# Taxing the Savings of Elderly Americans

by

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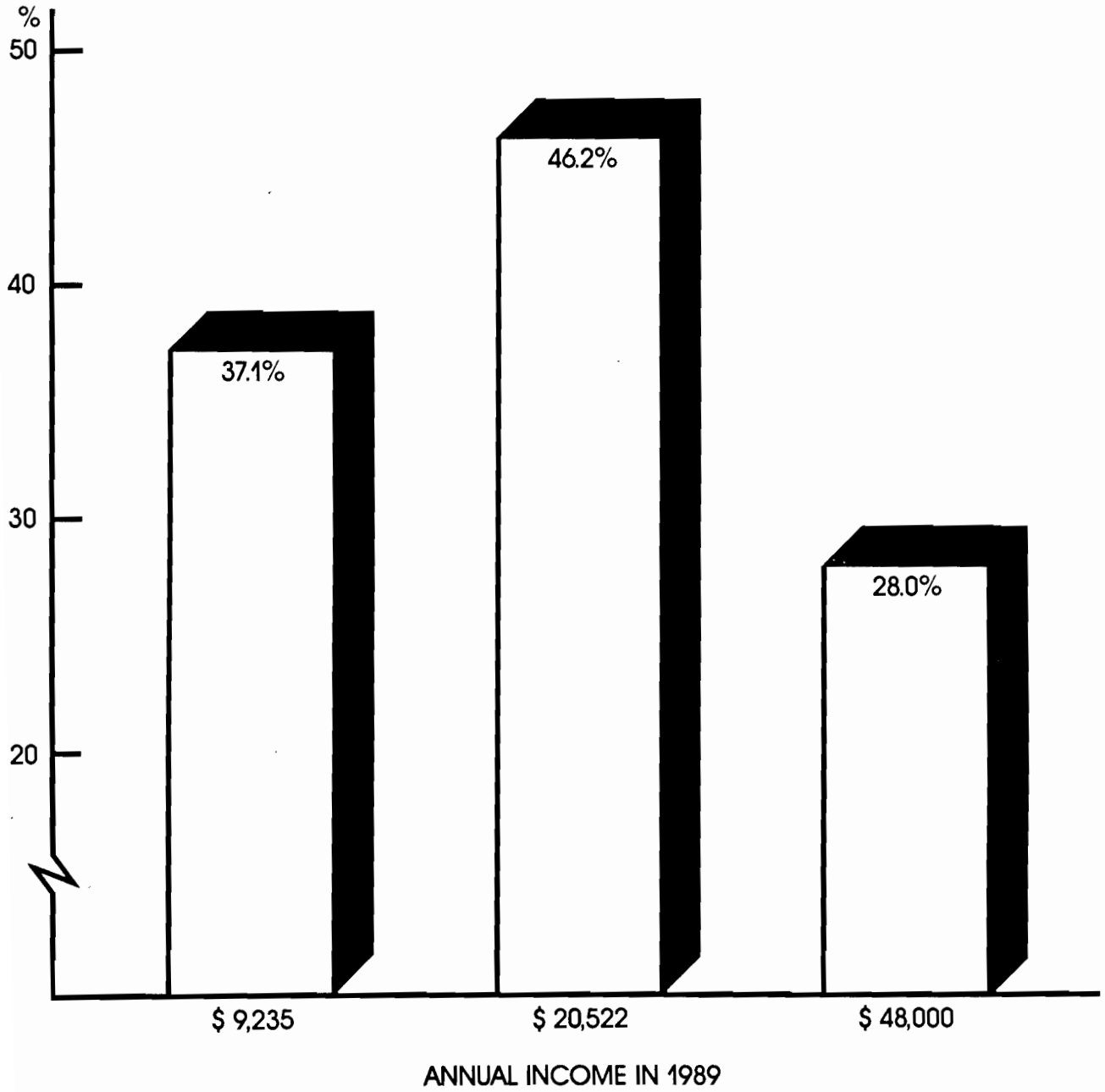
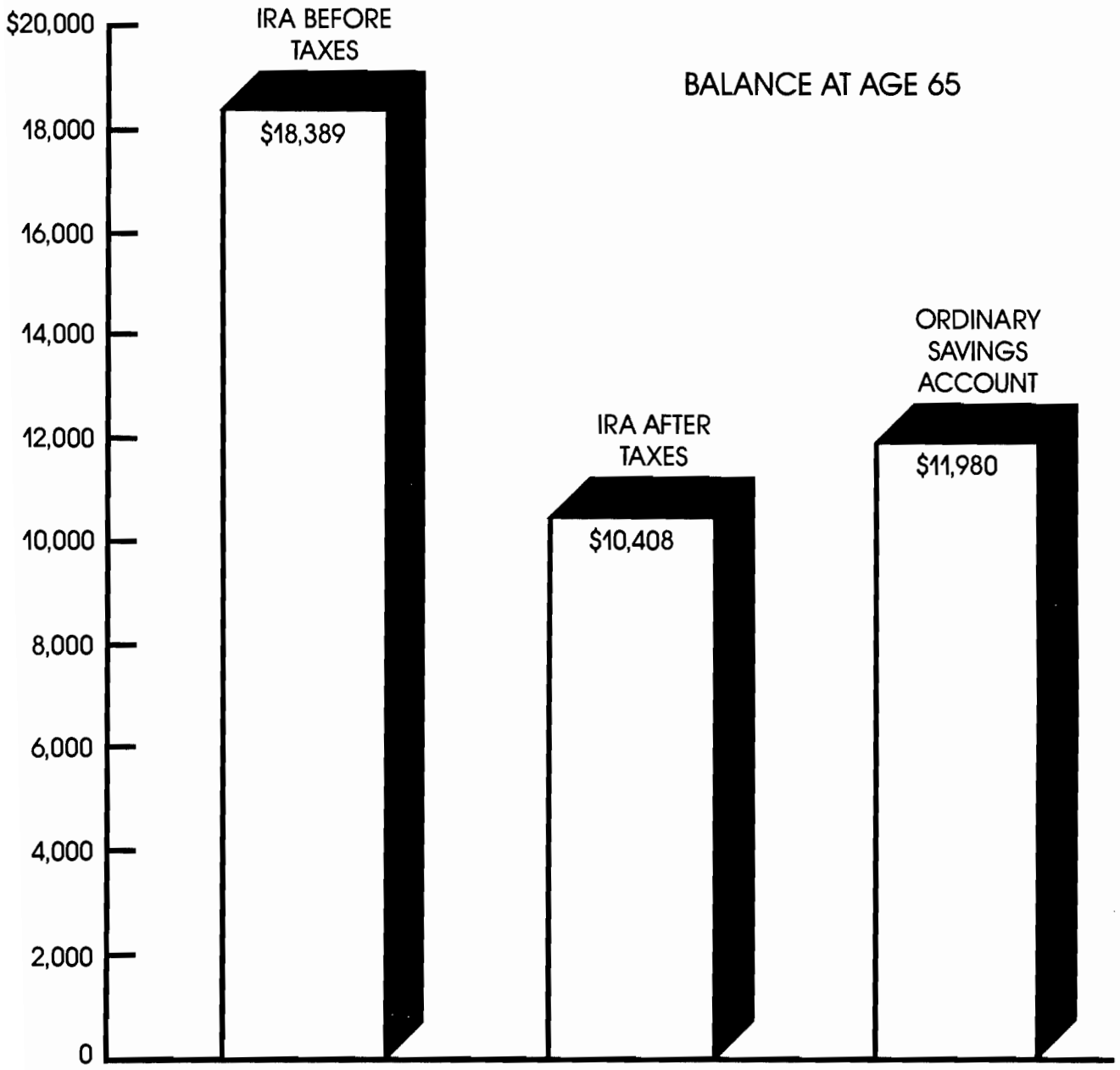
# MARGINAL TAX RATE ON INCOME FROM SAVINGS AT AGE 65 FOR TODAY'S 24-YEAR-OLDS



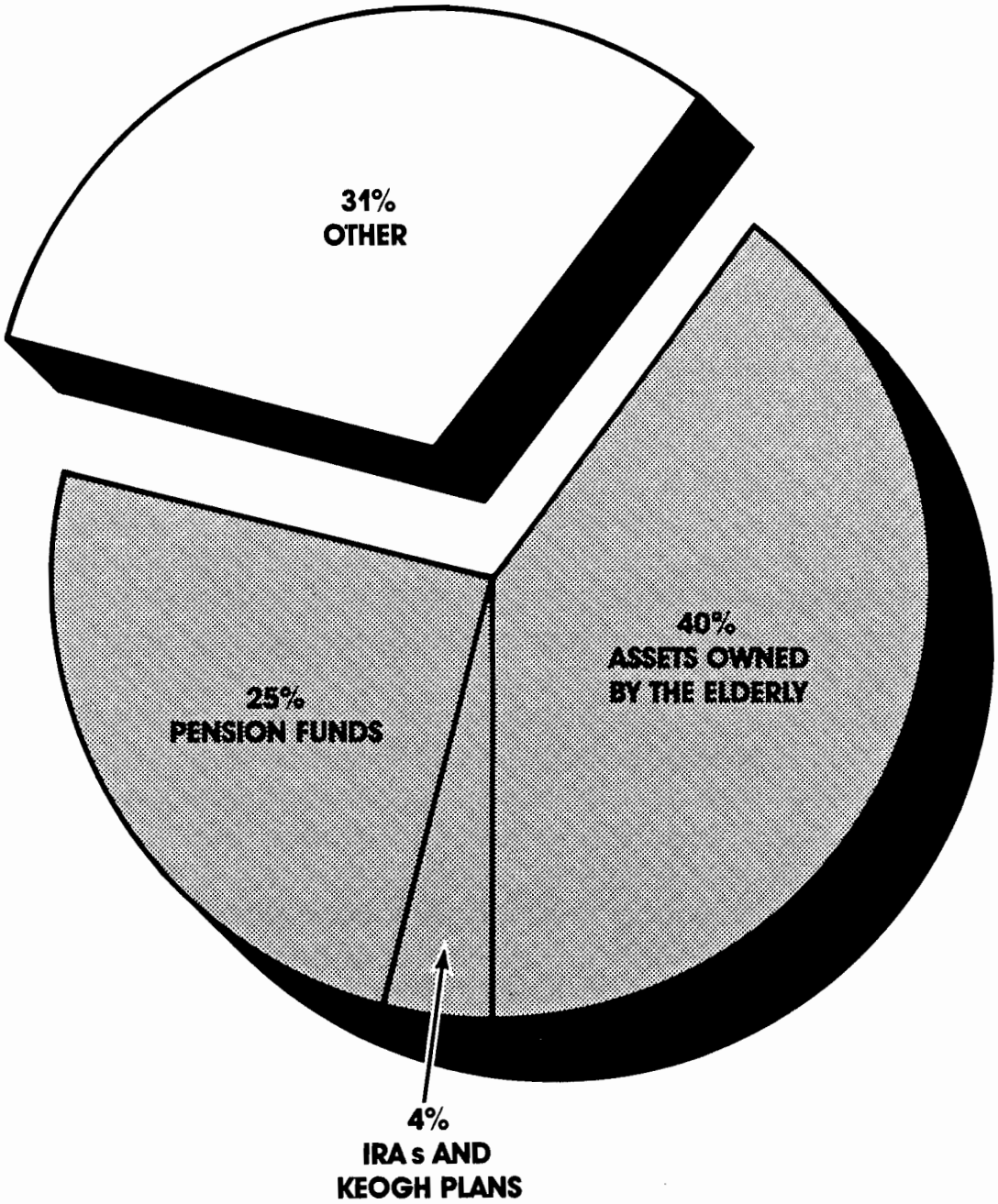
# SAVINGS CHOICES FOR 34-YEAR-OLDS*

**($100 ANNUAL DEPOSIT)**

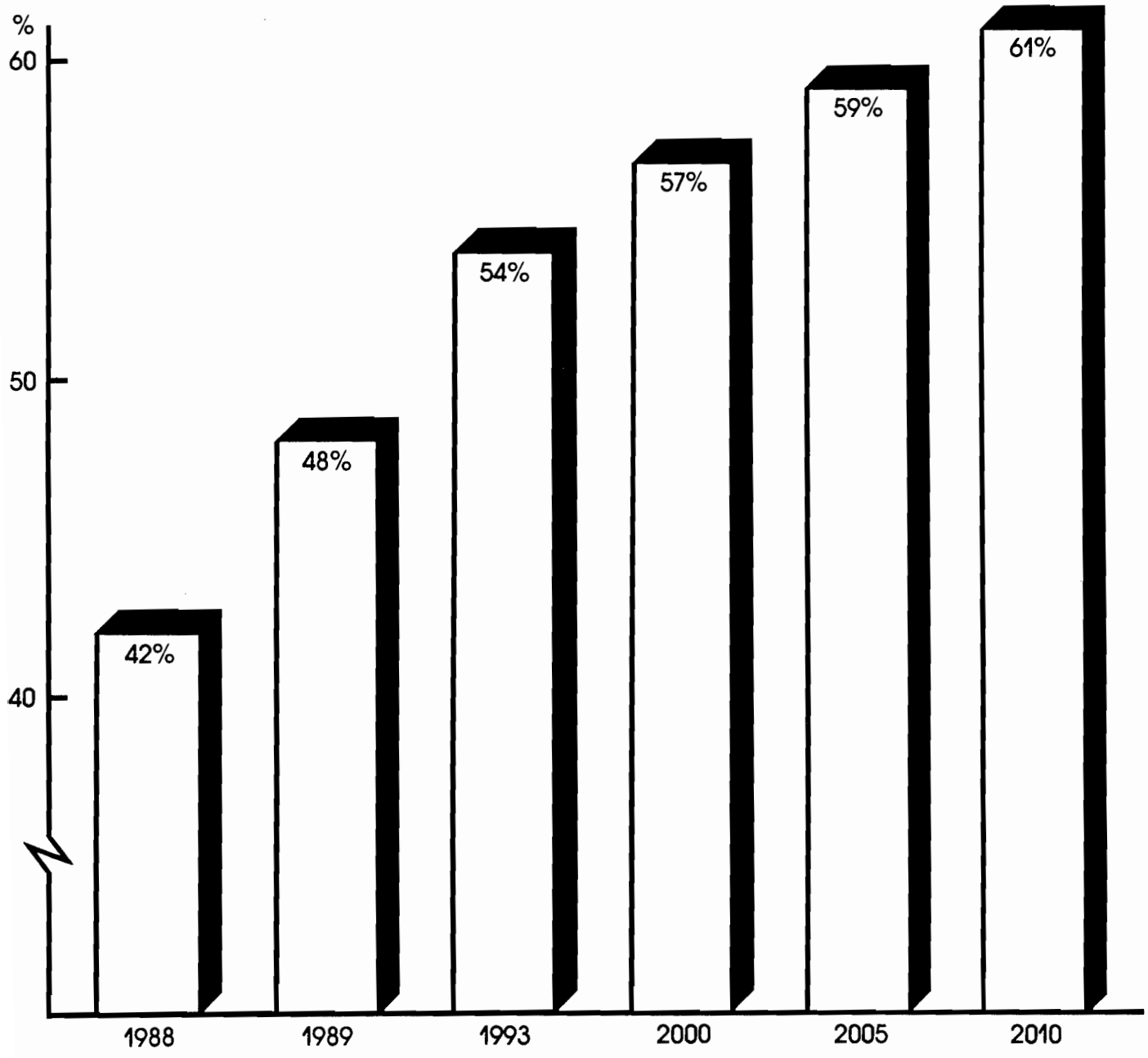



*EARNING THE AVERAGE WAGE.

# OWNERSHIP OF U.S. CAPITAL ASSETS

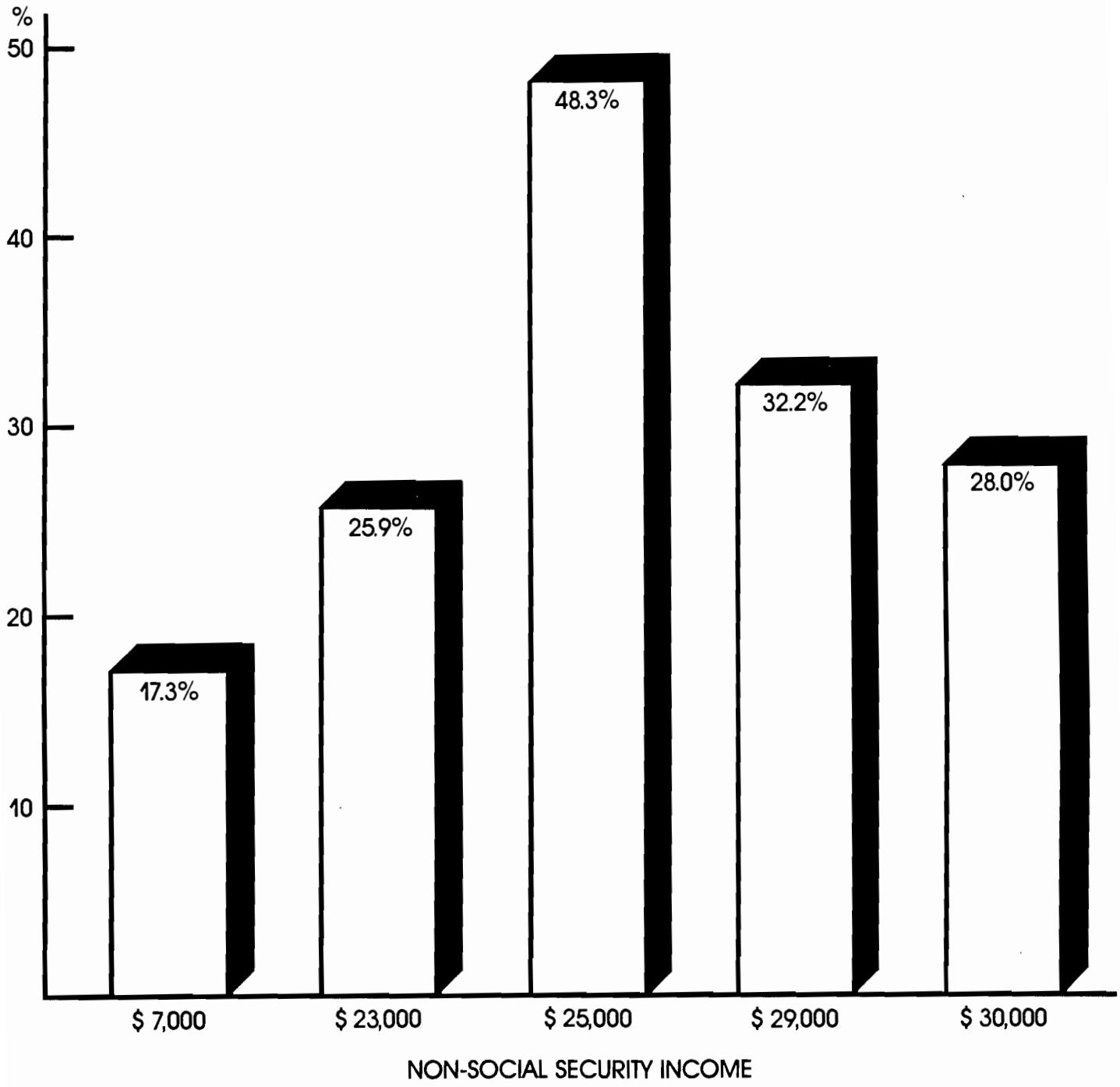


# HIGHEST MARGINAL TAX RATE ON INCOME FROM SAVINGS FOR MIDDLE-INCOME ELDERLY FAMILIES*




*FAMILIES WOULD OTHERWISE BE IN THE 15 PERCENT FEDERAL INCOME TAX BRACKET.

# MARGINAL TAX RATE ON INCOME FROM SAVINGS FOR ELDERLY INDIVIDUALS 1989



## EXECUTIVE SUMMARY

An elderly widow living on a small Social Security benefit and $24,000 of income from interest, dividends, and a pension annuity faces a 1989 marginal tax rate of 48.3 percent. This extraordinarily high rate is the result of two special taxes levied against the elderly -- the Social Security benefit tax and the Medicare surtax. Without them the widow would be in the 15 percent federal income tax bracket. Because of them, her tax rate is more than three times that of younger people with similar incomes. In the future, things will get worse.

- By 1993, the marginal tax rate on income from savings for moderate-income retirees will reach 54 percent.

- By 2010, the government will take as much as 61 cents out of each additional dollar of income from the savings of elderly retirees.

These high marginal tax rates do not apply to wealthy retirees, who are taxed at a rate of 28 percent. Moreover, although these taxes are paid only by the elderly, they have devastating implications for the retirement plans of the young.

- A 24-year-old earning only $9,235 today will face a retirement-age tax rate of 37 percent on income from savings.

- A 24-year-old earning the average wage of $20,522 and currently in the 15 percent income tax bracket, will pay a retirement-age tax rate of 46 percent on income from savings.

To encourage retirement saving, Congress has permitted a number of tax-deferred savings vehicles including employer-provided pensions, IRAs, 401(k) plans, Keogh plans, tax-deferred annuities, and whole life insurance. These plans assume that people will be in a higher tax bracket during their working years than during retirement. Yet for many people, the promise of tax-deferred savings is a cruel hoax.

- Many of today's retirees are worse off because they invested in IRAs rather than ordinary savings accounts.

- About 60 percent of today's young people will be better off if they avoid IRAs and other tax-deferred savings plans.

Because of the special taxes on the elderly, the aftertax return on savings for middle-income Americans (over their lifetimes) is lower today than at any time in U.S. history. Yet saving for retirement is critical to our nation's economic health. Currently, 40 percent of all U.S. capital assets is owned by the elderly and another 29 percent is held in pension funds and IRAs. Estimated conservatively,

- The special taxes on the elderly ultimately will lower the nation's capital stock by 9.4 percent.

- As a result, our GNP will be reduced by at least $187 billion per year.

The special taxes on the elderly currently increase federal revenue by about $10 billion. But because these taxes will lower the country's economic growth, in the long run they will reduce federal revenue and increase the federal deficit by about $22 billion per year.

# INTRODUCTION[1]

Special taxes on the elderly are a national disgrace -- one which threatens severe consequences for the American economy. An earlier NCPA study documented that because of these special taxes, the wage income of elderly workers is subject to marginal tax rates that in some cases exceed 100 percent.[2] This means that some elderly workers lose more than a dollar in taxes and Social Security benefits for each additional dollar they earn. Moreover, marginal tax rates of 80, 90, and 100 percent are imposed not on the elderly rich but on the elderly middle class.

In this study we report on a different aspect of special taxes on the elderly: extraordinarily high marginal tax rates on the income from savings of middle-income elderly families. In terms of potential damage to the economy, these taxes on savings are probably even more important than the draconian tax rates imposed on the wage income of elderly workers.

- Although the elderly constitute only 12 percent of the population, they hold about 40 percent of all capital assets in the United States.[3]

- About 25 percent of the nation's capital is held in the form of pension funds,[4] and another 4 percent in Individual Retirement Accounts (IRAs) and Keogh plans.[5]

- As a result, about 69 percent of our capital stock is either owned by the elderly or is being held for the specific benefit of future retirees.

Saving for retirement, and the resultant accumulation of capital, is important for two reasons. First, the driving force behind the American economy is its ability to combine labor with larger and larger amounts of capital. More capital per worker leads to more output per worker. These productivity gains result in higher wages and a higher standard of living for all Americans. Second, the willingness of Americans to save for retirement means that elderly retirees are much less dependent on the younger population than they otherwise would be. As Table I shows,

- About 58 percent of the elderly file income tax returns and only 17 percent of their reported income comes from Social Security benefits.

- Fully 65 percent of their reported income comes from savings.

The ability of the U.S. to stimulate personal saving, however, depends crucially on the ability of people to reap the rewards of saving during their retirement years. To the degree that government confiscates income from savings, the incentive to save is reduced for everyone -- old and young. Yet that is precisely what the new taxes on the elderly are doing.

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[1]The authors would like to thank John Goodman for considerable assistance in preparing this manuscript.

[2]John C. Goodman and A. James Meigs, "The Elderly: People the Supply-Side Revolution Forgot," NCPA Policy Report No. 135, February 1989.

[3]This estimate is derived in Appendix B.

[4]Employee Benefit Research Institute, *Employee Benefit Notes*, Vol. 10, No. 4, July 1989, p. 5.

[5]Employee Benefit Research Institute, *Employee Benefit Notes*, Vol. 10, No. 7, July 1989, p. 5.

## TABLE I

## AVERAGE INCOME OF ELDERLY TAXPAYERS[1]

| Sources of Income: | Amount | Percent |
|---|---|---|
| Social Security Benefits | $4,383 | 16.6% |
| Wages and Salaries | 4,728 | 17.9% |
| Income From Investments[2] | 11,680 | 44.1% |
| Other Income From Capital[3] | 5,665 | 21.4% |
| Total | $26,456 | 100.0% |

[1]Refers to the 58 percent of the elderly who file income tax returns.

[2]Interest, dividends, capital gains, and sale of property.

[3]Income from business, pensions and annuities, and rent income.

Source: Estimates based upon tax return data. See Internal Revenue Service, *Statistics of Income - - 1985, Individual Income Tax Returns*, Washington, DC, U.S. Government Printing Office, 1988, Table 2.5.

## SPECIAL TAXES ON THE ELDERLY

Government policy, particularly through our income tax structure acknowledges that saving for retirement is socially important. To encourage retirement saving, Congress has permitted tax-deferred vehicles including employer-provided pension plans, IRAs, Simplified Employee Pensions (SEPs), Keogh plans, 401(K) plans, tax-deferred annuities and whole life insurance. These plans assume that people will face higher tax rates during their retirement years. Thus, funds placed in a tax-deferred savings plan will be taxed at lower marginal rates when they are withdrawn.

For many Americans, this assumption is no longer true. Many retirees are discovering that their marginal tax rate is up to four times higher than the rate they paid while working. A dramatic increase in marginal tax rates on income from savings has resulted from the imposition of two special taxes: the Social Security benefit tax, part of the 1983 Social Security reform legislation, and the Medicare surtax, part of the Medicare Catastrophic Coverage Act of 1988.

**The Social Security Benefit Tax.** Under current law, one-half of Social Security benefits potentially are subject to federal income tax. The law applies only if one-half of Social Security income plus all non-Social Security income, including income from tax-exempt bonds, exceeds $25,000 for an individual or $32,000 for a couple. For taxpayers whose incomes exceed these thresholds, 50 cents of Social Security benefits is taxed for each dollar of additional income.

The Social Security benefit tax is, however, a tax on income rather than benefits. As Table II shows, the tax increases as income increases. As a result,[6]

- Taxpayers who receive an additional $1 of income pay taxes on $1.50.
- Taxpayers in the 15 percent income tax bracket automatically face an effective income tax rate of 22.5 percent.
- Taxpayers in the 28 percent income tax bracket automatically face an effective income tax rate of 42 percent.

In 1986, at least 20 percent of the elderly had to pay taxes on an average of $3,373 of Social Security benefits,[7] and the percentage paying the tax will rise continuously in future years because the income thresholds beyond which Social Security benefits are taxable are not indexed. As inflation increases the nominal income of future retirees, more of them will pay the tax. For example, the Social Security Administration estimates that the Social Security benefit of an *average-wage* worker and spouse retiring in 2010 will be on the order of $36,000.[8]

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[6]Applies to elderly families who exceed the $25,000 or $32,000 income limits but are not yet taxed on the maximum of one-half of Social Security benefits.

[7]See Aldona Robbins, *The ABCs of Social Security* (Washington, DC: Institute for Research on the Economics of Taxation, 1988), p. 16.

[8]Board of Trustees, Federal Old-Age and Survivors and Disability Insurance Trust Funds, *1989 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds,* April 1989, Washington, DC, Table F6. (Hereinafter referred to as the OASDI Report.)

## TABLE II

## CALCULATING THE SOCIAL SECURITY BENEFIT TAX FOR AN INDIVIDUAL

| | |
|---|---|
| **Combine:** | **WAGES** |
| | + |
| | **INVESTMENT INCOME** |
| | + |
| | **TAX EXEMPT INCOME** |
| | = |
| | **NON-SOCIAL SECURITY INCOME** |
| | + |
| **Add:**[1] | **1/2 SOCIAL SECURITY BENEFITS** |
| | - |
| **Subtract:** | **$25,000** |
| | ÷ |
| **Divide:** | 2 |
| **Taxable Benefits:**[2] | **TOTAL** |

[1]No tax is payable unless the total exceeds $25,000.

[2]Treated as taxable income subject to ordinary income tax rates. Maximum taxable benefits are equal to one-half of Social Security benefits.

**The Medicare Surtax**. As pointed out in a previous NCPA report, genuine catastrophic insurance for the elderly is rather inexpensive. If it does not include nursing home care, it could be provided for as little as $60 per year per Medicare beneficiary, or through small increases in the Medicare deductibles and copayments.[9] In the hands of politicians, however, catastrophic health insurance developed into a costly surprise package.[10] Because Congress needed additional tax revenue to fund this program, the elderly now pay a Medicare surtax equal to 15 percent of income tax. This surtax will increase in future years, reaching 28 percent of income tax in 1993. Beyond 1993, the surtax is indexed and can rise as much as one percentage point per year.

For taxpayers in the 15 percent income tax bracket, the surtax currently equals 2.25 percent (15% X 15%) of income. For taxpayers in the 28 percent income tax bracket, the surtax equals 4.20 percent (15% X 28%) of income. Remember, however, that taxpayers who are subject to the Social Security benefit tax already face income tax rates that are 50 percent higher than the rates faced by other taxpayers. As a result:

- This year, the Medicare surtax will take as much as 6.3 percent of each additional dollar of investment income.[11]

- In 1993, when the surtax reaches 28 percent of income taxes, middle-income elderly taxpayers will face a Medicare surtax as high as 11.76 percent of each additional dollar of income.[12]

When the Catastrophic Coverage Act was passed, few members of Congress were familiar with its details and fewer still wanted to vote against benefits for the elderly in an election year. The tax rates appeared modest, and a reassuring but false report by the Congressional Budget Office (CBO) predicted that the maximum Medicare tax ($800 per person) would be paid only by individuals earning at least $42,000 and couples earning at least $94,000.[13] Once elderly taxpayers had time to analyze the damage, they were justifiably outraged. Among their discoveries:

- In 1989, the Medicare surtax applies to the first $150 of taxable income, and the maximum tax ($800 per person) will be paid by individuals earning as little as $29,711 and couples earning $56,565.[14]

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[9]John C. Goodman and Gerald Musgrave, "Health Care for the Elderly: The Nightmare in our Future," NCPA Policy Report No.130, October 1987, pp. 29-30. See also Peter J. Ferrara and Edmund F. Haislmaier, "The Catastrophic Health Tax on America's Elderly," *Issue Bulletin*, No. 132, Heritage Foundation, July 21, 1987.

[10]For a critique of catastrophic health care legislation, see Aldona Robbins and Gary Robbins, "Facts About Catastrophic Coverage," *Economic Report*, No. 41, Institute for Research on the Economics of Taxation, May 23, 1988.

[11]Calculated as 15% x 42%.

[12]Calculated as 28% x 42%.

[13]These inaccurate numbers are still being widely reported by the national media.

[14]Assumes Social Security benefits equal to $7,600 -- the benefit paid to a male worker earning the male median wage and retiring in 1987. Assumes a couple receives an additional 50 percent dependent's benefit for a total benefit of $11,400. Income amounts shown refer to non-Social Security income.

- In 1993, the maximum tax ($1,050 per person) will be paid by individuals earning as little as $26,692 and couples earning $47,516.

- In 1989, one in twelve of the elderly will pay the maximum surtax; by 1993, one in five will pay the maximum.[15]

**The Effect of Bracket Shift.** Because of the Social Security benefit tax, some elderly taxpayers are pushed from the 15 percent tax bracket to the 28 percent tax bracket. Thus elderly workers who otherwise would pay 15 cents on an additional $1 of income must now pay 28 cents. Conceptually, and as a matter of tax law,[16] the resultant increase in taxes is fully attributable to the Social Security benefit tax. For those elderly who are pushed into the 28 percent tax bracket, the Social Security benefit tax increases their marginal tax rate by 27 percentage points.

**Effects on State and Local Income Taxes.** In many places, the Social Security benefit tax affects state and local income taxes in the same way it affects the federal income tax.[17] That is, the elderly who earn $1 of income pay state and local taxes on $1.50 because of the Social Security benefit tax. Under the conditions described above,

- Elderly taxpayers who face a state and local income tax rate of 4.0 percent must pay 6.0 percent.

- And elderly taxpayers who face a state and local income tax rate of 8.0 percent must pay an effective rate of 12 percent.

There is no relationship between Social Security benefits and the services provided by state and local governments. Yet because of the way federal tax law defines adjusted gross income, state and local governments tax Social Security benefits, Social Security cost-of-living adjustments (COLAs), and even tax-exempt income.

Although many state and local officials are unaware of it, their elderly taxpayers are now taxed at rates as much as 50 percent higher than those for younger taxpayers on ordinary income. Because tax-exempt income is included in calculating the Social Security benefit tax, state and local governments are currently taxing income from their own securities. For example, if the state and local income tax rate is 8.0 percent, tax-exempt income is subject to an effective state and local tax rate of 4.0 percent. The result is windfall revenue from elderly taxpayers.

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[15]See Aldona Robbins and Gary Robbins, "The Insurance Value of Medicare's Catastrophic Benefits," *IRET Economic Report*, No. 47, Washington, DC, February 24, 1989, Tables 6a and 6b.

[16]The allocation of the additional tax is important because proceeds from the Social Security benefit tax are deposited in the Social Security trust fund for accounting purposes.

[17]Currently, twelve states tax Social Security benefits. The states are Colorado, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Rhode Island, Vermont, West Virginia, and Wisconsin. See John R. Gist, "The Effects of State Income Tax Reform," American Association of Retired People (AARP), Public Policy Institute, Issue Paper No. 8801, April 1988.

## NEW MARGINAL TAX RATES ON INCOME FROM SAVINGS FOR THE ELDERLY

Ronald Reagan's most important economic legacy was the lowering of marginal tax rates on income. In 1980, taxpayers faced a marginal tax rate as high as 70 percent. Today non-elderly taxpayers face a top marginal tax rate of 33 percent -- a reduction of 37 percentage points. The picture is very different for elderly taxpayers, however.

**Reversing the Effects of Tax Reform.** As Table III shows, the gains from tax reform have been more than offset by special taxes for many elderly taxpayers. As a result of the Social Security benefit tax and the Medicare surtax,

- Some elderly taxpayers in 1989 face marginal tax rates on savings that are 33.3 percentage points higher than the rates faced by young people.

- By 1993, the marginal tax rate faced by some elderly taxpayers will be 38.76 percentage points higher.

Table IV shows the net result of these increases.

- In 1989, elderly individuals with only $24,000 and elderly couples with only $36,000 in non-Social Security income face a 48.3 percent marginal tax rate on income from savings.

- By 1993, these elderly taxpayers will face a marginal tax rate on savings as high as 53.8 percent -- with the government taking more than half of each additional dollar of income.

**Taxes on the Elderly Middle Class.** Table IV makes another important point. It's not the poor or the rich who pay these very high marginal tax rates. It is exclusively the middle-income elderly.

- Among single retirees, the highest marginal tax rate is imposed on individuals with $24,000 to $25,000 of non-Social Security income.

- Among retired couples, the highest marginal tax rate is imposed on those with an income of about $36,000.

Table V shows why. Elderly individuals with $30,000 or more in retirement income are paying the maximum Social Security benefit tax and the maximum Medicare surtax. Elderly couples pay the maximum for both taxes when their incomes exceed about $57,000. For these families, the special taxes on the elderly function as lump sum taxes, making the families who pay them worse off without reducing the return on an additional dollar of savings.

**Taxes in Future Years.** Because the Medicare surtax is indexed, and will almost certainly rise by one percentage point per year after 1993, the special taxes on the elderly will claim an increasing share of income from savings.[18] As Table VI shows,

- In 2010, when today's 44-year-olds retire, special taxes on the elderly will claim as much as 61 cents out of each additional dollar of income from the savings of those who would otherwise pay 15 percent federal income tax.
- These extraordinarily high tax rates will be faced by individuals with only $15,800 and couples with only $24,000 of retirement income.[19]

## TABLE III

## ADDITION TO MARGINAL TAX RATES DUE TO THE SOCIAL SECURITY BENEFIT TAX AND THE MEDICARE SURTAX

**(For Taxpayers Below the Maximum of These Taxes)**

| Initial Federal Income Tax Bracket | Increase in Effective Marginal Tax Rates: 1989 | 1993 |
|---|---|---|
| 15 Percent Bracket | +10.88% | +13.80% |
| 28 Percent Bracket | +20.30% | +25.76% |
| Bracket Shift: From 15 Percent to 28 Percent[1] | +33.30% | +38.76% |

[1]Assumed to be caused by the tax on Social Security benefits.

[18]The Catastrophic Coverage Act specifies that the surtax may rise by up to one percentage point per year after 1993 based upon the growth in program costs. The maximum tax will increase similarly. The simulations in Table VI assume that medical costs, and therefore the costs of catastrophic coverage, continue to increase at twice the rate of inflation.

[19]Expressed in 1989 values.

## TABLE IV

## MARGINAL TAX RATES ON INCOME FROM SAVINGS IN 1989

### SINGLE ELDERLY INDIVIDUAL[1]

| Non-Social Security Income | Federal Income Tax | + | Social Security Benefit Tax | + | Medicare Surtax |
|---|---|---|---|---|---|
| $7,000 | 15% | | 15% | | 17.3% |
| $23,000 | 15% | | 23% | | 25.9% |
| $24,000 | 15% | | 42% | | 48.3% |
| $25,000 | 28% | | 42% | | 48.3% |
| $29,000 | 28% | | 28% | | 32.2% |
| $30,000 | 28% | | 28% | | 28.0% |

### ELDERLY COUPLE[2]

| Non-Social Security Income | Federal Income Tax | + | Social Security Benefit Tax | + | Medicare Surtax |
|---|---|---|---|---|---|
| $11,000 | 15% | | 15% | | 17.3% |
| $30,000 | 15% | | 23% | | 25.9% |
| $36,000 | 15% | | 42% | | 48.3% |
| $40,000 | 15% | | 28% | | 32.2% |
| $45,000 | 28% | | 28% | | 32.2% |
| $57,000 | 28% | | 28% | | 28.0% |

[1]Social Security benefits equal $7,600.

[2]Social Security benefits equal $11,400.

## TABLE V

## TAX BURDENS FOR THE ELDERLY MIDDLE CLASS: INCOME RANGE FOR TAXES 1989

| | Taxpayer Starts Paying the Tax When Income Equals: | Taxpayers Pay No More Tax When Income Equals: |
|---|---|---|
| **Individuals** | | |
| Medicare Surtax; Non-Social Security Income Equals:[1] | $6,850 | $29,711 |
| Social Security Benefit Tax; Non-Social Security Income Equals:[1] | $21,200 | $28,801 |
| **Couples** | | |
| Medicare Surtax; Non-Social Security Income Equals:[2] | $10,800 | $56,565 |
| Social Security Benefit Tax; Non-Social Security Income Equals:[2] | $26,300 | $37,701 |

[1] Assumes the individual receives $7,600 in Social Security benefits.

[2] Assumes the couple receives $11,400 in Social Security benefits.

## TABLE VI

## MARGINAL TAX RATE
## ON INCOME FROM SAVINGS IN FUTURE YEARS[1]

| Single Elderly Individual | Federal Income Tax | + | Social Security Benefit Tax | + | Medicare Surtax |
|---|---|---|---|---|---|
| **1993** | | | | | |
| Social Security Benefits = $7,600 | | | | | |
| Other Income = $21,200 | 15% | | 42% | | 53.8% |
| **2000** | | | | | |
| Social Security Benefits = $7,600 | | | | | |
| Other Income = $18,500 | 15% | | 42% | | 56.7% |
| **2005** | | | | | |
| Social Security Benefits = $9,500 | | | | | |
| Other Income = $17,000 | 15% | | 42% | | 58.8% |
| **2010** | | | | | |
| Social Security Benefits = $11,500 | | | | | |
| Other Income = $15,800 | 15% | | 42% | | 60.9% |
| **Elderly Couple** | | | | | |
| **1993** | | | | | |
| Social Security Benefits = $15,200 | | | | | |
| Other Income = $34,200 | 15% | | 42% | | 53.8% |
| **2000** | | | | | |
| Social Security Benefits = $18,000 | | | | | |
| Other Income = $28,000 | 15% | | 42% | | 56.7% |
| **2005** | | | | | |
| Social Security Benefits = $20,500 | | | | | |
| Other Income = $25,900 | 15% | | 42% | | 58.8% |
| **2010** | | | | | |
| Social Security Benefits = $23,000 | | | | | |
| Other Income = $24,000 | 15% | | 42% | | 60.9% |

[1]Social Security benefits and other income are in 1989 dollars. For the 1993 example, the single and married individuals in 1989 were assumed to receive only cost-of-living adjustments. For the examples after 1993, however, Social Security benefits were increased based upon the growth in average retired worker benefits used in the 1989 Social Security Trustees' report. Other income was increased based upon the growth in per capita income. Because the Social Security beneficiary population turns over about every ten years, most people on the rolls in the year 2000 will be different from those in 1989. The adjustments to benefits and other income, however, allow for a reasonable comparison between the income distribution of 1989 and that of future years.

## CAN THE ELDERLY ESCAPE HIGH MARGINAL TAX RATES BY TURNING TO TAX-EXEMPT SECURITIES?

The answer is: only under special circumstances. Tax-exempt income is not really tax-exempt for the elderly. Table II shows that this income is included in the calculation of the Social Security benefit tax. As a result, the tax-exempt income of many elderly taxpayers is subject to both the Social Security benefit tax and the Medicare surtax.[20] Although the marginal tax rates are lower than the rates that apply to other income, they are still quite high. As Table VII shows,

- In 1989, the "tax-exempt" income of the elderly is being taxed at a marginal rate as high as 16.1 percent.
- By 2010, the marginal tax rate on tax-exempt income will be as high as 20.3 percent.

### TABLE VII

### MARGINAL TAX RATES ON THE TAX-EXEMPT INCOME OF THE ELDERLY[1]

| Initial Income Tax Bracket | 1989 | 1993 | 2000 | 2005 | 2010 |
|---|---|---|---|---|---|
| 15% Bracket | 8.6% | 9.6% | 10.1% | 10.5% | 10.9% |
| 28% Bracket | 16.1% | 17.9% | 18.9% | 19.6% | 20.3% |

[1]Indicates the highest marginal tax rates for each bracket.

During 1989, elderly taxpayers have rushed to invest in tax-exempt securities, primarily to avoid the Medicare surtax. Many of them are unaware that their tax-exempt income is not really tax-exempt and that tax-exempt securities pay a lower rate of return. For example, from 1980 through 1988, the return on high-yield, tax-exempt municipal bonds was 20 percent lower than the return on Moody's Corporate AAA bonds. This difference can eliminate the advantage of tax-exempt securities for many. Take an elderly retiree in the 15 percent income tax bracket. As Table VIII shows,

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[20]In general, for those including less than one-half of their Social Security benefits in Adjusted Gross Income, an extra dollar of tax-exempt income is taxed at a rate equal to one-half their federal income tax bracket. Thus, a family in the 15 percent tax bracket faces a tax-exempt marginal rate of 7.5 percent. The Medicare surtax raises this to 8.63 (an additional 7.5 x 15) percent.

- The marginal tax rate on ordinary investment income can be as high as 25.9 percent, whereas the maximum rate on tax-exempt income is only 8.6 percent.
- After adjusting for rate of return, however, the return on tax-exempt income will be 1.3 percentage points lower.

In general, elderly taxpayers in the 15 percent income tax bracket are worse off if they purchase tax-exempt financial assets. Elderly taxpayers in the 28 percent income tax bracket may gain by purchasing tax-exempt securities -- but not as much as they might expect. As Table VIII shows, when an adjustment is made for the lower return on tax-exempt securities, the marginal tax rate is still 33 percent. When these taxpayers attempt to avoid a 48.3 percent marginal tax rate, they actually succeed in reducing their marginal tax rate by only 15.3 percentage points.

## TABLE VIII

## MARGINAL TAX RATE ON DIFFERENT INVESTMENTS[1] 1989

| Initial Income Tax Bracket | Ordinary Investment Income | Tax-Exempt Income | Tax-Exempt Income After Adjusting for Lower Return[3] | Advantage of Tax-Exempt Income[4] |
|---|---|---|---|---|
| 15% Bracket[2] | 25.9% | 8.6% | 27.2% | -1.3% |
| 28% Bracket | 48.3% | 16.1% | 33.1% | +15.2% |

[1]Calculated assuming the highest marginal tax rate for each bracket.

[2]Assumes taxpayer remains in the 15 percent federal income tax bracket.

[3]Tax-exempt bonds generally pay a lower interest rate to reflect the tax wedge. The rates in the table have been adjusted to take into account the fact that, over the period 1980-88, the return from high-yield municipal bonds was 79.7 percent of the return from Moody's Corporate AAA Bonds.

[4]Percentage point change in aftertax return.

## TABLE IX

## INCREASE IN AFTERTAX RETURN FROM PURCHASING TAX-EXEMPT SECURITIES[1]

| Year | 15% Income Tax Bracket | 28% Income Tax Bracket |
|---|---|---|
| 1989 | -1.3% | 15.2% |
| 1993 | 0.9% | 19.2% |
| 2000 | 2.0% | 21.3% |
| 2005 | 2.8% | 22.9% |
| 2010 | 3.7% | 24.4% |

[1]Percentage point reduction in adjusted marginal tax rates. Ignores brokerage fees and assumes the elderly taxpayer faces the highest marginal tax rates. Illustrates highest marginal tax rates for each bracket.

Table IX shows that, for those in the 15 percent tax bracket, tax-exempt securities will not significantly increase the aftertax return. Those in the 28 percent bracket will be able to increase their aftertax return substantially by turning to tax-exempt income, although they are still much worse off because of the special taxes on the elderly.

Three caveats are important. First, Tables VIII and IX apply only to those elderly taxpayers who face the highest *marginal* tax rates within each tax bracket. Those facing lower marginal tax rates may not gain by turning to tax-exempt income, even if they are in the 28 percent tax bracket. Second, the tables ignore brokerage fees which can eliminate any gain from a switch in investments, especially if small amounts of money are involved or if the investor is in the 15 percent tax bracket. Finally, an investor may not be able to switch to tax-exempt securities without first selling non-exempt securities and paying a hefty tax.[21]

[21]For example, in 1989 retirees cannot withdraw funds from an IRA and purchase tax-exempt securities without losing as much as 48.3 percent of the IRA funds in taxes.

## IMPLICATIONS FOR THE YOUNG OF SPECIAL TAXES ON THE ELDERLY

Today's workers are tomorrow's retirees. Since World War II, public policy has encouraged workers to save for their retirement through private pension plans. Workers whose employers contribute to such plans pay no income or payroll taxes on those contributions and pay income tax only after they retire. The federal government also encourages individuals to save through other tax-deferred vehicles such as IRAs, annuities, and whole life insurance.

Until recently, deferring taxes was beneficial to workers. Most individuals faced higher marginal tax rates during their working years than during retirement. Until the 1980s, two-thirds of elderly retirees paid no federal income tax at all. This situation is changing. Due to the imposition of special taxes on the elderly, many of today's workers will face higher marginal tax rates when they retire than during their working years.

Take the case of a 44-year-old man earning the average wage of $20,522 in 1989. Because this man is in the 15 percent federal income tax bracket, he may be accustomed to the federal government taking only a small share of his income. However, if he saves today to enhance his income during retirement, he will be in for a rude awakening when he reaches age 65 in the year 2010. As Table X shows,

- Although an individual earning the average wage today is in the 15 percent income tax bracket, this person will face a marginal tax rate of 40.6 percent on income from savings if he retires in the year 2010.

- This means that if a 44-year-old, average-wage worker makes deposits to an IRA, the federal government will take 41 cents of each dollar withdrawn after retirement.

A similarly unpleasant fate awaits young people who enter the labor market today and plan for their retirement. Table XI shows the marginal tax rate on income from savings at the time of retirement for workers who are 24 years old today. As the Table shows,

- A 24-year-old worker earning only $9,235 today can anticipate a marginal tax rate on income from savings of 37.1 percent at the time of retirement.

- A 24-year-old earning the average wage of $20,522 can expect a marginal tax rate of 46.2 percent at the time of retirement.

- A 24-year-old who earns $48,000 (the 1989 ceiling on income subject to the Social Security payroll tax) can look forward to the much lower rate of 28 percent.

Relative to the tax rates of a few years ago the incentives to save have improved for high-income families. The wealthy now keep more aftertax income from savings than at any time in recent memory. The vast majority of American workers, however, fall into the average- and low-income categories. For them, the aftertax return on saving over their lifetimes is lower than at any time in U.S. history. As these workers realize how heavily they will be penalized if they save for retirement, they will save less.

## TABLE X

## MARGINAL TAX RATE ON INCOME FROM SAVINGS FOR A 44-YEAR-OLD EARNING $20,522 IN 1989[1]

| Tax | 1989 | 2010[2] |
|---|---|---|
| Federal Income Tax | 15.0% | 15.0% |
| Social Security Benefit Tax | 0 | 13.0% |
| Medicare Surtax | 0 | 12.6% |
| Total | 15.0% | 40.6% |

[1]Individual earns the average wage paid in the U.S. economy.

[2]Assumes the worker retires at age 65 with average Social Security benefits plus pension income equal to 60 percent of pre-retirement wages. See Appendix C for details.

## TABLE XI

## MARGINAL TAX RATE ON INCOME FROM SAVINGS AT THE TIME OF RETIREMENT FOR TODAY'S 24-YEAR-OLDS[1]

| | Income at Age 24: | | |
|---|---|---|---|
| Tax at Age 65 | $9,235[2] | $20,522[3] | $48,000[4] |
| Federal Income Tax | 15.0% | 15.0% | 28.0% |
| Social Security Benefit Tax | 7.5% | 13.0% | 0 |
| Medicare Surtax | 14.6% | 18.2% | 0 |
| Total | 37.1% | 46.2% | 28.0% |

[1]Single worker; assumes pension income and Social Security benefits equal to 60 percent of pre-retirement wage. See Appendix C for details.

[2]Equal to 45 percent of the average wage.

[3]Equal to the average wage.

[4]Equal to the ceiling on wages subject to the Social Security payroll tax.

## IMPLICATIONS FOR METHODS OF SAVING

The extent to which incentives to save have been reduced depends upon the age of the worker, the marginal tax rates faced in retirement, and the tax treatment of the savings vehicle chosen. Table XII compares the desirability of:

1. Saving accounts to which workers contribute in aftertax dollars and pay tax on interest accumulated along the way.

2. Individual Retirement Accounts to which workers contribute aftertax dollars and pay no tax until they make withdrawals after age 65.

3. Individual Retirement Accounts to which workers make tax-free contributions and pay no tax on accumulated interest until they make withdrawals after age 65.

4. Private pension plans to which workers pay neither federal income nor Social Security payroll taxes on contributions made by employers. The worker pays federal income tax on the resulting pension benefits after age 65.[22]

**The Return on Tax-Deferred Savings.** Table XII assumes that average-wage workers, who are in the 15 percent tax bracket, save an extra $100 a year, at an annual interest rate of 9 percent, until they reach age 65. As the table shows, an IRA leaves the average-wage worker worse off than a conventional savings account. Specifically,

- A 54-year-old will be $193 better off by putting $100 a year in an ordinary savings account rather than an IRA.

- A 44-year-old will be $879 better off with ordinary savings than with an IRA.

- A 34-year-old will be $1,572 better off with ordinary savings than with an IRA.

[22]Employers also do not pay Social Security taxes on their contributions to employee pension funds. If this additional tax advantage is taken into account, the aftertax saving exceeds the amounts shown in Table XII by $136 in the year 2000, by $31 in 2010, and by $713 in 2020.

## TABLE XII

## CAPITAL ACCUMULATION FROM VARIOUS TYPES OF SAVINGS BY THE TIME OF RETIREMENT[1]

($100 Annual Investment)

| 54-Year-Old Retiring in 2000 | Savings Balance | After All Taxes |
|---|---|---|
| Savings, taxable | $1,696 | $1,696 |
| IRA, no deduction | $1,835 | $1,612 |
| IRA, with deduction | $2,159 | $1,503 |
| Employer-Provided Pension | $2,372 | $1,652 |
| **44-Year-Old Retiring in 2010** | **Savings Balance** | **After All Taxes** |
| Savings, taxable | $5,024 | $5,024 |
| IRA, no deduction | $5,932 | $4,376 |
| IRA, with deduction | $6,979 | $4,145 |
| Employer-Provided Pension | $7,669 | $4,555 |
| **34-Year-Old Retiring in 2020** | **Savings Balance** | **After All Taxes** |
| Savings, taxable | $11,980 | $11,980 |
| IRA, no deduction | $15,631 | $10,192 |
| IRA, with deduction | $18,389 | $10,408 |
| Employer-Provided Pension | $20,208 | $11,438 |

[1]Worker earns the average wage of $20,522 in 1989. Savings of $100 per year earns an annual pre-tax rate of interest of 9 percent.

**Early Withdrawal of IRAs.** In some cases, workers can withdraw their tax-deferred savings as income prior to age 65. For example, it is possible to begin taking funds out of an IRA at age 59 without penalty. Will individuals gain by doing so? That depends on their marginal tax rates before and after retirement. Table XIII shows the results for a 44-year old male who will reach age 65 in the year 2010. At that time he will have IRA funds which can be used to supplement his income during retirement. He must decide between the following options:

**Option 1:** Leave the funds in the IRA, withdrawing a steady amount each year.

**Option 2:** Make a lump-sum withdrawal from the IRA at age 64, pay whatever taxes are due, and place the aftertax balance in a taxable savings account from which a steady amount will be withdrawn each year.

In this example, the worker is assumed to earn the average wage and is initially in the 15 percent income tax bracket. Because a 65-year old male in 2010 can expect to live to age 81, the withdrawals will be spread out over 16 years.[23]

## TABLE XIII

## THE EFFECTS OF EARLY IRA WITHDRAWAL[1]

### (Before Age 65)

| | Early Withdrawal | No Early Withdrawal |
|---|---|---|
| **Balance at age 64** | | |
| 15% bracket | $5,100 | $5,827 |
| 28% bracket[2] | 4,626 | 5,827 |
| **Annual Aftertax Income During Retirement** | | |
| 15% bracket | 452 | 421 |
| 28% bracket[2] | 410 | 421 |

[1]Individual is a 44-year-old male who earns the average wage of $20,522 in 1989 and is in the 15 percent income tax bracket.

[2]Caused by bracket shift.

[23]Federal law does not permit an individual to leave funds in an IRA indefinitely. Beginning at age 70 1/2, individuals must withdraw funds in annual amounts based on annuity tables.

The table shows that if this individual chooses a lump sum withdrawal at age 64, he will have $5,100 after taxes if he is in the 15 percent bracket. This $5,100 amount, placed in a taxable savings account and earning 9 percent interest a year, would allow the retiree to withdraw $452 a year after taxes between age 65 and age 81. The $452 amount is net of federal income tax, the Social Security benefit tax, and the Medicare surtax.

On the other hand, if the individual decides to leave the funds in his IRA, they will total $5,827 at age 64 and continue to accrue tax-free with interest. In this case the retiree would have an annual income of $421 a year after all taxes -- $31 less.

Suppose, however, that the individual is pushed into the 28 percent income tax bracket by the IRA lump sum withdrawal. In this case, he is $11 per year better off if he does not make the withdrawal.

As this example illustrates, the advantages of early withdrawal are not clear cut. If the worker can take the lump sum and remain in the 15 percent bracket, he is better off doing so. If not, he is better off drawing down his IRA gradually. Specifically, if 75 percent or more of the lump sum IRA withdrawal would be taxed at 28 percent, the individual is better off by not withdrawing the IRA funds before age 65.

## ECONOMIC EFFECTS OF SPECIAL TAXES ON THE ELDERLY

The special taxes on the elderly make all forms of tax-deferred saving less attractive. In the case of the average-wage worker, the degree to which these taxes have reduced the incentive to save through IRAs, 401Ks, pensions, whole life insurance, and other tax-deferred savings vehicles is illustrated in Table XIV. The return on retirement savings for average-income workers retiring over the next 30 years is about 25 percent lower because of the special taxes on the elderly.

Why do people save? Saving requires that an individual forego consumption today. To do that requires a reward or compensation for waiting. This basic reward, or real aftertax return, consists of what the individual saver gets to keep after taxes and inflation. Although the required basic reward may differ from person to person, the *real aftertax return on saving* for the U.S. economy as a whole is remarkably stable. Since World War II, it has averaged about 3.5 percent.[24]

Who pays the return for saving? Because saving is used to acquire more productive assets, the return must come from the income produced by these assets. Just as labor receives wages for output, the owners of capital who ultimately are the savers receive return on capital. Both wages and return on capital are paid for with the output produced by labor plus capital. Historically, labor has received roughly two-thirds of output and capital one-third.

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[24]David Brazell, Aldona Robbins, Gary Robbins, and Paul Craig Roberts, *The Cost of Corporate Capital in the United States and Japan*, The Institute for Political Economy in conjunction with The Krieble Foundation, 1985, Table 1, pp. 16-17.

## TABLE XIV

## HOW SPECIAL TAXES ON THE ELDERLY REDUCE INCENTIVES TO SAVE

| Worker's Age in 1989 | Decrease in the Return on Retirement Saving[1] |
|---|---|
| 54 | 18.1% |
| 44 | 30.1 |
| 32 | 33.4% |

[1]For tax-deferred savings.

The return on capital must be sufficient to pay savers the return they demand. When taxes on savings go up, taxes on capital have effectively gone up, making capital more expensive.[25] Businesses, in response to a higher cost of capital, will demand less capital services in production and will not undertake those capital investments whose income cannot yield the new, higher, pretax return.

At the end of an adjustment process the capital stock will be lower than it would have been without the tax increase. A lower capital stock, in turn, means less output and less employment. Less output means a lower tax base for the income, payroll, and business taxes of federal, state, and local governments.[26]

Special taxes on the income of the elderly reduce U.S. saving in two ways:

First, they immediately lower the average aftertax return on saving to those already age 65. Over the next several decades, these taxes will reduce the return by 4.3 percent. The elderly, in turn, will reduce the amount they save and invest.

Second, these special taxes lower the average aftertax return on saving for retirement by younger people and over the next several decades, will reduce the return for middle-income workers by roughly 25 percent. The long-term economic effects of reducing incentives for today's

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[25]For a discussion of taxation and the cost of capital see Aldona Robbins, Gary Robbins, and Paul Craig Roberts, "The Relative Impact of Taxation and Interest Rates on the Cost of Capital" in Dale W. Jorgenson and Ralph Landau, ed., *Technology and Economic Policy,* Ballinger: Cambridge, MA., 1986).

[26]Because government revenue estimates assume that no behavioral changes of the type just discussed occur, the estimates of what increasing taxes will bring in are higher than what the Treasury will actually receive.

workers to save could well be three times as great as the reduced incentives for the elderly. Table XV summarizes the impact on output, capital, and employment.[27] As the table shows,

- Special taxes on the elderly will ultimately reduce the U.S. capital stock by 9.4 percent or $942 billion.
- As a result, our annual GNP will be $187 billion lower than it would have been.

## TABLE XV

## ECONOMIC EFFECTS OF SPECIAL TAXES ON THE ELDERLY[1]

| Economic Effect | Result of Reduced Saving by the Elderly | Result of Reduced Saving by the Non-Elderly | Total Effect |
|---|---|---|---|
| **Reduction in Gross National Product** | | | |
| **amount** | **$45 billion** | **$142 billion** | **$187 billion** |
| **percent** | **0.9%** | **2.7%** | **3.6%** |
| **Reduction in Capital** | | | |
| **amount** | **$232 billion** | **$710 billion** | **$942 billion** |
| **percent** | **2.3%** | **7.1%** | **9.4%** |
| **Reduction in Employment** | | | |
| **number** | **171,000** | **533,000** | **704,000** |
| **percent** | **0.1%** | **0.5%** | **0.6%** |

[1]In 1989 values.

[27]Appendix C gives the derivations of these results.

## POLICY OPTIONS

Today's elderly who saved for their retirements are being penalized through special taxes for which they could not have planned. Today's workers increasingly realize that these taxes will confiscate a larger proportion of their retirement savings. What can be done? In this section we briefly consider some policy options being debated in Congress.

**Eliminate the Social Security Benefit Tax.** Social Security benefits had never been taxed prior to 1984. Many still believe this tax, which was part of the 1983 bailout package, violates the long-standing federal government promise that Social Security benefits would not be taxed. The Social Security benefit tax is intended to help finance benefits, but its long-term economic effect will be to reduce private output by about 1.8 percent annually. As shown in Table XVI, the long-run effect of the Social Security benefit tax will be to reduce output by $84 billion annually. As a result, the government actually loses revenue because of this tax.

**Eliminate the Social Security Benefit Tax and Slow the Growth in Social Security Benefits.** Under current budgetary practices, the economic effects of tax policy changes are largely ignored in official revenue estimates. Even on the basis of static analysis, eliminating the Social Security benefit tax can be accomplished without an increase in the federal deficit. A minuscule slowing in the growth of real Social Security benefits could easily offset the static revenue loss resulting from eliminating the Social Security benefit tax.[28]

Benefit reductions are inevitable as the burdens of Social Security and Medicare increase over time. With fewer workers per retiree and rapidly increasing benefits, payroll tax rates could easily reach 30 to 40 percent in the next century. Before that happens, there will be pressure to cut benefits.

Furthermore, a slowing in the benefit growth rate will not mean throwing future retirees into poverty. Far from it. Due to changes in the Social Security Act during the 1970s, the Social Security program is about one-third more generous today than it was from 1937 through 1971. By 2010, the *real* benefits received by retiring workers will be almost three times greater than today's benefits; by 2020, real benefits will be 4.6 times as great.

Incidentally, current Social Security policy bestows more generous benefits with one hand only to tax them away with the other. This discourages retirement saving. Why should today's workers save to provide that extra $1,000 for retirement when they may have to pay back $420 because of the Social Security benefit tax? Better to spend now and rely on Social Security later. The alternative of trimming a small amount from future Social Security benefits and eliminating the benefit tax would enhance saving, growth, and future living standards, and reduce the tax burdens on workers in the future.

**Treating Social Security Benefits as Ordinary Income.** Although less desirable than eliminating the Social Security benefit tax, this option would be preferable to the current tax treatment. The high marginal rates result from the $25,000 and $32,000 thresholds and the way the tax is phased in beyond those thresholds. Adding benefits to adjusted gross income (AGI) would eliminate the possibility of marginal rates as high as 42 percent. In other words, it would eliminate the current disincentive for middle-income individuals to save.

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[28]This slowing in the real growth of benefits could be accomplished by changing the indexing in the benefit formula. See Lee Smith, "Trim That Social Security Surplus," *Fortune*, August 29, 1988, pp. 84-89.

Including Social Security in AGI, however, would move some elderly from the 15 to the 28 percent bracket. It would also mean that lower-income individuals would pay a tax rate of 15 percent on one-half of their benefits. In 1985, only 4.6 percent of total Social Security benefits paid out were taxable.[29] Treating benefits as ordinary income would raise a great deal more revenue than the current tax treatment. It would be possible, therefore, to reduce the proportion of Social Security benefits subject to the tax or to increase the personal exemption or standard deduction for the elderly.

**Make More than One-Half of Social Security Benefits Subject to Tax.** There have been recent proposals to increase the amount of Social Security benefits subject to tax from 50 percent to as much as 85 percent. The rationale for taxing one-half of benefits is that nominally the employee pays one-half the payroll tax while his employer pays the other half. The employee's share of payroll taxes is subject to income tax while the employer's share is not. Supporters argued that only the employer's half should be subject to the Social Security benefit tax because it had not been taxed at the time of contribution.

Proponents of the 85 percent proposal argue that Social Security benefits should be treated like other pensions or annuities.[30] The untaxed accrued interest from these private savings is taxed when withdrawn. Including 85 percent of benefits in AGI implies that the portion of Social Security benefits attributable to the original payroll tax contribution of today's beneficiaries is 15 percent, not 50 percent.[31] This perpetuates the myth that Social Security is a savings program rather than a government tax and transfer program.

Including a larger proportion of Social Security benefits in AGI would make matters worse for two reasons. First, it would put more of the elderly over the $25,000 or $32,000 thresholds and, therefore, more would pay the tax. Second, paying tax on 85 percent rather than 50 percent of benefits widens the range of incomes affected by the phase-in where marginal tax rates can reach 42 percent. As shown in Table XVI, the resulting increases in marginal tax rates would reduce output by $94 billion annually and lower government revenue in the long run.[32]

**Eliminate the Medicare Surtax.** Eliminating the surtax would cut the detrimental economic effects of special taxes on the elderly in half. A grass-roots effort to achieve this goal is already underway. To go further and repeal the Medicare Catastrophic Coverage Act would eliminate both the benefits tax and the surtax. One major drawback, however, is the budgetary problem it would create this year. Because the act was set up to raise more than it would pay out, the Medicare surtax is being used to reduce the 1990 federal budget deficit. Eliminating the surtax would require an additional $5 billion in revenue increases or spending cuts to meet Gramm-Rudman targets this year. In the long run, however, eliminating the surtax would increase federal revenue by about 11.8 billion per year.

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[29] *Statistics of Income,* 1985, Table 2.5.

[30] Retirees must include in their tax base all employer contributions to pensions plus accrued interest on both employer and employee contributions as they receive them. The only exclusion is the employee's contribution pro-rated over the life of the annuity or pension.

[31] This is because today's Social Security benefit is several times greater than the present value of past taxes.

[32] It would raise the Social Security portion of the weighted average marginal tax rate on investment income of the elderly from 25.68 percent to 26.91 percent. The average marginal rate including the Medicare surtax would rise from 27.35 percent to 28.84 percent.

**Cut the Medicare Surtax in Half.** Anything short of elimination of the surtax will do little to provide relief from high marginal rates or reduce the saving disincentive. The House Ways and Means Committee is considering a proposal to cut the surtax in half, but this measure allows marginal tax rates as high as 55 percent by 2010 and marginal rates on average income retirees 35 to 40 percent. The long-term economic effects would be virtually nil.[33]

It is increasingly important for policymakers to recognize the potential impacts of actions they take today. Raising retirement benefits through Social Security or Medicare means an increased liability for future taxpayers. In the past, this burden has fallen on the working population. With payroll tax rates already at 15 percent and destined to rise, policymakers are tempted to use the income of the elderly to fund new government programs such as the Catastrophic Coverage Act or long-term care. If they do, private saving for retirement will shrink, and future generations of retirees will be even more dependent on government.

We should not mortgage our future in this way.

## SUMMARY AND RECOMMENDATIONS

Special taxes on the income of the elderly reduce U.S. saving in two ways. First, they immediately lower the return on saving to those already age 65 or over, who own about 40 percent of the U.S. capital stock. The elderly, in turn, will reduce the amount they save and invest. Second, they substantially reduce the incentive for many of today's workers to save for retirement.

The greatest obstacle to removing these special taxes is the concern in Washington over the current federal deficit. This concern is myopic. The special taxes on the elderly this year will add only $10 billion to federal revenue yet substantially reduce saving, investment, and economic growth. By the turn of the century, our annual GNP will be at least $187 billion (in 1989 values) lower because of these taxes. The harm we are imposing on future generations is 18 times the size of the revenue government is collecting today.

What follows is a brief summary of the major recommendations of this study.

1. **Abolish the Medicare Surtax.** Eliminating the Medicare surtax would be a major step in restoring incentives to save. It would add about $500 billion to the nation's capital stock by the turn of the century and thereby increase our annual GNP by about $106 billion. Eventually, the decrease in federal revenue would be more than offset by taxes on increased production.

   If catastrophic benefits for the elderly were kept in place, abolishing the surtax would increase the federal deficit by about $8 billion in 1990. The elderly have spoken loudly and clearly on this issue, however -- the benefits are not worth the price. Besides, the most important new benefit -- catastrophic coverage for hospital expenses -- can be paid for through a modest increase in Medicare premiums.

[33]The weighted average marginal rate for the elderly, assuming the 1989-93 rates are halved and increase by one percent a year thereafter, would be 27.16 percent in the year 2000, compared to 27.35 percent under present law. The marginal rate, assuming the surtax could increase by only 0.5 percent per year after 1993, would be 27.06 percent.

If Congress eliminates both the surtax and the benefits funded by the surtax, about $5 billion in surtax revenue will not be available to finance the federal deficit. But there is no reason why the elderly should be singled out to finance the deficit.

2. **Abolish the Social Security Benefit Tax.** In some respects, the Social Security benefit tax is worse than the Medicare surtax. In the long run, it has about the same negative economic impact as the Medicare surtax, yet it will bring in only $4.1 billion this year. Abolishing it would ultimately add about $84 billion to our annual gross national product and government would get back more than the lost revenue through income-related taxes on increased production. That's a bargain we cannot afford to pass up.

3. **Change the Tax Treatment of Retirement Savings: Pay Taxes Now, Avoid Taxes Later.**[34] If Congress refuses to abolish the special taxes on the elderly, a radical change in the tax treatment of retirement savings is needed. Under the current system, about $70 billion per year is deposited into tax-deferred savings by younger people not yet aware that they are deferring taxes to the time when they will be facing the highest marginal tax rates. Once this fact becomes widely known, the effect on saving in the U.S. will be devastating.

   One way to restore incentives to save is to change the tax law so that people can pay taxes at the point in their lifetimes when their marginal tax rates are lower. Individuals should have the option of paying taxes on deposits to saving programs when they make the deposits. Instead of tax-free deposits for workers we should have tax-free withdrawals for retirees. Average-wage workers in the 15 percent tax bracket would pay a 15 percent tax on IRA or pension contributions, and thus avoid taxes on withdrawals at a time when their marginal tax rates could be three to four times as high.[35]

NOTE: Nothing written here should be construed as necessarily reflecting the views of the National Center for Policy Analysis or as an attempt to aid or hinder the passage of any bill before Congress.

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[34]This proposal originally appeared in Gary Robbins and Aldona Robbins, "End IRA Deductions But Make Withdrawals Tax Free," the *Wall Street Journal*, June 4, 1986.

[35]To implement this proposal, contributions to defined-benefit pensions would have to be imputed as income to workers. The IRS already has a procedure for doing this.

## TABLE XVI

## ECONOMIC EFFECTS OF POLICY OPTIONS[1]

| Economic Effect | Eliminate the Social Security Benefit Tax | Eliminate the Medicare Surtax | Halve the Medicare Surtax | Tax 85% of Social Security Benefits |
|---|---|---|---|---|
| Change in highest marginal tax rate[2] | -27.0% | -6.3% | -3.2% | 0 |
| Change in average marginal tax rate[3] | -1.5% | -1.7% | -0.2% | +1.5% |
| Change in annual GNP[4] | | | | |
| Effect on Elderly | +$20.3 | +$25.4 | +$2.9 | -$22.5 |
| Total Effect[5] | +$84.4 | +$105.6 | +$12.1 | -$93.5 |
| Change in the Capital Stock | | | | |
| Effect on Elderly | +$108.5 | +$123.1 | +$14.9 | -$114.3 |
| Total Effect[5] | +$440.5 | +$499.8 | +$60.5 | -$464.1 |
| Change in federal deficit | | | | |
| Effect on Elderly | +$6.0 | +$8.3 | +$2.4 | -$3.7 |
| Total Effect[5] | -$10.0 | -$11.8 | +$0.1 | +$14.1 |

[1]All percentages shown are percentage point changes relative to current law. All dollar amounts are in billions of dollars.

[2]Change in 1989 rates.

[3]Long-run economy-wide average for elderly taxpayers.

[4]Annual long-run effects expressed in billions of 1989 dollars.

[5]Includes estimates of the effect of lower saving by today's workers.

# APPENDIX A

## AVERAGE MARGINAL TAX RATES ON INVESTMENT INCOME

It is possible to compute the economy-wide average marginal tax rates for elderly taxpayers under present law or any other tax regime. Our tax model is based upon 1985 Internal Revenue Service tax return data for taxpayers age 65 and over. Elderly taxpayers are classified as: (1) married couples, filing jointly, both age 65 or over; (2) married couples, filing jointly, one age 65 or over; (3) married couples, filing separately; (4) heads of households; and (5) single individuals.

To project future incomes and tax liabilities, we used the following assumptions:

1. The number of returns grows at roughly 4 percent a year from 1985 to 1989, based on recent experience, and at 3 percent a year thereafter.

2. Income sources other than Social Security benefits grow at the actual rate of per capita income growth from 1985 to 1988; at the per capita income rate assumed in the 1990 budget from 1989 to 1993; and at the assumed 1993 rate of 4.35 percent a year thereafter.

3. Social Security benefits are assumed to grow at the actual rate of average retired worker benefits from 1985 to 1988; at the rate of average retired worker benefits assumed in the 1989 Trustees' Report from 1989 to 1993; and at the assumed 1993 rate of 4.56 percent a year thereafter.

4. The tax parameters such as brackets, personal exemption, and standard deductions are actual law until 1989, grow at the Consumer Price Index (CPI) assumed in the 1990 budget from 1990 to 1993; and at the assumed 1993 rate of 3 percent a year thereafter.

Table A-I presents the average marginal tax rates on investment income for the elderly by adjusted gross income (AGI) class in 1989. Investment income consists of interest, dividends, capital gains, and gains from the sale of other property. The figures for adjusted gross income, expressed in 1989 dollars, are based on the assumption that the incomes of the elderly increased at the same rate as U.S. per capita income, or 25.3 percent, from 1985 to 1989.

Table A-I lists the marginal tax rates for federal income tax only, the marginal tax rates if Social Security benefits taxes are included, and the total marginal tax rate if the Medicare surtax is included as well. Note that the combined marginal tax rates for middle-income taxpayers in Table A-1 are smaller than the marginal rates shown in the text because Table A-1 combines single individuals and married couples.[1]

The overall marginal tax rate for investment income is a weighted average of the marginal tax rates of all taxpayers with investment income by AGI class . The weights are income amounts, and the marginal rate represents the federal income tax consequences of the taxpayer's earning an additional dollar of income. For example, in 1989 the overall marginal tax rate on investment income under present law (column 3) is 25.99 percent and on the average, elderly taxpayers owe about 26 cents in federal taxes for each additional dollar of investment income.

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[1] Single individuals pay the maximum possible rate at an income level that is about $10,000 lower than for married couples.

## TABLE A-I

## MARGINAL TAX RATES ON THE INVESTMENT INCOME OF ELDERLY TAXPAYERS, 1989

### INVESTMENT INCOME FROM ALL SOURCES

| Adjusted Gross Income | Federal Marginal Tax Rate Only | Plus Social Security Benefit Tax | Plus Medicare Surtax |
|---|---|---|---|
| Under $5,012 | 0.02% | 0.05% | 0.05% |
| $5,012 under $10,023 | 6.45% | 6.47% | 6.64% |
| $10,023 under $15,035 | 14.64% | 14.64% | 16.48% |
| $15,035 under $20,046 | 15.02% | 15.04% | 17.03% |
| $20,046 under $25,058 | 15.03% | 18.54% | 21.00% |
| $25,058 under $31,322 | 17.05% | 27.15% | 30.75% |
| $31,322 under $37,587 | 19.21% | 23.89% | 26.26% |
| $37,587 under $50,116 | 25.09% | 28.03% | 30.08% |
| $50,116 under $62,645 | 28.34% | 28.93% | 30.84% |
| $62,645 under $93,967 | 29.43% | 30.00% | 30.00% |
| $93,967 under $125,290 | 32.96% | 32.96% | 32.96% |
| $125,290 under $250,580 | 32.08% | 32.08% | 32.08% |
| $250,580 under $626,450 | 28.00% | 28.00% | 28.00% |
| $626,450 under $1,252,90 | 28.00% | 28.00% | 28.00% |
| $1,252,900 and over | 28.00% | 28.00% | 28.00% |
| All Returns | 23.43% | 24.91% | 25.99% |

## TABLE A-II

## OVERALL MARGINAL TAX RATES ON THE INVESTMENT INCOME OF ELDERLY TAXPAYERS

| | Marginal Income Tax Rate Only | + Social Security Benefit Tax | + Medicare Surtax |
|---|---|---|---|
| **Investment Income** | | | |
| 1989 | 23.43% | 24.91% | 25.99% |
| 1993 | 23.82% | 25.11% | 26.52% |
| 2000 | 24.20% | 25.68% | 27.35% |
| **Taxable Interest** | | | |
| 1989 | 20.95% | 22.89% | 24.36% |
| 1993 | 21.53% | 23.44% | 25.44% |
| 2000 | 22.10% | 24.20% | 26.63% |
| **Dividends** | | | |
| 1989 | 25.17% | 26.52% | 27.48% |
| 1993 | 25.48% | 26.52% | 27.66% |
| 2000 | 25.65% | 26.97% | 28.26% |
| **Capital Gains** | | | |
| 1989 | 27.02% | 27.60% | 28.00% |
| 1993 | 27.04% | 27.33% | 27.77% |
| 2000 | 27.01% | 27.58% | 28.04% |

Table A-II reports the overall marginal tax rates for three types of investment income: interest, dividends, and capital gains. The marginal rates on investment income differ because the distribution of income types is not the same for all taxpayers. For example, capital gains are more likely realized by middle- and higher-income taxpayers while interest is more likely received by low- and middle-income taxpayers. As a result, the average marginal tax rate on capital gains is higher than the average marginal tax on interest income. The overall marginal tax rate on investment income of the elderly will rise from 26 percent in 1989 to 26.5 percent in 1993 and to 27.4 percent in the year 2000.

## APPENDIX B

## ASSET HOLDINGS OF THE ELDERLY

The economic effects of taxes on investment income of the elderly would not be large if they held only a small share of the total capital stock. But, in fact, the elderly are major owners of U.S. capital. While accounting for less than 12 percent of the population, people age 65 and over hold about 40 percent of the capital assets in the U. S.

Three different methods were used to measure the asset holdings of the elderly. The first method uses 1985 tax data and computes the investment income reported on the returns of taxpayers age 65 and over as a share of the investment income on all individual returns. On the basis of this method, the elderly account for 47.4 percent of capital income.

### METHOD I: SHARE OF TAXABLE INVESTMENT INCOME GOING TO ELDERLY TAXPAYERS, 1985.

| Investment Income | All Tax Returns | Elderly Tax Returns | Percent Elderly |
|---|---|---|---|
| Interest | $182,109,194 | $95,879,341 | 52.65% |
| Dividends | 55,046,351 | 28,638,207 | 52.03% |
| Capital Gains | 67,694,001 | 20,214,060 | 29.86% |
| Other Gains | 1,527,333 | 485,643 | 31.80% |
| Total Investment Income | $306,376,879 | $145,217,251 | 47.40% |

The second method compares the investment income of taxpayers age 65 and over with the total return on U.S. capital from the Commerce Department's National Income and Product Accounts. The total return is gross national product minus government wages, private labor compensation, corporate taxes, the capital consumption allowance (or depreciation), indirect business taxes, and net exports. The investment income of elderly taxpayers is the same as in the table above except that reported income from capital gains has been adjusted for the 40 percent inclusion rate that was in effect in 1985. On the basis of this method, the elderly receive 39.03 percent of the return on U.S. capital.

## METHOD II INVESTMENT INCOME OF ELDERLY TAXPAYERS RELATIVE TO THE TOTAL RETURN ON U.S. CAPITAL FROM THE NATIONAL INCOME AND PRODUCT ACCOUNTS

A. Investment Income of Elderly Taxpayers (in $ billions)

| | |
|---|---|
| Interest | $96 |
| Dividends | 29 |
| Capital Gains | 50 |
| Other Gains | - |
| Total | $175 |

B. Total Return on U.S. Capital in 1985 (in $ billions)

| | | |
|---|---|---|
| Gross National Product | | $4,015 |
| minus | | |
| Government Wages | $419 | |
| Private Compensation | 2,368 | |
| Corporate Taxes | 96 | |
| Capital Consumption Allowances | 427 | |
| Indirect Business Taxes | 334 | |
| Net Exports | (78) | -3,565 |
| TOTAL RETURN | | $450 |

ELDERLY SHARE (A ÷ B) 39.03%

The third method uses Federal Reserve Board data on the ownership of financial assets by households.[1] Financial assets include liquid assets such as checking accounts, savings accounts, money market accounts, certificates of deposits, IRAs and Keogh accounts, and savings bonds; stocks; other bonds; nontaxable holdings, such as municipal bonds and certain mutual funds; and trusts. Using this method, the elderly account for 39.8 percent of household financial assets.

## METHOD III: SHARE OF HOUSEHOLD FINANCIAL ASSETS HELD BY ELDERLY HEADS OF HOUSEHOLDS IN 1983

| | |
|---|---|
| **Total Household Financial Assets (bils)** | **$2,122[1]** |
| **Assets of Elderly Households** | **845** |
| **Share of Elderly Households** | **20.96%** |
| **Elderly Share of Financial Assets** | **39.80%** |

Combining these three methods, a conservative estimate is that the elderly hold about 40 percent of the U.S. capital stock. As a result, a substantial increase in taxes on the investment income of the elderly has serious implications for the rest of the economy.

[1]Calculations are based upon data on the mean financial assets by age of householder from the *Economic Report of the President, 1985*, Table 5.5, and on the distribution of households by age from the *1988 Statistical Abstract of the United States*, Table 59.

# APPENDIX C

## EFFECTS ON CAPITAL ACCUMULATION, EMPLOYMENT, AND OUTPUT

Using the standard Cobb-Douglas production function, we have derived relationships to determine the changes in the amounts of capital services, labor services, and output that will occur in response to a change in taxes on capital.[1] In all three cases, the long-term adjustments in response to an increase in taxes on the elderly will depend upon: (1) the size of the tax change; (2) the nature of the production process, i.e, how capital and labor are combined in the most efficient way; (3) the responsiveness of workers to a change in their aftertax wage rate, or the elasticity of labor supply; and (4) the amount of U.S. capital affected by the tax change.

**Reduced Savings by the Elderly.** To indicate the long-run economic effects, we have selected the tax changes from the year 2000 because (1) the Medicare surtax will be fully phased in, and (2) the economy takes about 12 years to achieve a full long-term adjustment.[2] As shown in Appendix A, the average marginal rate on the investment income of the elderly in the year 2000 will be 27.35 percent.

The second parameter is the rate at which labor and capital can be substituted for one another. Empirically, the value of this parameter is two-thirds. We calculated the economic effects for a range of values for the third and fourth parameters. Assumed values for the elasticity of labor supply ranged from 0.1 to 0.3.[3] Assumed values for the percent of U.S. capital affected ranged from 30 percent to 40 percent. We believe that assuming a labor supply elasticity of 0.2 and assuming 35 percent of capital will be affected is reasonable.[4]

Table C-I shows the resulting economic effects by: (1) the percentage change in the economic variable, and (2) the level of change expressed in 1989 dollars. In the case of private output, the taxation of Social Security benefits lowers output by 0.4 percent; the combination of Social Security benefit taxation and the Medicare surtax lowers output by 0.9 percent. This lower growth translates into $21.3 billion per year less output for the Social Security benefit tax and $45.7 billion per year less output when the Medicare surtax is added.

Over the long run, the taxation of Social Security benefits will lower the accumulation of capital by 1.1 percent, meaning the U.S. capital base will be $108.5 billion lower than in the absence of the tax. The addition of the Medicare surtax will lower the rate of capital accumulation by 2.3 percent, or $231.6 billion. Labor is also affected. Employment growth will be lower by 0.1 percent, or 170,800 jobs.

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[1]Empirically, the Cobb-Douglas production function has proven to be an accurate long-run representation of the U.S. production process. Appendix D contains the theoretical derivations.

[2]Aldona Robbins and Gary Robbins, "Effects of the 1988 and 1990 Social Security Tax Increases, "*Institute for Research on the Economics of Taxation Economic Report* No. 39, Washington, DC, February 3, 1988, p. 16.

[3]Empirical estimates for the elasticity of labor supply generally vary from 0.1 to 0.45.

[4]Using 35 percent acknowledges that the elderly may own a larger share of non-taxable assets or non-business assets, such as owner-occupied housing.

The lower growth in output will affect the tax base as well. Assuming that federal income, payroll, and excise taxes take 25 percent of output at the margin, the lower output due to Social Security benefit taxation will cost the Treasury $5.3 billion. Although static estimates are that the Social Security benefits will raise about $12.3 billion in revenue in the year 2000, total federal revenue that year will actually go up by only $6.0 billion. In other words, for every $1 the government says it will raise, it actually will raise only 53.1 cents. The economy must give up $3.54 in output to raise $1 in revenues through this tax.

Similarly, the lower output due to adding the Medicare surtax will lower federal revenues by $11.4 billion. Although static estimates suggest that government revenue will go up by $26.9 billion in the year 2000 because of the Medicare surtax, on net the Treasury will only take in $14.3 billion. The economy must give up $3.19 in output to raise $1 in revenues through the two taxes combined.

## TABLE C-I

## THE ECONOMIC EFFECTS OF REDUCED SAVING BY THE ELDERLY[1]

**($ amounts in billions (1989); employment in thousands)**

| | Social Security Taxation | Social Security Plus Medicare Surtax |
|---|---|---|
| **Private Output** | | |
| **amount** | **-$20.3** | **-$45.7** |
| **percent** | **-0.4%** | **-0.9%** |
| **Capital Stock** | | |
| **amount** | **-$108.5** | **-$231.6** |
| **percent** | **-1.1%** | **-2.3%** |
| **Employment** | | |
| **amount** | **-79.6** | **-170.8** |
| **percent** | **-0.1%** | **-0.1%** |
| **Effect of Lower Output on Federal Revenue** | **-$5.3** | **-$11.4** |
| **Net Federal Revenue Gain** | **$6.0** | **$14.3** |
| **Lost Output/Net Tax** | **$3.54** | **$3.19** |

[1]Labor elasticity = 0.2; 35% of U.S. capital affected

These results do not change a great deal in other scenarios. The least sensitive economic variable is the capital stock. Reduction in the capital stock under different assumptions varies between $194 billion and $267 billion. The most sensitive economic variable is employment, due to different assumed labor supply elasticities. Employment reductions vary between 143,100 and 286,400. Foregone output under different assumptions ranges between $38 billion and $55 billion.

**Reduced Savings By Workers.** To examine the effect on workers, we computed the marginal tax rates for single individuals and married couples for 1989 and for the time they reach age 65. The workers, who range from ages 24 to 64 today, fall into the following three wage groups: (1) low-wage workers who always earn 45 percent of the average wage as computed by the Social Security Administration; (2) average-wage workers who always earn the average wage, which equals $20,522 in 1989; and (3) high-wage workers who always earn the Social Security maximum, which is $48,000 in 1989.[5]

After retirement, we assumed that the income of these workers would comprise: (1) Social Security benefits commensurate with the worker's lifetime earnings; (2) pension benefits that, in combination with Social Security benefits, would equal 60 percent of the worker's final salary; and (3) other income based upon the relationship between pension and Social Security income and adjusted gross income on the tax returns of taxpayers age 65 and over in 1985. We then computed the marginal tax rates faced by workers, both single and married, in 1989 and upon reaching age 65. Table C-2 summarizes these results.

[5]The Social Security benefits of these workers are given in the 1989 OASDI Report, Alternative II-B, Table F6, p. 138.

TABLE C-2

MARGINAL TAX RATES OF WORKERS TODAY AND AT AGE 65

| Age in 1989 | 64 | 54 | 44 | 34 | 24 |
|---|---|---|---|---|---|
| Reaches Age 65 | 1990 | 2000 | 2010 | 2020 | 2030 |
| **LOW WAGE WORKER** | | | | | |
| Wages in 1989: $9,235 | | | | | |
| Marginal Tax Rate in 1989: 15.00% | | | | | |
| Marginal Tax Rate at 65: | | | | | |
| Federal Tax Rate Only | 0.00% | 0.00% | 0.00% | 0.00% | 15.00% |
| + Social Security | 0.00% | 0.00% | 0.00% | 22.50% | 22.50% |
| + Medicare Surtax | 0.00% | 0.00% | 0.00% | 34.88% | 37.13% |
| **AVERAGE WAGE WORKER** | | | | | |
| Wages in 1989: $20,522 | | | | | |
| Marginal Tax Rate in 1989: 15.00% | | | | | |
| Marginal Tax Rate at 65: | | | | | |
| Federal Tax Rate Only | 15.00% | 15.00% | 15.00% | 15.00% | 15.00% |
| + Social Security | 15.00% | 22.50% | 28.00% | 28.00% | 28.00% |
| + Medicare Surtax | 18.75% | 30.38% | 40.60% | 43.40% | 46.20% |
| **HIGH WAGE WORKER** | | | | | |
| Wages in 1989: $48,000 | | | | | |
| Marginal Tax Rate in 1989: 28.00% | | | | | |
| Marginal Tax Rate at 65: | | | | | |
| Federal Tax Rate Only | 33.00% | 33.00% | 33.00% | 28.00% | 28.00% |
| + Social Security | 33.00% | 33.00% | 28.00% | 28.00% | 28.00% |
| + Medicare Surtax | 33.00% | 33.00% | 28.00% | 28.00% | 28.00% |

The special taxes on the elderly make all forms of tax-deferred retirement savings by today's workers less attractive. For average-wage workers, the extent of the tax disincentive is as follows:

| Age of Worker | Decreased Return on Retirement Savings |
|---|---|
| 54 | 18.1% |
| 44 | 30.1% |
| 34 | 33.4% |

Based on these estimates, the aftertax return on retirement saving for average income workers retiring over the next 30 years is 25 percent lower than what it would be without the special taxes on the elderly. Because the majority of American workers fall into the low and average wage categories, we assume that this 25 percent saving disincentive applies to the 60 percent of workers in the middle and that the disincentive for low- and high-income workers is zero.

Currently, private pensions account for 25 percent of assets economy-wide.[6] As of the end of 1988, assets in IRAs and Keogh plans amounted to $414.1 billion, or 4 percent of the U.S. capital stock of approximately $10 trillion.[7] In other words, saving by today's workers for their retirement accounts for roughly 30 percent of U.S. capital.[8]

Applying the same method as that used in the previous section, we conclude that the long-term economic effect on the saving behavior of workers will reduce the size of the U.S. capital stock by 4 percent and annual output by 1.5 percent.

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[6]Employee Benefit Research Institute, *Employee Benefit Notes,* Vol. 10, No. 4, April 1989, p. 5.

[7]Employee Benefit Research Institute, *Employee Benefit Notes,* Vol. 10, No. 7, July 1989, p. 5.

[8]We have not included the assets of whole life insurance due to the difficulty of separating various categories of reserves. A whole life insurance policy typically includes a retirement income policy and another contract providing life insurance protection. Life insurance proceeds paid by reason of the insured's death are usually not subject to income tax. Retirement income proceeds, however, generally are subject to some tax.

# APPENDIX D

## THE LONG-TERM ADJUSTMENT IN THE STOCK OF CAPITAL IN RESPONSE TO AN INCREASE IN TAX RATES ON THE INVESTMENT INCOME OF THE ELDERLY

An increase in the tax on investment income lowers the rate of return to capital. In response, there will be a downward adjustment in the amount of capital services offered for use in the production process and an associated decrease in the amount of labor services hired. These lower labor and capital inputs will lead to a lower output.

Empirically, the Cobb-Douglas production function proves an accurate long-term representation of the production process. Cobb-Douglas relationships will provide estimates of changes in the amounts of capital services, labor services, and output resulting from an increase in tax rates on investment income.

The following notations are used in the Cobb-Douglas derivations:

$Q$ = private output produced,

$r$ = the real aftertax rate of return to capital, which empirical evidence suggests is constant in the long run,

$y$ = the cost per unit of capital (or the service price), which is determined by the real aftertax rate of return to capital, by the economic life of the asset, and by taxes on capital,

$t_c$ = the marginal tax rate on capital,

$w$ = the cost per unit of labor,

$t_L$ = the marginal tax rate on labor,

$w^{\sim}$ = the aftertax wage rate,

L = the number of units of labor used in production,

K = the number of units of capital used in production,

yK = the total amount received by capital,

and

wL = the total wage bill.

A Cobb-Douglas production function represents the production process as,

(1) $Q = A*L^{a}K^{(1-a)}$

where **A** is the state of technology, **a** is a parameter of the production function, measuring the responsiveness of output with respect to labor inputs, and **(1-a)** is the parameter measuring the responsiveness of output with respect to capital inputs. In a Cobb-Douglas production function, the shares of labor and capital in output are:

$wL/Q = a$ and $yK/Q = (1-a)$

Therefore,

(2) $wL/a = Q = yK/(1-a)$

Rewriting (2),

$$wL/yK = a/(1-a) \quad \text{or} \quad yK/wL = (1-a)/a.$$

Solving for **K**,

$$yK = [(1-a)/a]*wL$$

$$K = \{[(1-a)/a]*(1/y)\}*wL.$$

The cost per unit of capital is proportional to the real aftertax return to capital and the taxes on capital. Using **C** to denote the proportional term, the capital service price may be written as,

(3) $$y = C*r/(1-t_c).$$

Substituting for **y, K** can be written as,

(3a) $$K = \{[(1-a)/a]*(1-t_c)/C*r\}*wL.$$

Remembering that the real aftertax return to capital will return to its long-term level, **a** and **r** in (3a) are constants. Rearranging the constant terms,

(4) $$K = B*(1-t_c)*wL = B*AT_c*wL$$

where $\mathbf{B = [(1-a)/a]/C*r}$ and $\mathbf{AT_c = (1-t_c)}$ is the aftertax return to capital.

The new level of **K** after an increase in taxes on investment income is denoted as **K'** and is equal to,

(5) $$K' = B*(1-t_c)'*w'L'$$

where $(1-t_c)'$ is the new tax and **w'** and **L'** are the new levels of **w** and **L**.

The new level of **K** is equal to the original level of **K** times the proportional change in **K**, denoted by **dK/K**, or

(6) $K' = K*(1+dK/K)$.

Similarly, the new levels of **w**, **L**, and $\mathbf{AT_c}$ can be written as,

(7) $w' = w*(1+dw/w)$, $L' = L*(1+dL/L)$, and

$AT_c' = AT_c*(1+dAT_c/AT_c)$.

Using relations (4), (5), (6), and (7),

$K' = K*(1+dK/K) = B*AT_c*(1+dAT_c/AT_c)*wL*(1+dw/w)*(1+dL/L)$.

Dividing through by **K**,

(8) $(1+dK/K) = (1+dAT_c/AT_c)*(1+dw/w)*(1+dL/L)$.

Substituting the shares of labor and capital from (2) into the production function in (1),

$Q = A*(aQ/w)^a*[(1-a)Q/y]^{(1-a)}$.

Factoring out **Q** and dividing both sides by **Q**,

$1 = A*[a*(1/w)]*[(1-a)*(1/y)]^{(1-a)}$,

then rearranging and substituting (3) for **y**,

(9) $\{1/[A*a^{a}*(1-a)^{(1-a)}]\} = w^{-a}*y^{(a-1)} = w^{-a}*(C*r/AT_c)^{(a-1)}$.

Multiplying both sides of (9) by $\mathbf{w^a}$ and denoting the constant on the left-hand side of the equation as { },

(10) $w^{a}*\{\ \} = (C*r/AT_c)^{(a-1)} = [AT_c/(C*r)]^{(1-a)}$

Remember that the expression { } and **C** are constants and that **r** will return to its long-run value. As the tax on investment income increases, the aftertax return on capital, denoted as $\mathbf{AT_c}$, must decrease. Therefore, the return to capital, **y**, must rise, and the cost per unit of labor, **w**, must fall.

In other words, rewriting (10) in terms of **w'**, we have

$w'^{a}*\{\ \} = [AT_c'/(C*r)]^{(1-a)}$.

Substituting from (7) for **w'** and for $\mathbf{AT_c'}$,

$w'^{a}*\{\ \} = [w*(1+dw/w)]^{a}*\{\ \} = [AT_c*(1+dAT_c/AT_c)/(C*r)]^{(1-a)}$

Dividing through by **w** using (10),

$(1+dw/w)^{a} = (1+dAT_c/AT_c)^{(1-a)}$,

and raising both sides to the $(\mathbf{1/a})$ power,

(11) $(1+dw/w) = (1+dAT_c/AT_c)^{(1-a)/a}$,

In other words, (11) will estimate the change in the per unit cost of labor resulting from an increase in the tax on capital. Using empirical estimates which generally find the parameter **a** equal to two-thirds, the expression [**(1-a)/a**], which represents the elasticity of substitution between capital and labor, will equal 0.5. The change in **w**, therefore, will be about one-half the change in the tax on capital. For example, a 10 percent increase in the tax on capital will lead to a 4.88 percent increase in the cost per unit of labor.

This reduction in pretax wage rates will lead to a reduction in aftertax wage rates, and hence, a decrease in the amount of labor services supplied. The elasticity of labor supply is

(12) $E_L = (dL/L)/(dw\sim/w\sim)$

where $w\sim = w*(1-t_L)$ and
$w\sim*(1+dw\sim/w\sim) = w*(1+dw/w)*(1-t)$,

Dividing through by **w~** and substituting from (11),

$$(1+dw\sim/w\sim) = (1+dw/w) = (1+dAT_c/AT_c)^{(1-a)/a}$$

Subtracting 1 from both sides,

(13) $dw\sim/w\sim = [(1+dAT_c/AT_c)^{(1-a)/a}]-1.$

Solving equation (12) for **dL/L** and substituting in (13),

(14) $dL/L = E_L*dw\sim/w\sim = E_L*\{[(1+dAT_c/AT_c)^{(1-a)/a}]-1\}.$

Substituting (14) into (8),

(15) $dK/K = E_L*d(1-t)/(1-t).$

$$(1+dK/K) = (1+dAT_c/AT_c)*(1+dw/w)*(1+dL/L)$$

$= (1+dAT_c/AT_c)^{1/a}*(1+dL/L)$
$= (1+dAT_c/AT_c)^{(2/a-1)}*E_L+(1+dAT_c/AT_c)^{1/a}*E_L+(1+dAT_c/AT_c)^{1/a}$

Using the solutions found in (14) and (15), we can determine **Q** from (1).

## ABOUT THE AUTHORS

**Aldona Robbins,** Vice President of Fiscal Associates and Senior Fellow of the NCPA, has extensive experience with public and private retirement programs. As senior economist in the Office of Economic Policy, U. S. Department of the Treasury from 1979 to 1985, Dr. Robbins performed staff work for the Secretary in his capacity as Managing Trustee of the Social Security trust fund. Her research efforts have resulted in a model to project Social Security benefits and tax revenue. Recent publications include *The ABCs of Social Security; Institute for Research on the Economics of Taxation (IRET) Economic Reports* entitled "Effects of the 1988 and 1990 Social Security Tax Increases" and "Facts about Catastrophic Coverage" (both with Gary Robbins); *IRET Economic Policy Bulletins* entitled "Social Security Build-Up or Shake-Down?" and "Catastrophic Health Insurance is Bad Medicine" (with Dr. William Hurwitz); "The Economic Status of the Aged: Implications for Energy Policy" (with Paul Craig Roberts) in *Proceedings of A Symposium on Energy Costs and the Elderly: The Next Twenty Years* sponsored by the U.S. Department of Health and Human Services; and articles on "End IRA Deductions, but Make Withdrawals Tax-Free" (with Gary Robbins) and "At the Heart of Medicare's Woes" (with Paul Craig Roberts) in the *Wall Street Journal.* Her master's degree and doctorate in economics are from the University of Pittsburgh.

**Gary Robbins** is President of Fiscal Associates and Senior Fellow of the NCPA. Mr. Robbins has developed a general equilibrium model of the U. S. economy that specifically incorporates the effects of taxes and government spending. Before joining the private sector, he was Chief of the Applied Econometrics Staff at the U. S. Treasury Department from 1982 to 1985, Assistant to the Under Secretary for Tax and Economic Affairs from 1981 to 1982, and Assistant to the Director of the Office of Tax Analysis from 1976 to 1981. Recent publications include an article entitled "Encouraging Private Provision for Long-Term Care" (with Aldona Robbins) in *Compensation and Benefits Management;* an *IRET Economic Policy Bulletin* entitled "Mandating Health Insurance" (with Aldona Robbins and John Goodman); an *IRET Op-Ed* entitled "Tax Catastrophes of Medicare Legislation" (with Aldona Robbins and Norman Ture); and two papers prepared for the Congressional Task Force on Long-Term Health Care Policies entitled "Promoting Long-Term Care Insurance through Existing Retirement Programs" and "Tax Policies to Promote Long-Term Care" (both with Aldona Robbins). Articles entitled, "Why the Tax-Reform Numbers Don't Add Up" (with David Brazell); "End IRA Deduction, but Make Withdrawals Tax-Free" (with Aldona Robbins); and "Tax Reform Aims at Very Industries Up for Protection" (with Paul Craig Roberts) have appeared in the *Wall Street Journal.* He earned his master's degree in economics from Southern Methodist University.