PROVIDE, PROVIDE: THE
ECONOMICS OF AGING

Victor R. Fuchs

ABSTRACT

Data from the Bureau of the Census, the Health Care Financing Administration, the NBER

Tax File, and the Current Population Survey are used to estimate for the elderly (ages 65 and above)

consumption of health care and income available for other goods and services in 1975, 1985, and

1995. Extrapolation of 1975-1995 and 1985-1995 trends are used to obtain projections for 2020.

Even the more conservative projection shows that in 2020 health care for the elderly would consume

10 percent of the GDP, and income available for other goods and services would show an absolute

decline from the 1995 level. Changes in age-specific consumption of health care are found to be

much more important than demographic changes. Income inequality among the elderly in 1995 is

found to be much less than at younger ages.

Victor R. Fuchs
Henry J. Kaiser, Jr. Professor Emeritus
Stanford University
30 Alta Road
Stanford, CA 94305-8006
and NBER
claire@newage3.stanford.edu

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"May you live to a hundred and twenty." This traditional Jewish blessing was inspired by

the last chapter of the Torah, which describes the death of Moses at that age with "his eyes

undimmed and his vigor unabated" (*The Torah, the Five Books of Moses* 1962). Unlike Moses,

many people experience a more troubled old age. In addition to the loss of family and friends, and

a diminution of status,[1] nearly all older persons face two potentially serious economic problems:

a) declining earning power and b) increased utilization of health care. The decline in earning

power is attributable to physiological changes[2] and to obsolescence of skills and knowledge, and

is exacerbated by public and private policies that reduce the incentives of older persons to

continue working and increase the cost to employers of employing older workers. Increased

utilization of health care is undertaken to reduce or offset the effects of declining health.

The two economic problems of earnings replacement and health care payment are usually

discussed separately, but there are several reasons why they should be considered together. First,

there are often tradeoffs between the two. Money is money, and for most people there is never

enough to go around. This is self-evident where private funds are concerned. Low-income

elderly, for instance, frequently must choose between expensive prescription drugs and an

adequate diet. For middle-income elderly the choice may be between more expensive medigap

insurance and an airplane trip to a grandchild's graduation. Difficult choices are also apparent

with respect to public funds. The same tax receipts that could be used to maintain or increase

retirement benefits could be used to fund additional health care, and vice versa. In discussing

these tradeoffs, one health policy analyst asserts that people would gladly give up other goods and

services for medical care that cures illness, relieves pain, or restores function (Glied 1997). But the reverse is also possible. Some people may be willing to forgo some health insurance to maintain access to other goods and services.

A second reason for looking at the two problems together is that they pose similar questions for public policy: How much should each generation provide for its own needs in old age, and how much should be provided to them by their children's generation? How much provision should be voluntary, and how much compulsory? How much intra-generational redistribution is appropriate after age 65? How well can private markets serve the elderly's desire for annuities and health insurance, and when are public programs more efficient?

Finally, the magnitude of the problem of health care payment is approaching that of earnings replacement in economic importance, and by 2020 will far exceed it. Declining health after age 65 results in substantial increases in the use of prescription drugs, hospital admissions, repair or replacement of parts of the body, rehabilitation and physical therapy, and assistance with daily living. New technologies offer great promise for mitigating the health problems of aging, but often at considerable expense. Overall, per capita health care expenditures after age 65 are more than three times greater than before 65 (Waldo et al. 1989).

This paper focuses primarily on the apparently relentless increase in consumption of health care by older Americans. If consumption continued to increase at the same rate as in the past, it would amount to 10 percent of the GDP by 2020, more than double the 1995 share. If the government's share of the total (about 63 percent) remained unchanged, the tax burden on younger cohorts would increase proportionately. Concomitantly, if the private share remained unchanged, income available to the elderly for other goods and services would be less in 2020

than in 1995. Although the emphasis of the paper is on aggregate and average results for the elderly, income inequality among the elderly is also examined and compared with inequality at younger ages. The paper concludes with a discussion of changes that might avert the economic and social crises foreshadowed by the data.

Consumption of Health Care and Income Available for Other Goods and Services

Sources and methods

The estimates presented in Table 1 were calculated from data obtained from a wide variety of sources. To summarize, the population data and projections (middle series) came from the Bureau of the Census. Medicare expenditures on the aged were obtained from the Health Care Finance Administration. Total personal health care expenditures were estimated by applying ratios of total personal health care to Medicare, as presented in Waldo et al. (1989). Projected expenditures were obtained by extrapolating trends in age-specific constant dollar expenditures and population projections.

Income available for other goods and services was estimated by subtracting personal income taxes and private health care expenditures from personal income. Taxes paid by the elderly were calculated by Dan Feenberg (1998) using the NBER Tax Model. Private expenditures for health care (supplementary insurance premiums plus out-of-pocket payments) were estimated using the ratios of private to total expenditures calculated by Waldo et al. Personal income was obtained from the March (of the following year) supplement of the Current Population Survey (CPS).[3] Unfortunately, there is strong evidence of underreporting of income in

the CPS. The Census Bureau, using comparisons of CPS money income with independent estimates, has calculated that CPS income for the total population in 1990 was 88 percent of income calculated from independent sources. The extent of underreporting varies greatly depending on the source of the income. For example, the CPS wage and salary income is estimated to be 97 percent of the figure obtained from independent estimates, but CPS income from interest is only 51 percent of the independent estimate, and income from dividends only 33 percent.

To show the possible effects of underreporting, two estimates of income available for other goods and services are presented, "CPS" and "CPS Adjusted." The adjustments were made by applying the Census Bureau estimates of underreporting by source of income (for all ages) to each source of income for the elderly. The adjustment factors for 1995 were the ratios of the 1990 independent estimates to the CPS incomes; for 1985, an average of the 1983 and 1987 ratios; and for 1975, the 1979 ratios (Bureau of the Census, 1980, 1987, 1991, 1992). The deductions for taxes and private health care expenditures are identical for both estimates of income.

Results

The most striking result of the extrapolations is that even the more conservative one shows health care for the elderly requiring one-tenth of the GDP by 2020. Per capita consumption of health care will reach $25,000 in 1995 dollars.[4] A second important result is the dramatic effect of rising health care expenditures on income available for other goods and services. The absolute level (in constant dollars) is projected to be lower in 2020 than in 1995; as

a share of GDP the projected decrease will be even greater. This projection is based on the projections for total health care expenditures and the assumption that the ratio of private to total expenditures will be 37 percent, the same as in 1995. The projections for 2020 are not unqualified predictions. Their principal purpose is to show what will happen if the rate of health care consumption of the elderly does not slow and the rate of growth of their income does not accelerate.

Comparison of the results for CPS and CPS Adjusted indicates that the former may significantly understate the income of the elderly. The adjustment procedure outlined above results in an adjusted income which is 32 percent above the CPS level in 1975. The differential between adjusted and unadjusted is 38 percent in 1985 and 25 percent in 1995.[5] The adjustment process affects income available for other goods and services more than it does total income (in percentage terms) because the same amount for private health care expenditures is deducted from both the adjusted and unadjusted total income.

Differences by age

Table 2 reproduces the key statistics of Table 1 for three age groups (65-74, 75-84, and 85+) in 1995. Total personal health care expenditures rise sharply with age, with the oldest group consuming three times as much per person as those 65-74, and almost twice as much as those 75-84. Because persons 85 and over have such high health care expenditures (a significant portion of which must be privately financed), they have relatively little income left for other goods and services. The elderly can, of course, draw down their assets to purchase medical care and other goods and services, but the importance of this source should not be exaggerated. Only minimal financial assets

are available to most of the elderly, and their willingness or ability to use their housing equity is apparently limited. Uncertainty about the length of life is a significant factor in the economic behavior of the elderly. According to one study, the annuity-like character of Social Security, Medicare, and Medicaid benefits has resulted in an increase in the propensity of older Americans to consume out of their remaining lifetime resources (Gokhale, Kotlikoff, Sabelhaus 1996).

Decomposition of change in personal health care consumption of the elderly

Between 1975 and 1995, personal health care consumption of the elderly rose 6.82 percent per annum in constant dollars. The average annual rate of change between 1985 and 1995 was 5.77 percent. As shown in Table 3, these rates of change can be decomposed into three components: a) the change in age-specific consumption per person, b) the change in the number of elderly, and c) the change in the age distribution of the elderly. The results of this decomposition indicate that for both time periods the highest rate of change was in per person age-specific consumption, which was more than twice as important as the rate of change in the number of elderly. Changes in the age distribution within the 65 and over population were of minor significance.[6]

The Census Bureau middle series projection for change in the number of elderly between 1995 and 2020 of 1.85 percent per annum is very close to the rate of change from 1975 to 1995. Furthermore, I estimate that rates of change of the age distribution *within* the 65+ population will have virtually zero effect on health care spending; that is, the increase in the number of old-old, who are the largest consumers of health care, will be offset by a large increase in the number who are 65 to 74. By assuming the same rates of increase of age-specific consumption per person as

prevailed in the 1975-95 and 1985-95 periods, we can project two total rates of change for 1995 to 2020. Extrapolation from the longer period yields a projected change of 6.49 percent per annum; the ten-year extrapolation yields a rate of 5.73 percent per annum.

The actual level of health care spending in 2020 is subject to considerable uncertainty. The rate of growth from 1985 to 1995 was slower than in the previous decade, and it is possible that there will be additional slowing in the decades ahead. On the other hand, there were several special circumstances at work during the 1985-95 period such as the introduction of DRG hospital reimbursement for Medicare patients, the spread of managed care (mostly for people under age 65, but with spillover effects at all ages), the squeezing of physician incomes, and the shortening of lengths of hospital stay. It may be difficult to push these interventions much farther, in which case the 1985-95 trend may understate future rates of change.

Expectations at Age 65: Life, Work, and Income

Since 1975, life expectancy at age 65 has risen appreciably, especially for men. This change has not been accompanied by any increase in paid work by older men, and only a small increase for women. Thus, the number of years when income must come from sources other than employment has grown, and employment's share of total income was less in 1995 than in 1975. Tables 4 and 5 summarize these trends. The first row of Table 4 presents life expectancy at age 65, a familiar statistic calculated from age-specific mortality rates in the year indicated. It is the mean years of life remaining for the cohort that reached age 65 (in, say, 1995) if it experienced the age-specific mortality that prevailed in 1995. Expected years of work is conceptually similar; it is obtained by combining age-specific rates of work with age-specific survival rates. It shows the

years of work that the cohort that reached age 65 (in, say, 1995) would experience if the age-specific work rates and the mortality rates that prevailed in 1995 continued through the lifetime of that cohort. The expected years of work are not forecasts, any more than the life expectancies are forecasts. The values could be used for forecasting purposes, however, by making assumptions about future trends in age-specific mortality and in age-specific work rates.

Years of life expected at age 65 increased at a rapid pace from 1975 to 1995, more rapidly for men than for women although the latter still enjoyed a 4.3 years' advantage over men in 1995. In contrast to life expectancy, expected years of work remained relatively constant, at about two years for men and one year for women (full-time equivalents). The number of expected years *not* at work (row 1 minus row 2) rose appreciably for men from 11.7 in 1975 to 13.7 in 1995. Women also show an increase in years *not* at work, from 17.3 to 17.8 years.

The change in life expectancy, unaccompanied by an equivalent increase in expected years of work, results in the elderly relying more on sources of income other than employment in 1995 than in 1975 (Table 5). Part A shows the share of income derived from employment for all elderly, including those living in families with one or more members under age 65. These younger family members are more likely to be in the labor force, and this tends to increase the share of income derived from employment. Part B is limited to individuals 65 and over who do not have any family member under age 65. Both CPS and CPS Adjusted data are shown.

Mean income is approximately the same in Part B as in Part A, but employment's share of total income is only half as large. In both parts the share is lower in 1995 than in 1975, and this is true for both the unadjusted and adjusted data. The exceptionally low shares of employment income in 1985 are attributable to low labor force participation and to the unusually high income

from interest and dividends in that year. For example, in 1985 the yield on triple A corporate

bonds was 11.4 percent compared with 7.6 percent in 1995.[7] The effect of high interest rates in

1985 is particularly strong for the CPS Adjusted data because underreporting of interest is

estimated to be considerably larger than underreporting of income from most other sources.

Pension income was more important in 1995 than in 1975, while Social Security declined slightly

in relative importance.

Income Inequality Before and After Age 65

Contrary to what many believe,[8] income inequality among the elderly is substantially *less*

than at younger ages. To measure inequality, family income is divided equally among family

members to obtain individual personal income. The individuals in each of eleven age groups are

then arrayed from the lowest to the highest personal income, grouped by decile, and the means of

each decile calculated. The ratio of the mean of the eighth to the mean of the third decile is used

to measure inequality. This comparison of the 10 percent of individuals who are in the middle of

the upper half of the distribution with the 10 percent who are in the middle of the bottom half

yields a robust measure of income inequality. It is relatively free of the problems of

mismeasurement of income at the extremes of the distribution that can play such a large role in

measures such as the Gini coefficient.

Tables 6, 7, and 8 show the mean income of the eighth and third deciles and their ratios

for CPS and CPS Adjusted data for 1995, 1985, and 1975. Adjustment has a greater impact at

older than at younger ages because income sources such as interest and dividends (which have a

high rate of underreporting) constitute a greater proportion of total income of the elderly. For the

same reason, adjustment among the elderly makes more of a difference for the eighth than for the third decile. The most important finding, however, is that in 1995 income inequality at ages 65 and over is substantially less than at younger ages in both the unadjusted and adjusted measures. Indeed, in 1995 the greatest inequality among the elderly (at ages 65-74) was *less* than the least inequality among those under 65 (at ages 41-48).

The much greater income equality after age 65 is attributable to Social Security. If income from this source is subtracted from the mean income of the eighth and third deciles in 1995, the ratios for the remaining income soar to 6.31 (CPS) and 6.60 (CPS Adjusted) at ages 65-74, compared with 2.43 and 2.73 when all sources are included. At older ages the leveling effect of Social Security is even greater. For those 85+ in 1995, the eighth/third decile ratios after subtracting Social Security income are 11.70 (CPS) and 12.52 (CPS Adjusted), compared with 2.29 and 2.68 when income from all sources is considered (see Appendix Table A). These comparisons undoubtedly overstate the extent of inequality that would exist if, in fact, there were no Social Security program. Current work and savings patterns and living arrangements are influenced by the existence of Social Security; in its absence, these patterns would change. The levels of inequality now observed for individuals in their 50s and early 60s probably offer a better indication of income inequality after age 65 in a world without Social Security.

Relative inequality by age changed markedly during the period from 1975 to 1995, as can be seen in Figures 1 and 2 for CPS and CPS Adjusted data, respectively. Inequality has risen appreciably at every age below 65 but has not risen for the elderly, and at some ages has actually fallen. Similar analyses that adjust for family size by using the ratio of family income to the poverty cut-off for each family yield the same conclusion.

Effects of Medicare on Inequality

Not only is income more equally distributed after 65 than before that age, but the

Medicare program makes an additional large contribution to equality in economic well-being

among the elderly. Medicare serves as a health insurance policy given to every American 65 and

over. Its value each year is approximately equal to the average reimbursement per beneficiary,

which amounted to $4,114 in 1995 (Table 1). Because average reimbursement is predictably

related to age, the value of the policy in 1995 could also be viewed as ranging from $3,097 for

beneficiaries ages 65 to 74 to $6,781 for those ages 85 and older (Table 2). Beneficiaries do pay

directly for a small portion of Part B of the policy, but this is a minor offset to the value of the

Medicare policy and is outweighed by the additional sales and administrative costs the elderly

would have to bear if they bought a comparable policy in the private market.

If a cash transfer equal to the cost of Medicare were made to the elderly, no doubt some

might choose to buy more of other goods and services instead of health insurance. Nevertheless,

for the elderly as a whole, the value of the existing compulsory system may be equal to or greater

than its cost. If those who did buy the insurance were above-average consumers of health care,

the premium would not cover expenses, and the market would tend to break down. Also, some

who did not buy might be relying on a socially provided "safety net" if they needed a great deal of

care, thus further jeopardizing the availability of insurance for all.

When the value of Medicare is added to money income, the effect is to appreciably reduce

inequality in the economic well-being of seniors. The magnitude of this effect is shown in Table 9.

It is particularly large for those 85+, reflecting the greater value of Medicare relative to money

income for older persons. The egalitarian thrust of Medicare reimbursements is modified slightly

by the fact that average lifetime reimbursements per beneficiary tend to be larger for beneficiaries who live in higher-income areas, as identified by zip codes (McClellan and Skinner 1997).

The government also subsidizes health insurance for Americans under age 65, primarily through the tax treatment of employer contributions to premiums, but the thrust of this subsidy is much less egalitarian than that of Medicare. Many low-income workers do not benefit at all because they are not covered by private insurance. Also, workers with higher earnings tend to have more insurance than those with lower earnings. Moreover, the cash value of the tax subsidy depends on the tax bracket of the recipient—the higher the bracket, the greater the subsidy. Finally, the average value of the subsidy is small relative to the money income of persons under 65. For these reasons, the addition of the health insurance subsidy to money income for persons under 65 has a much smaller effect on economic inequality than Medicare does for persons 65 and over.

Possible Changes

The prospect of the elderly's health care consuming one-tenth of the GDP is likely to arouse considerable concern among policy makers, the public, and the elderly themselves. This is a larger share of GDP than most nations currently spend, or are planning to spend, on health care for citizens of all ages. Also, in some of these countries the elderly comprise a larger percentage of the population than the 16.5 percent projected by the Census Bureau for the U.S. in 2020.

Although 10 percent of GDP is an enormous amount, there is no physical law or economic principle that says a nation cannot devote that amount of resources to health care for the elderly, if it chooses. No one questions the amount spent by the elderly on video tapes or computers, for example, because they are spending their own money. Similarly, if the elderly were paying for

their own health care, either out of current income or with funds that they had put aside for this purpose before age 65, the public policy picture would be entirely different. Presently, however, almost two-thirds of the funds must be raised by taxes, taxes that are borne primarily by men and women under age 65. Such a large tax burden poses problems for the economy as a whole, and could also contribute to intergenerational tension and hostility. Moreover, if the government's share of the elderly's health care bill remains the same (or decreases), the huge absolute rise in private expenditures will leave the elderly with ever decreasing ability to purchase other goods and services.

What economic changes could alter these results? The answers lie in three directions: a) a decrease in the rate of growth of age-specific health care expenditures,   b) an increase in the amount of paid work by persons 65 and older, and/or   c) an increase in the savings rate of persons under age 65.

Age-specific expenditures

The increase in health care expenditures for persons 65 and over is *not* primarily a demographic phenomenon (Table 3). There has been and will continue to be some growth in the number of elderly, but more than two-thirds of expenditure growth has come from an increase in age-specific expenditures. Why did older persons use so much more health care in 1995 than in 1975 or 1985? Certainly not because they were sicker in 1995. On the contrary, most experts believe that the elderly are healthier now than at any previous time. The most objective evidence of this comes from mortality rates. Age-specific mortality of the elderly was appreciably higher in 1975 than in 1995—and most people are sick before they die.[9]

There is substantial consensus among health care experts that the driving force behind increasing health expenditures is new technology—new methods of diagnosis, new drugs, new surgical procedures, and the like. In a survey of 50 leading health economists in 1995, more than four out of five agreed with the statement, "The primary reason for the increase in the health sector's share of GDP over the past 30 years is technological change in medicine" (Fuchs 1996).

Can the pace of technological change in medicine be slowed? Public policy can affect the development and diffusion of new medical technologies in three ways. First, the government has a huge effect on the demand for medical care through Medicare, Medicaid, and other public programs. What the government pays for, and how much it pays, has a strong direct influence on the adoption of new technologies by providers of health care, and an indirect influence on the amount and direction of private research and development. Second, the government heavily subsidizes the training of specialists and subspecialists, who then become important agents in the process of technology development and diffusion. Finally, the government influences technology through direct subsidization of medical research. In my judgment this is probably the least important influence, as evidenced by the lower levels of technology utilization in Canada and Western Europe compared with the United States. The results of U.S. government-subsidized research are known in all these countries, but the lower percentage of physicians who are specialists, and the limitations in government funding of health care facilities and programs, result in less use of expensive technology, and in a lower rate of health care spending.

The example of other countries shows that public policy can slow the pace of technological change and diffusion. But does the U.S. want to do that? Technological innovations have contributed to longer and especially better quality of life for many older

Americans. Some current research suggests that new medical technology has been cost-effective—its benefits exceed its costs. Some technological innovations lower the cost of treating a patient with a particular disease. It is a grave mistake, however, to think that lowering the cost per unit will lead to lower overall expenditures. The experience in medical care to date (and in many other industries such as personal computers) is that total expenditures increase even as cost per unit goes down. If the growth of medical expenditures continues, however, who will pay for the increase? What new sources of funds could become available to help the elderly finance medical care and also maintain their access to other goods and services?

More work and more saving

One possibility is greater participation in paid work by older men and women. As seen in Table 4, employment after age 65 was about the same in 1995 as in 1975 despite substantial improvement in the health of the elderly and longer life expectancy.[10] According to one authority on retirement, better health has not prevented a long-term trend toward early retirement (Costa 1998, p. 195). Another recent study, however, states that this trend ended abruptly in 1985 (Quinn et al. forthcoming). Table 4 does show a small increase in years of work expected at age 65 between 1985 and 1995. If more paid work by older Americans were desired, policy analysts would need to focus on the unusually high implicit marginal tax rates that face many older men and women if they work, and employment laws that often make it more costly for employers to hire older workers.

Because their own employment income accounts for a relatively small part of the total income of the elderly (10 percent in 1995), there would have to be a substantial increase in labor force participation to make a significant impact on the ability of the elderly to pay for more

medical care and maintain access to other goods and services. Another possibility is for those who will reach 65 in 2020 or beyond to begin now to substantially increase their rate of saving. Income from savings (interest, dividends, and pensions) is more than four times as important as employment as a source of income after age 65. Thus, a substantial increase in this source would have a major effect on the financial condition of the elderly.

One probable side effect of an increase in the relative importance of income from employment and savings would be somewhat more income inequality among the elderly. The more voluntary the additional savings and the more individual discretion over the way the savings are invested, the greater will be the increase in inequality. But voluntary or compulsory, individually controlled or not, the clearest implication of the projections for 2020 is the potential need for additional savings.

This was the advice given by Robert Frost in 1936 in a poem entitled, "Provide, Provide," a portion of which follows:

> Die early and avoid the fate.
> Or, if predestined to die late,
> Make up your mind to die in state.
>
> No memory of having starred
> Atones for later disregard
> Or keeps the end from being hard.
>
> Better to go down dignified
> With boughten friendship at your side
> Than none at all. Provide, provide!
>
> (Ellman and O'Clair 1988)

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ENDNOTES

1. My wife tells participants in her pre-retirement workshops that it is often painful to go from "Who's Who" to "Who's he?"

2. E.g., loss of strength, dexterity, stamina, sensory perceptions, cognitive functions.

3. All summary measures of income were obtained from individual records, appropriately weighted to take account of over-sampling in the CPS. The data were extracted using CPS Utilities (1997).

4. All dollar figures in this paper are in 1995 dollars, using the GDP implicit price deflator as the source of adjustment.

5. If underreporting by source of income is different for the elderly than for the population as a whole, these adjustments may be too large or too small. Also, there is no certainty that the independent estimates are correct. Therefore, both CPS and CPS Adjusted are shown throughout the paper.

6. Interactions among these terms were minuscule.

7. These are nominal yields that reflect the impact of inflation on interest rates.

8. Richard Disney (1996) states, "The income distribution of the elderly (65+) is more unequal than that of those under 65" (p. 11). The author relies on Michael Hurd's review article (1990) which summarizes the results of earlier studies based on data for 1967, 1979, and 1984.

9. Paradoxically, good health can often lead to greater health care utilization by the elderly. Those in good health may be deemed better candidates for expensive surgical procedures that would be regarded as medically inappropriate for persons of similar age who are in poor health.

10. At any given point in time, persons in poorer health tend to retire earlier (Dwyer and Mitchell 1998).

TABLE 1. CONSUMPTION OF HEALTH CARE AND INCOME AVAILABLE FOR OTHER GOODS AND SERVICES, AMERICANS AGES 65 AND OVER

	1975	1985	1995		2020	2020
Population[a]						
Millions	22.7	28.5	33.5		53.2	53.2
As percent of total population	10.5	11.9	12.8		16.5	16.5
Medicare[b]						
Per person (dollars)	1,473	2,713	4,114		14,309[c]	11,107[d]
Total (billions)	33	77	138		762	591
As percent of GDP	0.8	1.3	1.9		5.24	4.51
Total personal health care[e]	2.37	2.24	2.24		2.06	2.20
Per person (dollars)	3,485	6,088	9,231		29,445[c]	24,391[d]
Total (billions)	79	174	310		1,567	1,298
As percent of GDP	1.9	3.0	4.3		10.8	9.9
Income available for other goods and services[f]						
CPS						
Per person (dollars)	9,241	10,492	11,203		9,803[g]	9,059[h]
Total (billions)	210	299	376		522	482
As percent of GDP	5.0	5.2	5.2		3.6	3.7
CPS Adjusted						
Per person (dollars)	13,054	16,188	15,367		14,233[g]	9,162[h]
Total (billions)	296	462	515		758	488
As percent of GDP	7.1	8.1	7.1		5.2	3.7

TABLE 1 NOTES

NOTE: All dollar amounts in 1995 dollars adjusted by the GDP implicit deflator.

a. Population data and projections for 2020 from the U.S. Census Bureau, middle series.

b. Health Care Financing Review Statistical Supplement 1997.

c. Estimated from extrapolation of trend in age-specific rate of expenditures 1975-95 and Census Bureau population projections.

d. Estimated from extrapolation of trend in age-specific rate of expenditures 1985-95 and Census Bureau population projections.

e. Estimated from relationship between total personal health care and Medicare in 1977 (for 1975) and 1987 (for 1985, 1995, and 2020) (Waldo et al 1989).

f. Estimated from personal income (Current Population Survey, March 1976, 1986, 1996) less taxes (Feenberg 1998 personal communication) less private health care expenditures (ratios of private to total personal health care from Waldo et al 1989).

g. Estimated from extrapolations of 1975-95 trends in personal income and private health care expenditures.

h. Estimated from extrapolations of 1985-95 trends in personal income and private health care expenditures.

TABLE 2. CONSUMPTION OF HEALTH CARE AND INCOME AVAILABLE FOR OTHER GOODS AND SERVICES IN 1995, BY AGE

	65-74	75-84	85+
Population (millions)	18.8	11.1	3.6
Medicare			
Per person (dollars)	3,097	4,958	6,781
Total (billions)	58	55	25
Total personal health care			
Per person (dollars)	6,183	10,572	19,358
Total (billions)	116	118	70
Income available for other goods and services			
CPS			
Per person (dollars)	13,392	9,544	5,202
Total (billions)	251	106	19
CPS Adjusted			
Per person (dollars)	17,726	13,417	9,254
Total (billions)	333	150	34
Sources and notes, see Table 1.			

TABLE 3. DECOMPOSITION OF CONSTANT DOLLAR RATE OF CHANGE OF TOTAL PERSONAL HEALTH CARE CONSUMPTION OF OLDER AMERICANS (PERCENT PER ANNUM)

	1975-95	1985-95	1995-2020	1995-2020
Age-specific consumption per older person	4.65	3.89	4.65[a]	3.89[b]
Number of elderly	1.95	1.61	1.85[c]	1.85[c]
Age distribution of elderly	0.22	0.27	-0.01[d]	-0.01[d]
TOTAL CHANGE	6.82	5.77	6.49	5.73
a. The 1975-95 trend.				
b. The 1985-95 trend.				
c. Based on U.S. Census Bureau projections.				
d. Estimated from U.S. Census Bureau age-specific projections and age-specific expenditures in 1995.				

TABLE 4. EXPECTED AT AGE 65[a]

EXPECTED	MEN			WOMEN		
	1975	1985	1995	1975	1985	1995
Years of life	13.7	14.6	15.6	18.0	18.6	18.9
Years of work (f-t-e)[b]	2.0	1.7	1.9	0.7	0.7	1.1
Years not at work	11.7	12.9	13.7	17.3	17.9	17.8

a. Based on age-specific rates and survival rates in the year indicated.

b. Assuming a fulltime work year of 2000 hours.

TABLE 5. SOURCES OF INCOME OF THE ELDERLY (AGES 65+) IN 1975, 1985, 1995

	PART A			PART B		
	FAMILIES WITH ANY ELDERLY			FAMILIES WITH ONLY ELDERLY		
	1975	1985	1995	1975	1985	1995
CPS						
Mean income[a]	11,818	15,004	16,587	11,475	15,011	16,486
Percent from:						
Employment[b]	26	19	21	13	9	11
Interest and dividends[c]	18	26	17	22	30	20
Pensions[d]	12	14	16	14	15	18
Social security[e]	40	39	40	48	45	46
Other[f]	3	2	5	3	1	5
CPS ADJUSTED						
Mean income[a]	15,630	20,700	20,751	15,743	21,369	21,008
Percent from:						
Employment[b]	21	14	19	11	6	10
Interest and dividends[c]	30	38	29	35	42	32
Pensions[d]	12	15	14	13	16	15
Social security[e]	34	31	33	39	34	37
Other[f]	3	2	5	3	1	5

NOTE: All dollar amounts in thousands of 1995 dollars adjusted by the GDP implicit deflator.

a. Family income (from all sources) divided equally among all family members.

b. Includes wages and salaries and nonfarm and farm self-employment income.

c. Includes rental income.

d. Private and public employee pensions and annuities.

e. Social Security retirement, supplementary security, and railroad retirement.

f. Consists primarily of various social insurance and public assistance payments.

TABLE 6. MEAN INCOME* OF 8TH AND 3RD DECILES, BY AGE
1995

AGE	CPS			CPS ADJUSTED		
	8th decile	3rd decile	8th/3rd ratio	8th decile	3rd decile	8th/3rd ratio
0 to 8	13,286	3,527	3.77	14,260	3,754	3.80
9 to 16	15,126	4,674	3.24	16,375	5,062	3.23
17 to 24	18,890	5,638	3.35	20,058	5,986	3.35
25 to 32	22,876	6,815	3.36	24,374	7,277	3.35
33 to 40	22,213	7,586	2.93	23,902	8,118	2.94
41 to 48	27,030	9,909	2.73	29,665	10,686	2.78
49 to 56	31,355	10,710	2.93	34,607	11,769	2.94
57 to 64	28,108	9,285	3.03	32,396	10,428	3.11
65 to 74	20,068	8,264	2.43	24,610	9,005	2.73
75 to 84	16,988	7,697	2.21	20,442	8,427	2.43
85+	16,191	7,081	2.29	20,315	7,575	2.68
median <65			3.13			3.17
median>=65			2.29			2.68
* Family income divided equally among all family members.						

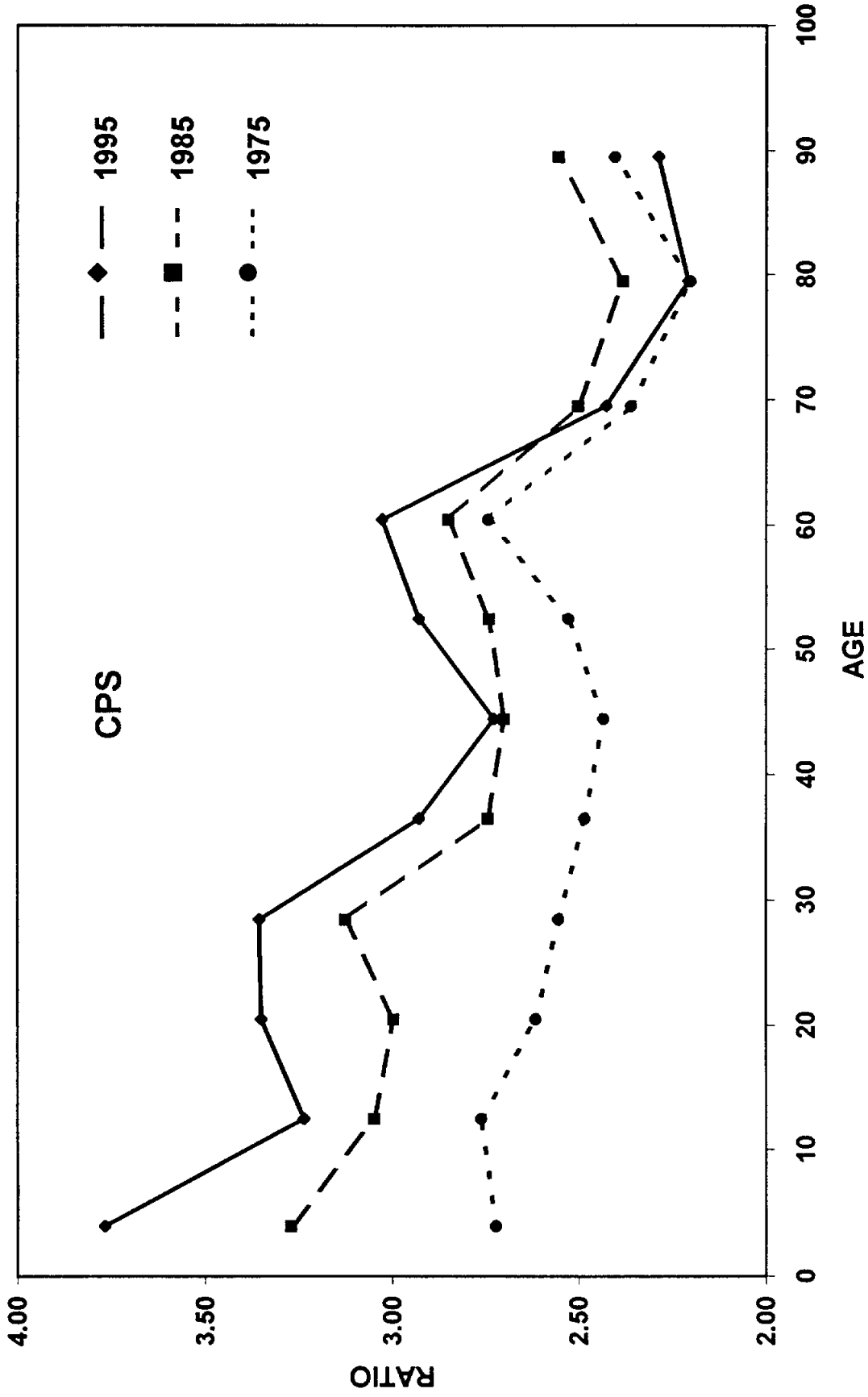## TABLE 7. 1985 MEAN INCOME* OF 8TH AND 3RD DECILES, BY AGE

AGE	CPS			CPS ADJUSTED		
	8th decile	3rd decile	8th/3rd ratio	8th decile	3rd decile	8th/3rd ratio
0 to 8	12,195	3,730	3.27	12,630	3,942	3.20
9 to 16	14,028	4,602	3.05	14,672	4,991	2.94
17 to 24	18,411	6,143	3.00	19,358	6,481	2.99
25 to 32	21,696	6,942	3.13	22,692	7,234	3.14
33 to 40	20,705	7,550	2.74	21,778	7,968	2.73
41 to 48	23,594	8,740	2.70	25,054	9,306	2.69
49 to 56	26,603	9,708	2.74	29,357	10,930	2.69
57 to 64	24,575	8,626	2.85	30,087	10,379	2.90
65 to 74	19,059	7,617	2.50	25,885	8,937	2.90
75 to 84	16,644	6,986	2.38	23,374	8,078	2.89
85+	16,789	6,570	2.56	23,392	7,771	3.01
median <65			2.92			2.92
median>=65			2.50			2.90
NOTE: All dollar amounts in thousands of 1995 dollars adjusted by the GDP implicit deflator.						
* Family income divided equally among all family members.						

TABLE 8. 1975 MEAN INCOME* OF 8TH AND 3RD DECILES, BY AGE

AGE	CPS			CPS ADJUSTED		
	8th decile	3rd decile	8th/3rd ratio	8th decile	3rd decile	8th/3rd ratio
0 to 8	10,525	3,866	2.72	11,093	4,219	2.63
9 to 16	11,495	4,163	2.76	12,322	4,547	2.71
17 to 24	16,227	6,203	2.62	17,369	6,731	2.58
25 to 32	17,225	6,741	2.56	18,503	7,233	2.56
33 to 40	15,036	6,050	2.49	16,035	6,511	2.46
41 to 48	18,375	7,548	2.43	19,896	8,221	2.42
49 to 56	22,172	8,771	2.53	24,302	9,893	2.46
57 to 64	20,679	7,537	2.74	24,225	9,063	2.67
65 to 74	14,811	6,273	2.36	19,540	7,522	2.60
75 to 84	12,965	5,886	2.20	17,335	7,066	2.45
85+	12,763	5,310	2.40	16,478	6,577	2.51
median <65			2.59			2.57
median>=65			2.36			2.51
NOTE: All dollar amounts in thousands of 1995 dollars adjusted by the GDP implicit deflator.						
* Family income divided equally among all family members.						

TABLE 9. INEQUALITY AMONG THE ELDERLY IN 1995, WITH AND WITHOUT THE VALUE OF MEDICARE

	65 to 74	75 to 84	85+
CPS			
Mean income plus Medicare*			
Eighth decile	23,165	21,946	22,972
Third decile	11,361	12,655	13,862
Ratio of 8th to 3rd decile	2.04	1.73	1.66
Ratio without Medicare	2.43	2.21	2.29
CPS ADJUSTED			
Mean income plus Medicare*			
Eighth decile	27,707	25,400	27,096
Third decile	12,102	13,385	14,356
Ratio of 8th to 3rd decile	2.29	1.90	1.89
Ratio without Medicare	2.73	2.43	2.68
* Mean income from Table 6; Medicare expenditures from Table 2.			

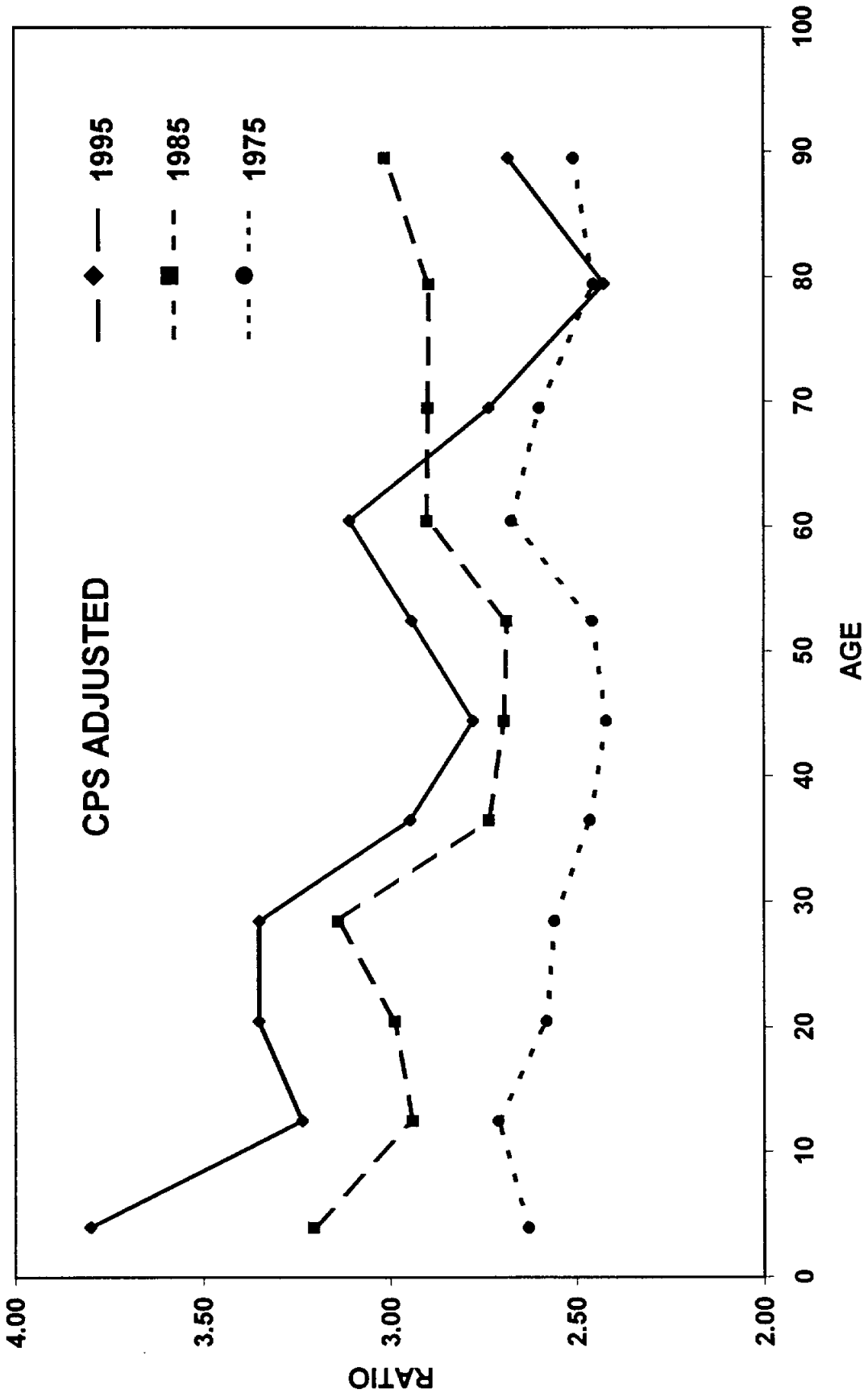FIGURE 1. RATIO OF MEAN INCOME* OF 8TH TO 3RD DECILES, BY AGE

* Family income divided equally among all family members.

FIGURE 2. RATIO OF MEAN INCOME* OF 8TH TO 3RD DECILES, BY AGE

CPS ADJUSTED

1995
1985
1975

RATIO

AGE

* Family income divided equally among all family members.

APPENDIX TABLE A. SOURCES OF INCOME OF THE ELDERLY BY AGE IN 1995 EIGHTH AND THIRD DECILES

	65-74		75-84		85+	
CPS	**8th**	**3rd**	**8th**	**3rd**	**8th**	**3rd**
Mean income[a]	20,068	8,264	16,988	7,697	16,191	7,081
Percent from:						
Employment[b]	23	11	14	5	12	4
Interest and dividends[c]	15	5	15	5	18	3
Pensions[d]	22	5	19	4	12	1
Social security[e]	35	76	46	85	51	91
Other[f]	5	4	6	2	8	2
CPS ADJUSTED						
Mean income[a]	24,610	9,005	20,442	8,427	20,315	7,575
Percent from:						
Employment[b]	20	11	13	6	10	4
Interest and dividends[c]	26	8	25	9	30	6
Pensions[d]	20	5	17	4	10	1
Social security[e]	30	72	40	80	42	88
Other[f]	5	4	6	2	8	2

NOTE: All dollar amounts in thousands of 1995 dollars adjusted by the GDP implicit deflator.

a. Family income (from all sources) divided equally among all family members.
b. Includes wages and salaries and nonfarm and farm self-employment income.
c. Includes rental income.
d. Private and public employee pensions and annuities.
e. Social Security retirement, supplementary security, and railroad retirement.
f. Consists primarily of various social insurance and public assistance payments.