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THE ECONOMIC STATUS OF THE ELDERLY

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Abstract

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In the first part of the paper using official data sources, we estimate the real income of the elderly and of the rest of the population during the 1970s. We find that income per household of the elderly has increased more rapidly than income per household of the rest of the population, even though the elderly's fraction of income from work decreased greatly.

In the rest of the paper we use the 1969 and 1975 Retirement History Surveys to estimate income, wealth and inflation vulnerability of households whose heads were ages 58 through 63 in 1969. The income data verified the results from the official data. The 1969 wealth data show that a representative person on the eve of retirement has small holdings of financial assets: most of the assets are in housing, Social Security and Medicare. Between 1969 and 1975 real wealth increased slightly on average. There was some tendency for the distribution to tighten. We found that contrary to popular opinion, on average the elderly are not especially vulnerable to a sudden increase in either prices or the rate of inflation. Most of their assets are inflation protected. The wealthy are most vulnerable to inflation.

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THE ECONOMIC STATUS OF THE ELDERLY

by

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Introduction

This paper seeks to present a picture of the economic status of the elderly. We examine the change in their cost of living relative to 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 income 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 inter-generational 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.

I. Cost of Living

In order to assess the incomes and wealth of the elderly, all of which are available only in nominal terms, we first examine what has happened to their cost of living. The first question we attempt to answer is 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 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 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 1. For all age groups, the Boskin and Hurd cost of living indices have grown slower than the official CPI. While their figures show that the cost of living was roughly 128 percent higher in 1980 than 1967, the CPI indicates that the increase was 147 percent. 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 over-statement of inflation by the CPI is important for the elderly as Social Security benefits are tied to this measure during the payout period.

TABLE 1

COST OF LIVING INDICES IN 1980 BY AGE
(1967 = 100)

Year	Age less than 60	60-64	65-69	70-74	75 Plus	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

SOURCE: First five columns, Boskin and Hurd, 1982; last column, Economic Report of the President, February 1982, Table B-52.

II. 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 2 shows per household and per capita income data for both the elderly (head of household age 65 or over) and the entire population. Row 1 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 to 1978, 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 I, 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 non-aged group.

Row 7 of Table 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 non-elderly households in size, had on average 52 percent 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 percent. This change in the relative position of a large subpopulation over such a short time

TABLE 2

INCOME OF THE ELDERLY AND THE ENTIRE POPULATION

	1970	1973	1976	1978
A. Elderly				
1. Personal income (bil $)	81.84	112.06	160.55	199.53
2. Real income per household ($)	5692	6258	6363	6718
3. Real income per capita ($)	3503	3947	4104	4250
B. Entire Population				
4. Personal income (bil $)	801.	1,052.	1,381.	1,708.
5. Real income per household ($)	10863	11581	11116	11497
6. Real income per capita ($)	3362	3767	3752	3997
C. 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).

interval is remarkable. Another measure of the relative position of the elderly is shown in row 8 of Table 2 where the ratios of per capita personal incomes are reported.[3] The elderly have higher per capita incomes than the non-elderly and they gained on the rest of the population in the first eight years of the 1970s. The gain in the per capita figures is more modest than in the per household figures because of the aforementioned decline in the number of persons per household in the non-aged group.

The results of Table 2 are even stronger when one considers that labor force participation declined among the elderly over this period, but increased sharply among the non-elderly. 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 non-elderly 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 percent for the entire period 1970 to 1978.

In Table 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 percent of whom were below the poverty level in 1959. By 1978 only 7.6 percent of such families had incomes below the standard. The incidence of poverty is much higher for unrelated elderly individuals, primarily women, but here, too, significant progress is shown.

TABLE 3

PERSONS 65 YEARS AND OVER BELOW THE POVERTY LEVEL

	Total %	(1000) Total Number Below	Families %	(1000) Families Number Below	Unrelated Individuals %	(1000) Unrelated Individuals Number Below
1978	14.0	3233	7.6	1180	27.0	2053
1976	15.0	3313	7.9	1185	30.3	2129
1974	15.7	3308	8.5	1243	31.8	2065
1972	18.6	3738	10.4	1444	37.1	2295
1970	24.5	4709	14.7	1975	47.1	2735
1968	25.0	4632	15.4	2048	48.8	2584
1959	35.2	5481	26.9	3187	61.9	2294

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

Table 4 augments the income data of the previous two tables by providing a time series of income composition of the elderly. The figures 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 percent of all income of the elderly in 1963, but only 18 percent in 1976 and 1978. This fall of more than 50 percent 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.

IV. Income of the Retirement History Survey Population

The remainder of this paper 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 sufficiently complete that they were usuable. We report on their economic status in 1969 and 1975, but 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

TABLE 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]	$3504	$4306	$8708	$10291
Mean Housing Services[f]	$ 306	$ 392	$ 736	$ 957
Mean Medicaid/Medicare[g]	$ 69	$ 330	$1405	$ 1879
Mean Total Income	$3879	$5028	$10849	$13127

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] 1978 Survey of the Elderly, forthcoming.
[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.

accurate for the entire elderly population, but rather for a group which was 58-63 in 1969 and 64-69 in 1975.

Table 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 simply from the income-age profile in the 1968 cross section. For couples, we roughly estimate that there is an upwards shift in the income-age relationships of at least $1,000 or about ten percent. This can be seen in Figure 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 vintages. 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 used the Boskin-Hurd cost of living deflator (of Table 1) rather than the official CPI.

TABLE 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.

Figure 1 -- Real Income of Couples

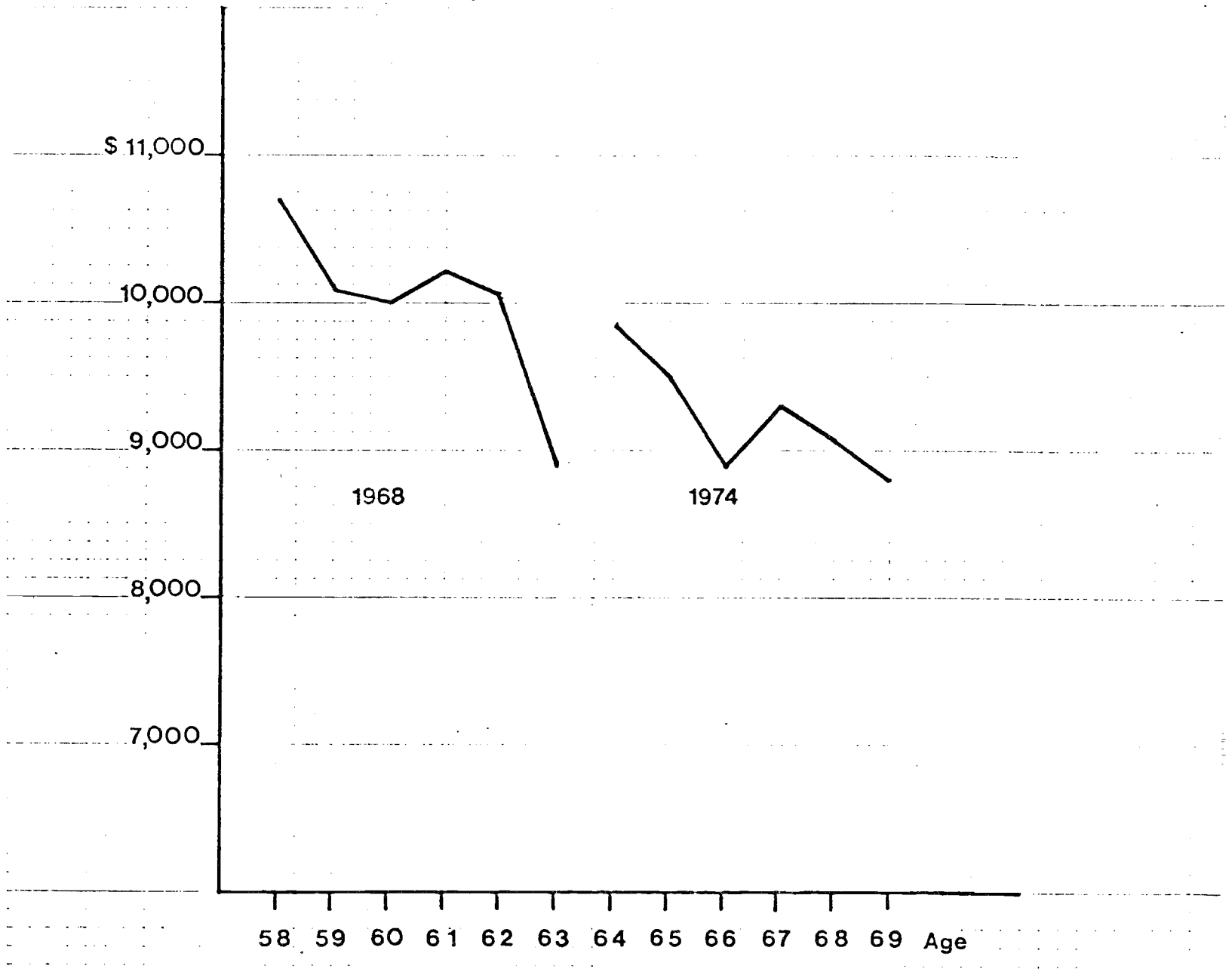


Table 6 shows the distribution of real income in 1968 and 1974 by family type. Several points can be made about them. First, the median real incomes are substantially less than the mean incomes. For example, for households in 1968, the median income was $6,658 whereas the mean was $8,136. The most striking 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 five percent 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 factor in this increase was the eligibility for Medicare at age 65, although Social Security receipt was also a major determinant of the increase. The lower tail of the other income distributions also 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 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 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

TABLE 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

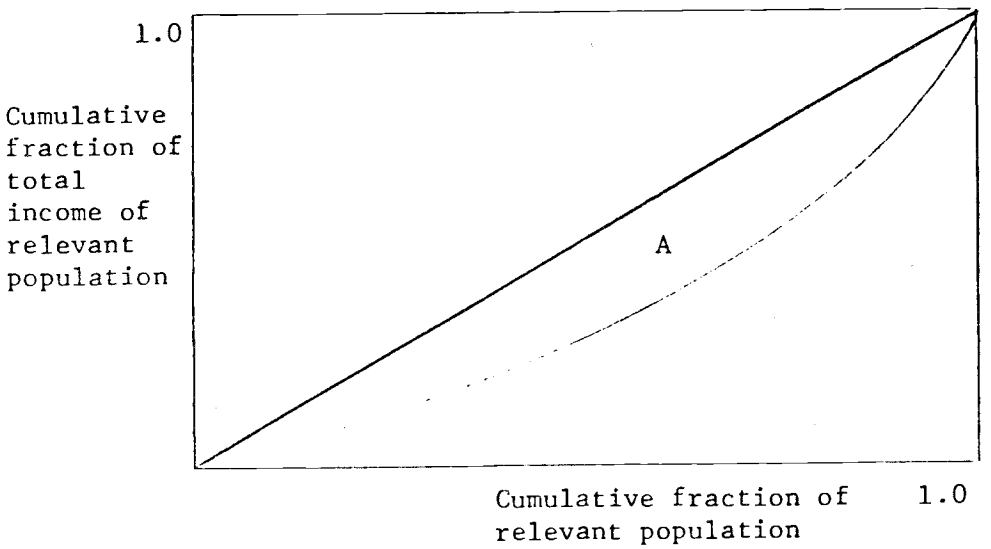
SOURCE: Retirement History Survey.

TABLE 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.



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.

V. 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 non-aged 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 non-human capital balance sheets of the Retirement History Survey population. Information on means and the distriubution 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 relatives are all capitalizations of current or anticipated flows using a real discount rate of four percent and the correct life expectancy for each unit.

Table 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

TABLE 8

MEAN WEALTH AND INCOME OVER HOUSEHOLDS HAVING POSITIVE VALUES, RHS SAMPLE

	1969		1975	
	% Having Positive Values	Mean	% Having Positive Values	Mean
A. 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
B. Income				
Government Pensions	7.4	3,063	10.5	4,730
Private Pensions	16.9	2,291	22.5	2,438

of the sample owning homes from 68.3 percent to 64.8 percent. The average house appreciated 62 percent in nominal terms or about 9.3 percent 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 sample were paying off home mortgages (only 15.3 percent had them in 1975 versus 22.8 in 1969) and farm mortgages. The participation in U.S. 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 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 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 ten percent of the population was $15,324, or only 21 percent of the average for the whole sample. Over 86 percent 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 Medicaire amount

TABLE 9

BALANCE SHEET OF THE RHS SAMPLE, 1969, MEAN VALUES

	All	Nonfarm	10% Wealth Tail	90% Wealth Tail	Couples	Singles	Singles: Males	Singles: 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. Non-property 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

to 43 percent of the wealth of the whole population and only 15 percent of the wealth of those in the upper ten percent of the wealth distribution.

Those in the wealthiest ten percent 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, U.S. bonds, other property and loan assets was also higher than their share of total wealth. Proportionately, they had less of their wealth 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. Among singles, 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 primairly due to the longer life expectancies of women. 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 more wealthy than the rest of our sample: their mean wealth was $108,083.

Table 10 contains the balance sheets for the same subpopulations of the RHS sample as Table 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 ten and above the 90 percentile points are $25,682 and $321,455, respectively

TABLE 10

BALANCE SHEET OF THE RHS SAMPLE, 1975, MEAN VALUES

	All	Nonfarm	10% Wealth Tail	90% Wealth Tail	Couples	Singles	Singles: Males	Singles: 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. Non-property 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

By examining row 17, one sees 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 increased by 187. The mean wealth of the single women now exceeds that of single men.

The relative amounts in Tables 9 and 10 can best be assessed by referring to Table 11 which reports the percentage change in real mean values of the various balance sheet entries. It shows a 16.7 percent average real gain in house value between 1969 and 1975, a 34 percent decrease in average farm value and a 52 percent decrease in real business value. The real value of stocks and bonds was down more than 20 percent for the entire RHS population, and about 26 percent for those in the top ten percent 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 percent for the whole population.

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

TABLE 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. Non-property 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 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 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 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 12 confirms that the wealth of couples was around twice that of singles throughout the distribution. Table 11 showed that the mean real wealth of the wealthiest ten percent of the sample fell by 6.2 percent while Table 12 shows the 95 percentile point rising by 8.7 percent real. 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 percent. Table 12 also confirms that single women were as well off as single men whether the measure is the mean, the median or the wealth distribution itself.

Table 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 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 14 are most easily seen by examining Figures 2 and 3

TABLE 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

TABLE 13

PERCENTAGE GROWTH RATES IN WEALTH FROM 1969 TO 1975

	All	Position in Wealth Distribution			
		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 percent.

TABLE 14

MEDIAN WEALTH BY AGE AND MARITAL STATUS IN 1969
(holding household composition constant)

Age in 1969/ Age in 1975		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
1969		52,907	52,892	54,685	56,375	56,394	54,938
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
1969		62,895	60,830	64,291	66,857	69,624	67,711
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
1969		31,686	29,949	34,829	35,098	33,428	38,154
1975		49,923	49,268	51,532	50,739	47,187	53,697
% Real Change		9.8	14.6	3.1	.7	-1.6	-1.9
Single Males	N	80	66	88	84	107	72
1969		27,503	27,880	29,714	28,470	27,978	30,174
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
1969		32,205	30,347	35,358	36,228	34,513	38,692
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

in which median and mean real wealth by age may be found. We observe two important results in Figures 2 and 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 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 wealth profile may not drop with age, the individuals in the cohort are consuming according to life cycle theory.

Figure 2 -- Real Wealth of Couples by Age

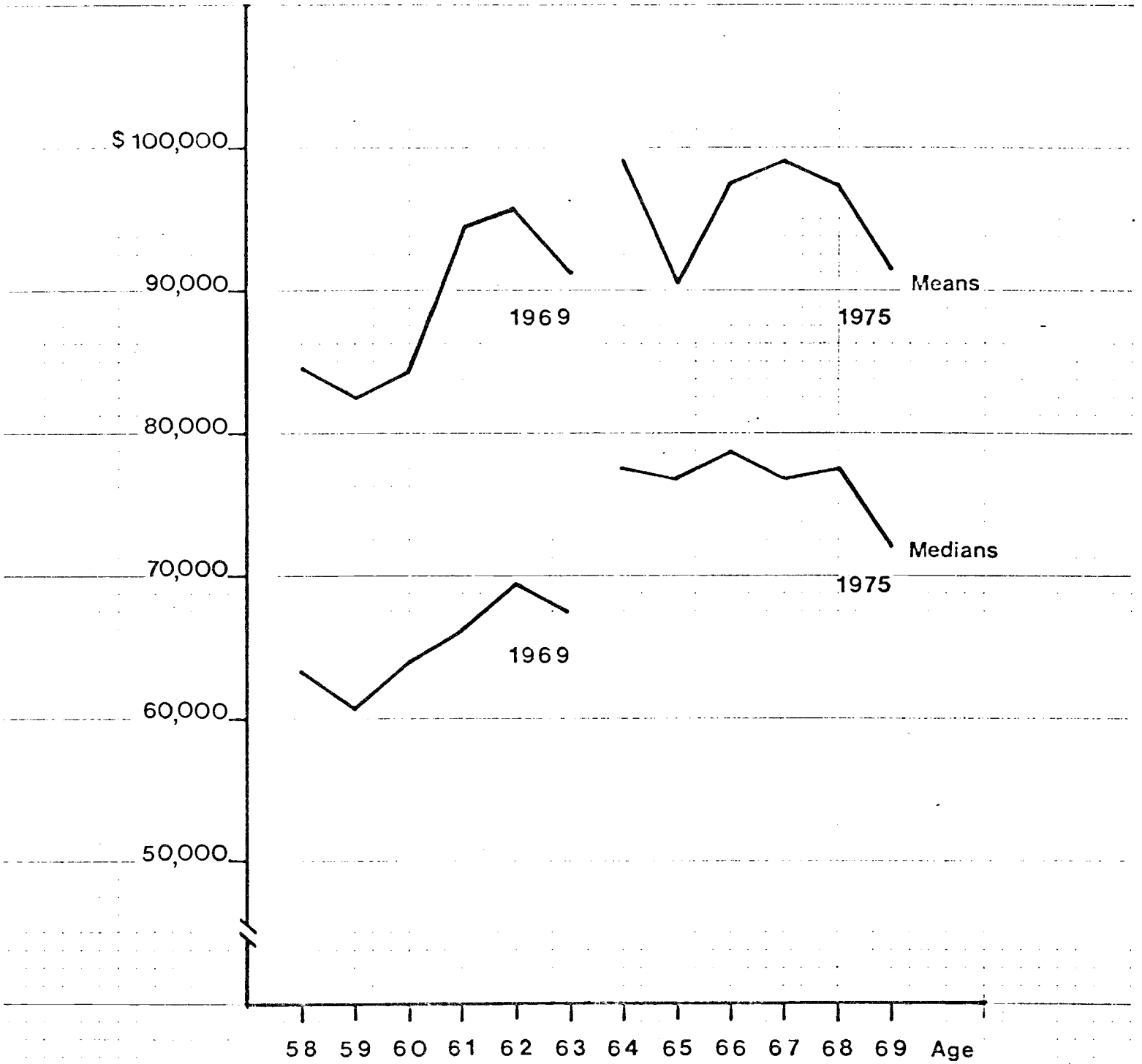
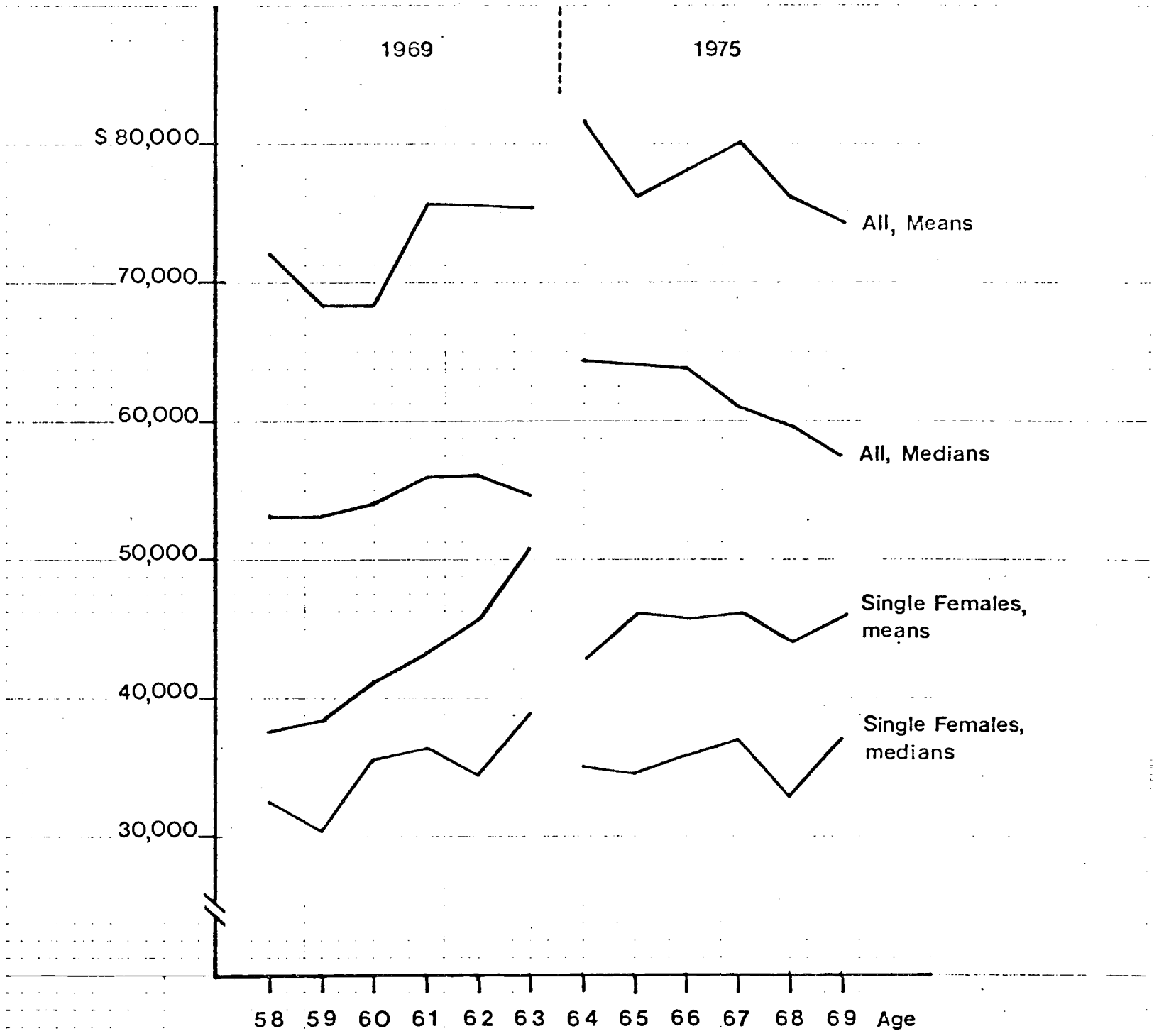
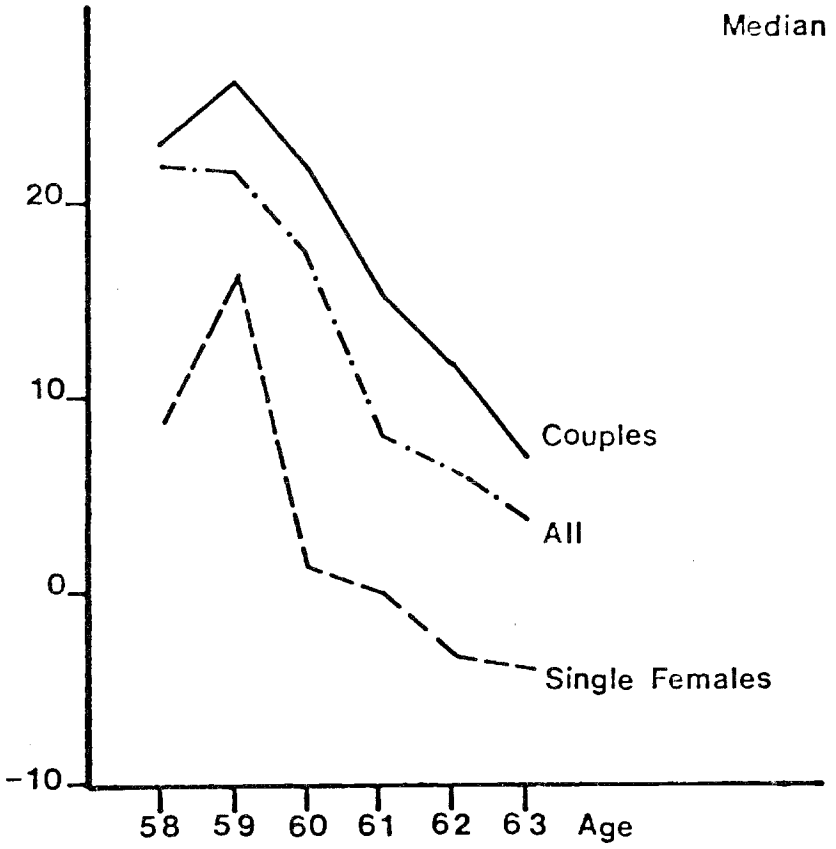


Figure 3 -- Real Wealth of Single Women and All by Age





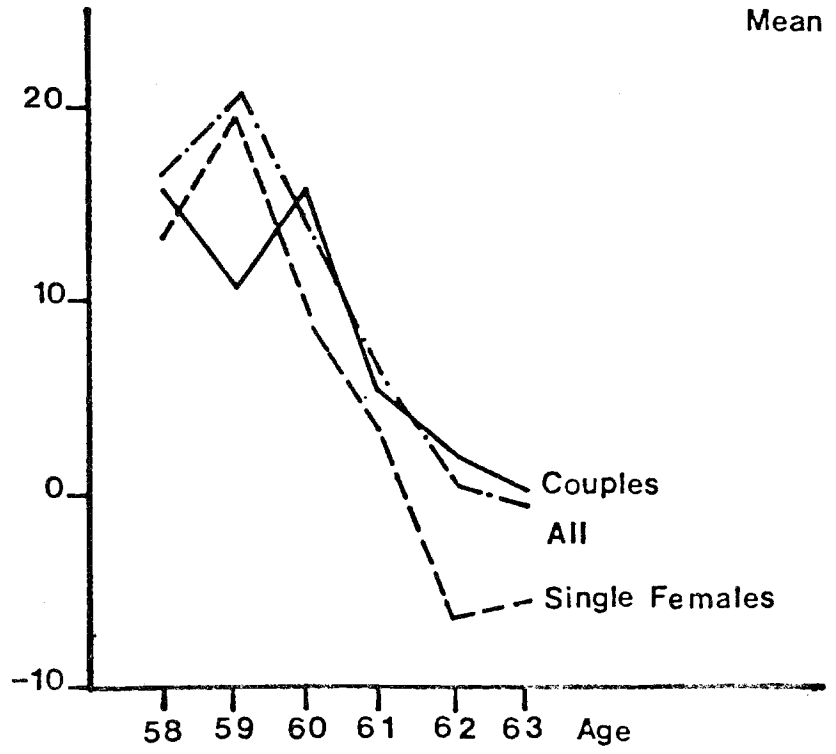


Figure 4 -- Percent Change in Real Wealth by Age in 1969

VI. 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 measures better 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 15 gives the probability that a household 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 were in the lower five percent income tail in 1969, the probability is .197 that it was in the lower five percent 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 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 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

TABLE 15

CONDITIONAL PROBABILITIES IN THE INCOME AND WEALTH DISTRIBUTIONS FOR THE RHS SAMPLE

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

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 16 and 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 percent of the sample is in both the lower income and wealth quartiles, and 57.9 percent 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 percent 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 percent of those in the lowest income quartile were in the upper half of the wealth distribution; about 26 percent 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 percent of the observations were in the same income and wealth quartiles. Income is a stronger indicator of wealth: 7.8 percent of those in the 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.

TABLE 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 Percent	14.5	6.6	2.8	1.2
	Row and col. %	57.9	26.4	11.1	4.6
25-50%	Table Percent	5.8	10.1	5.6	3.5
	Row and col. %	23.4	40.3	22.4	14.0
50-75%	Table Percent	1.6	7.3	10.0	6.2
	Row and col. %	6.5	29.2	39.9	24.5
75-100%	Table Percent	.4	2.5	7.5	14.6
	Row and col. %	1.6	10.0	30.0	57.4

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

VII. 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 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 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 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 one percent for each one percent rise in the price level. V_2, our second measure, differs only in that it treats common stocks as nominal assets and is, therefore, in category two. Theoretically, stocks represent a claim to the income flows of real capital and unanticipated increases in the price level should increase

TABLE 18

(1) Protected from Price Level Shocks and Inflation

Social Security

Medicare/Medicaid

Transfer Payment Benefits

Houses[a]

Other Physical Assets

Common Stocks

(2) Vulnerable to Price Changes and Inflation (Financial Assets)

	Price Sensitivity to Inflation Change	
	1969	1975
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 over-indexed: the value of houses will rise faster than inflation due to their tax treatment. Thus, our vulnerability measures may overstate true vulnerability.

their real value to the extent the company is leveraged. That is, it is the stockholders who should gain at the expense of the bondholders. The performance of the U.S. 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 wealth position of the elderly 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 one percent price level increase would depress the real value of a consol by one percent. However, a one percent increase in inflation which drove interest rates from seven to eight percent would immediately reduce the value of a consol by 12.5 percent. 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 18 give the sensitivity of the value of various balance sheet entries to a rise of one percent 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 ten.

The medians of our vulnerability measures are shown in Table 19. For all households in the RHS sample in 1969, the median of the V_1 measure is .05. This means that a ten percent unexpected increase in the price level would reduce the real wealth by one-half of one percent. Vulnerability does not seem to depend greatly on marital status, but is slightly lower for single women than

TABLE 19

MEASURES OF VULNERABILITY FOR SUBPOPULATIONS OF RHS SAMPLE

		All Households	Couples	Singles	Single Males	Single Females	Wealth Tails Lower 10%	Wealth Tails 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 Percent								
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 one percent unanticipated change in long run inflation reflected in a one percent rise in long run interest rates. Common stocks are treated as real assets.

men. It was 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 ten percent of the sample have essentially zero net financial assets and hence are unaffected by price changes. However, those in the top ten percent 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 percent "indexed" from price level shocks. Even V_3, the wealth sensitivity to long run inflation increases, is not too great as 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 19 gives the percentile point defining the upper ten percent 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 ten percent of the vulnerability tail had a V_3 of greater than 2.81 percent. That is, for each extra point of inflation, they immediately lost at least 2.8 percent in wealth. The 90 percent

points indicate that not only is median vulnerability among the wealthy high, but there are substantial numbers with quite high vulnerability. For example, the 90 percentile point among the wealthyin 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 5 in which some of the data of Table 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 percent in 1969 to six percent in 1975.

Tables 20 and 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 percent of the RHS sample would actually gain from a price level hike or an increase in inflation. Some of the data from Tables 20 and 21 appear in Figures 6 and 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 7 is the downward shift in the 90 percent 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

Figure 5 -- Distribution of Inflation Vulnerability, V_3

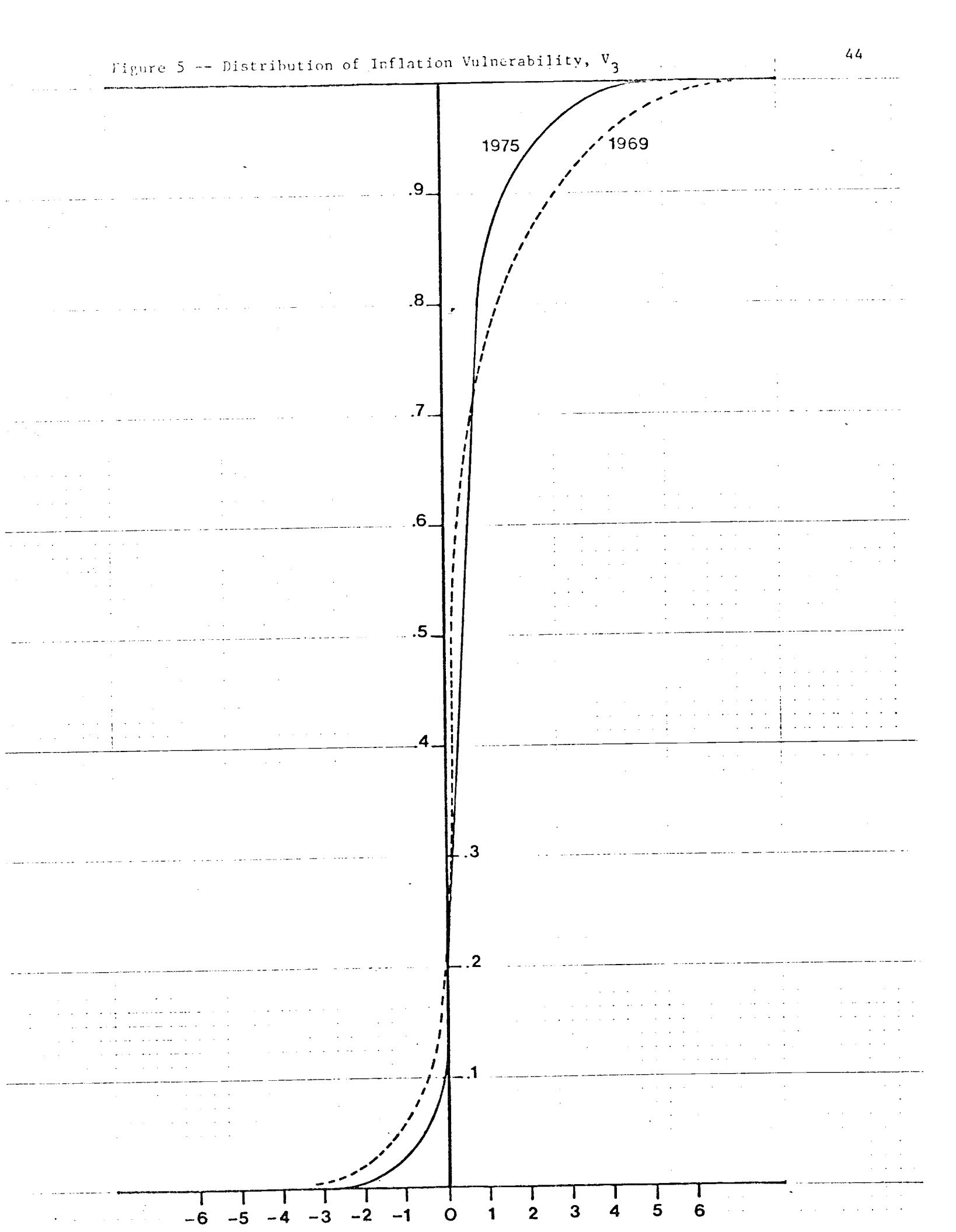


TABLE 20

PRICE VULNERABILITY (V_1) DISTRIBUTION BY AGE

Percentile Points		Age in 1969/ Age in 1975					
		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

TABLE 21

INFLATION VULNERABILITY (V_3) DISTRIBUTION BY AGE

Percentile Points		Age in 1969/ Age in 1975					
		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

Figure 6 -- Percentage Points of Price Vulnerability by Age

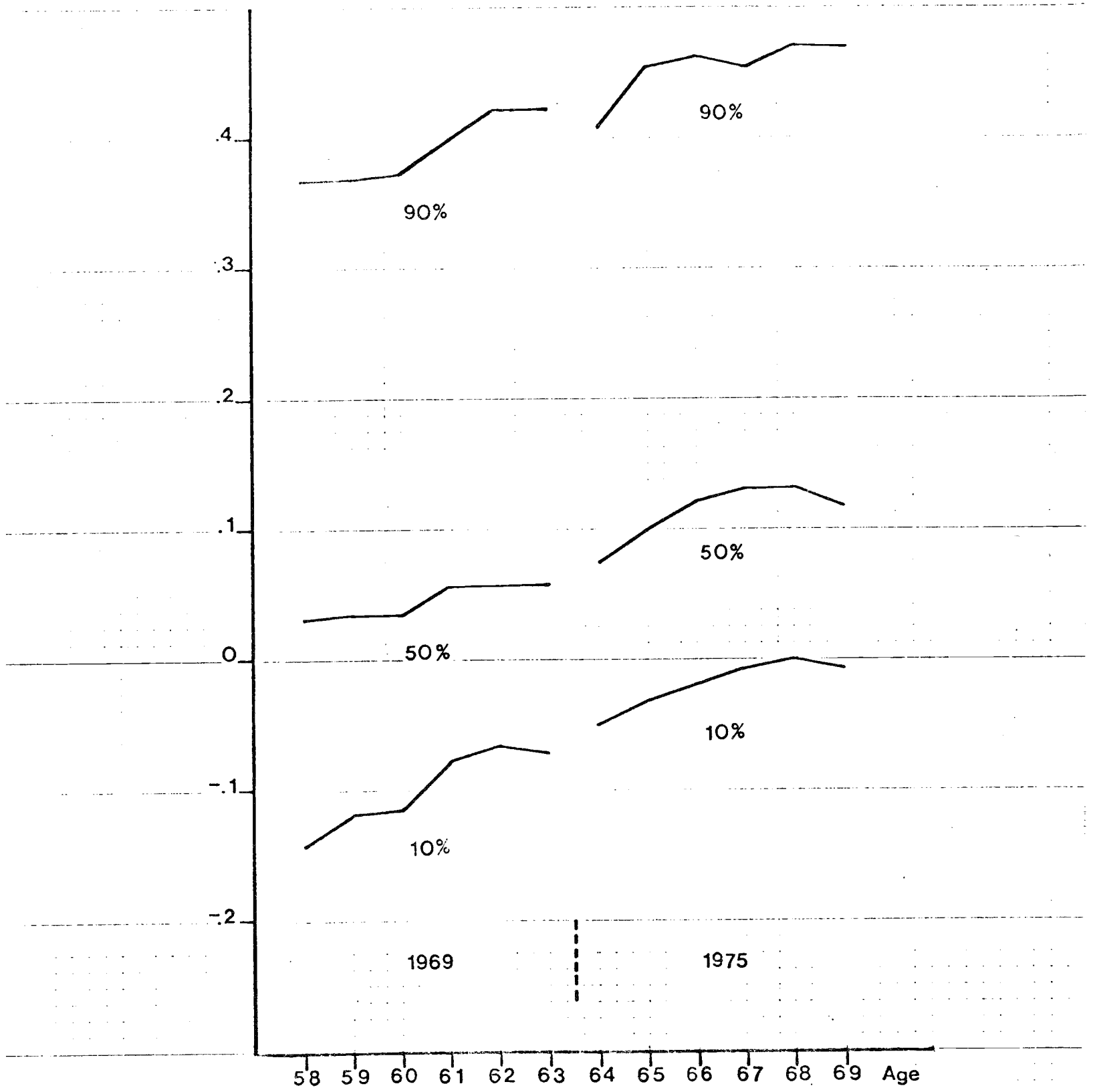
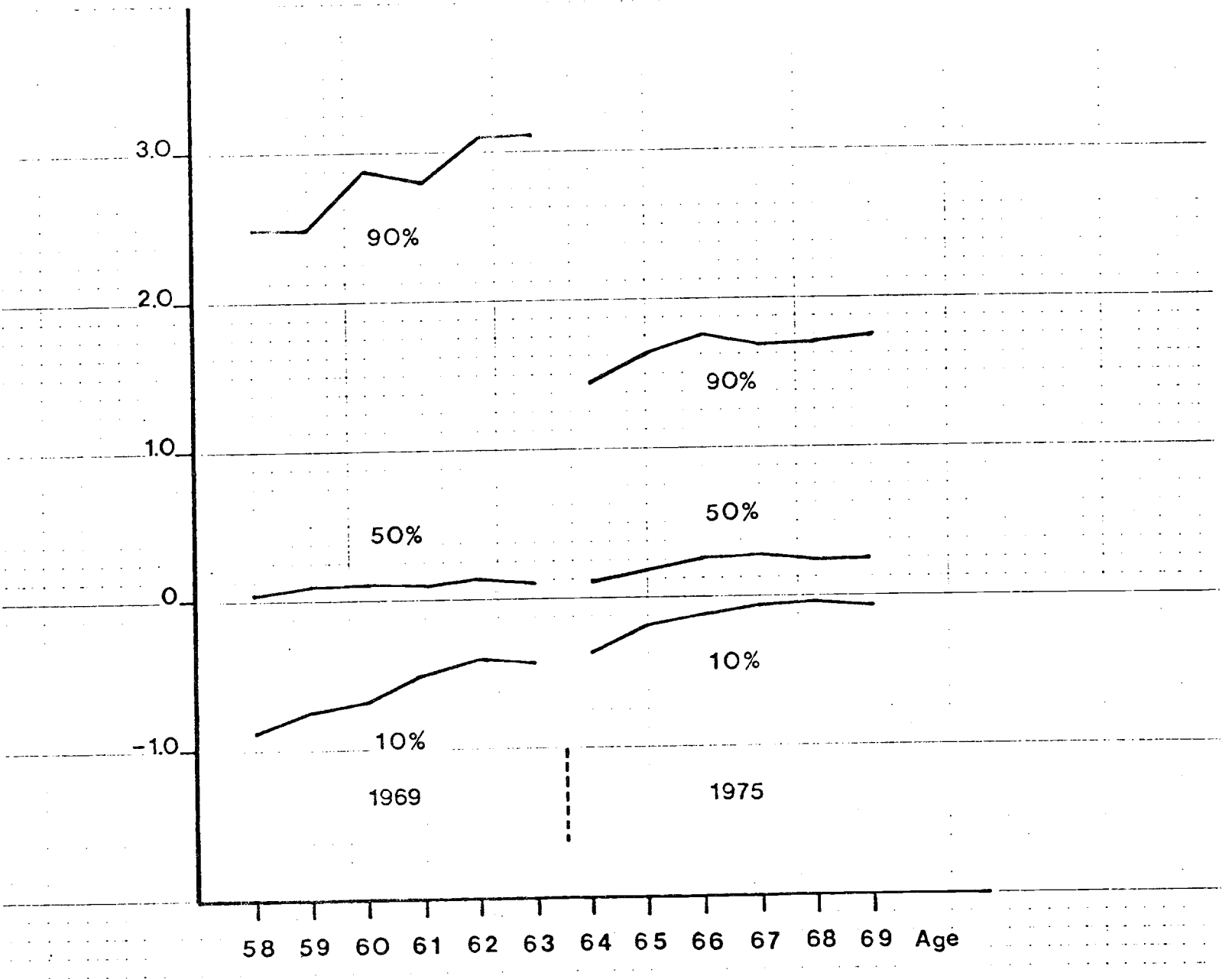


Figure 7 -- Percentage Points of Inflation Vulnerability by Age



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 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 percent of the people less than 65 years old think that finances are a very serious problem for most people over 65; but only 17 percent of the people over 65 think finances are a serious problem for the elderly.

APPENDIX

I. Description of the Data

The Retirement History Survey (RHS) is a national longitudinal survey of 11,153 households whose heads were 58 through 63 years old in 1969. The surviving households were reinterviewed every two 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.

II. 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 three percent 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.

III. 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 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 non-missing 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 non-missing replies for other respondents in that year.

Flow variables were capitalized into stock variables using a three percent discount rate. The horizons over which different variables were capitalized were:

Pensions	-	Until expected death date of respondent.
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 three percent 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 upon 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/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 benefit over time, but not from spouse 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 upon 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 three percent 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 accumulate 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.

Footnotes

*This paper was prepared for presentation at the National Bureau of Economic Research conference on the Financial Aspects of the U.S. Pension System, March 25-26, 1982, Amelia Island Plantation, Florida. It is not for quotation without permission of the authors.

We admit that if we divide Peter Menell's research assistant stipend by his long hours, we violated the federal Minimum Wage Law. His work was exceptional. We also greatly benefited from the efforts of Phil Farrell and Paul Chen. Reluctantly, we take the blame for for the shortcomings.

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 in kind rather than case 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.
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 five percent 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.

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