that at least a minority of the elderly are in severe financial difficulty. Especially among this group the valuation of medical benefits at cost to the government may be an exaggeration of their value.

A related issue not addressed here is whether the observed wealth is sufficient to maintain consumption throughout an individual's retirement. Kotlikoff and Summers (1981) conclude (from the same data) that assets are sufficient to allow most retirees to consume at a level comparable to their average preretirement level, but not at their immediate preretirement rate. The balance sheets also provide some valuable information about the effectiveness of social welfare programs in relieving poverty, where poverty is defined on a longer time frame than the usual annual basis. We can see that 34% of SSI goes to the lowest 10% of the wealth distribution but 2% goes to the highest 10% of the wealth distribution. "Welfare and other transfers" are equally distributed at all levels of

wealth. Although the minimum social security benefit is not broken out, this would be an ideal setting in which to examine its effectiveness.

The material on the effect of inflation on the real wealth of the elderly is clearly the centerpiece of the chapter. From the individual balance sheets and some plausible assumptions about the effect of inflation on the market values of particular asset types, a distribution of inflation vulnerability can be inferred. In 1975 the calculated median reduction in wealth associated with a permanent one point increase in the expected rate of inflation is only 0.2%. The ninetieth percentile of vulnerability experiences a loss of only 1.5% of total wealth per point of expected inflation, while about 24% of households gain from inflation.

These are remarkable figures. While it is to be expected that averaged over all individuals the effects of inflation will wash out (one person's nominal asset is another's nominal debt), the individuals in the sample are of an age which requires net assets to finance retirement. The data show, however, that these assets are mostly in the form of housing and government transfers, which are assumed to be real assets. Further, the average duration of financial assets (chiefly bank accounts) is short, so that changes in the expected rate of inflation (as opposed to changes in the price level) have a limited effect.

A number of technical objections may be made to this result. Houses are probably a better than real asset while corporate stock is probably worse than nominal. Interest rates do not change point for point with inflation. Real tax liabilities depend on the rate of inflation, but taxes are ignored throughout the chapter. Financial assets may be subject to substantial underreporting,[1] while the value of government transfers is generally imputed by Hurd and Shoven and therefore not subject to respondents' possibly faulty memories. While the practical significance of these biases is problematic, they are probably not of sufficient size to much affect the result. Even so, it should not be thought the elderly, or at least some among them, have not been hurt by inflation. A small thought-experiment may make the distinction clear.

Imagine an economist called to the White House in 1932. He is asked to investigate complaints of hardship caused by the fall in the stock market. He might well conclude that reports of stock market vulnerability are grossly exaggerated and that even the wealthy are well protected from changes in the price of stocks. He might also add that they are much better protected in 1932 than they had been only 3 years previously.

Inflation vulnerability, like stock market vulnerability, is a self-limiting disease. As nominal assets and liabilities depreciate in real value, the measure of vulnerability tends toward zero. Table 13.21 shows the tremendous reduction in the variance of vulnerability to changes in the rate of inflation that took place between 1969 and 1975. At both the 10% and 90% points of the vulnerability distribution, sensitivity is reduced by

about one-half for all age groups. That the median vulnerability about doubles is of less significance, because the median vulnerability is so close to zero. From the data given it is not possible to determine the cause of this shift. It may be the result of passive acceptance of shifts in the real value of the components of the portfolio. It might, however, be the result of a deliberate and costly effort to reduce inflation risk.

Readers,interested in further study of the issues raised in this chapter may wish to consult Clark, Kreps, and Spengler (1978) for a general survey of work on the economics of aging.

Note

1. It seems likely that the Retirement History Survey substantially understates property income and wealth. Evidence for this is readily available from the income data contained in the Statistics of Income annual. For 1975, dividend, interest, and pension income of $44 billion is reported by taxpayers claiming the age exemption. Given 20.2 million elderly (only about one-half of whom file tax returns), this implies property income of $2,200 per capita. This seems quite large relative to the reported financial assets in table 13.10. A more detailed examination could be done if property income figures were reported. Nevertheless, underreporting is likely to be a problem mostly among the very wealthy. Medians may not be much affected.

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