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LONG-TERM CARE INSURANCE

Tax Preferences Reduce Costs More for Those in Higher Tax Brackets

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The Honorable John D. Dingell
Chairman, Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

Because many alternatives have been proposed to increase the incentive to purchase long-term care insurance, you asked us to compare how alternative tax treatments common to groups of proposals would affect the cost of such insurance. Many of these proposals seek to clarify the tax treatment of payments from long-term care insurance policies and long-term care riders to life insurance policies. Other proposals also seek to liberalize tax treatment either by allowing long-term care insurance premiums to be deductible or payments from policies to be tax-exempt, so that individuals or groups will have more incentive to buy long-term care insurance.

Long-term care insurance policies charge a premium that is, in part, a payment by policyholders to offset the current risk of requiring long-term care and, in part, an addition to a reserve that prefunds future insurance. While the Internal Revenue Service (IRS) has ruled on certain issues related to such insurance, it has not specifically addressed many policyholder tax issues. As a result, some uncertainty exists about the current tax treatment of long-term care insurance. For example, the part of long-term care insurance premiums that funds current or prefunds future medical care benefits may qualify for the medical and dental expense deduction, but the part that funds current or prefunds future benefits that pay other expenses may not qualify.

Much uncertainty centers on the tax treatment of benefits paid from long-term care policies. Under current law, benefits paid through accident or health insurance for personal injuries or sickness can be excluded from taxable income. However, benefits paid under long-term care insurance policies may or may not qualify for this treatment. Alternatively, benefits paid from such policies could be included in taxable income but—to the extent they are used to pay medical expenses—may be deductible under the medical and dental expense deduction.

In 1989, IRS ruled that the reserves an insurance company sets aside to satisfy future long-term care insurance claims can increase on a tax-free basis. Thus far, IRS has not ruled on the tax treatment of increases in

reserves from the policyholder's perspective, so the treatment of income earned on reserves is ambiguous. However, policyholders are not currently including the income earned on reserves in their taxable income.

Some of the proposals for the tax treatment of long-term care insurance use a pension approach in that they (1) either exempt long-term care premiums or allow them to be deductible from taxable income, (2) exempt investment earnings, and (3) tax all payments from these policies or those payments that do not pay for medical expenses. These proposals come in many different forms. One type would allow taxpayers to set up individual medical accounts, which are like individual retirement accounts (IRA) in that contributions and investment earnings are untaxed until taken out in the form of distributions. Another type would allow penalty-free tax-exempt conversion of IRAs into long-term care insurance.

An alternative approach would be the life insurance or annuity model. Under this approach premiums would be paid out of after-tax income, but investment earnings would be tax exempt. Some proposals of this type also allow payments out of the policy to be tax exempt, even those reflecting previously untaxed earnings. Many of these proposals take the form of allowing tax-exempt conversion of a life insurance policy into a long-term care insurance policy. Related proposals would allow tax-free accelerated death benefits from a life insurance policy if the funds were used to pay for long-term care. If long-term care insurance premiums are not currently being deducted but investment earnings are not being taxed, current treatment would look very much like the life insurance or annuity approach.

The most popular approach appears to be treating long-term care insurance like accident and health insurance for tax purposes. This approach would allow individuals to treat premiums paid for long-term care insurance as a medical and dental expense or allow individuals whose employer pays such premiums to exclude these payments from taxable income. If the investment earnings are not taxed and distributions from the policies are treated as untaxed medical expenses, this would be the most generous of the tax proposals.

In this report, we did not discuss each proposal. Instead, we examined generic types—including pension, life insurance, and health insurance—and showed how the related tax incentives would affect the price of long-term care insurance depending upon (1) the age and tax bracket of the consumer and (2) whether the coverage is employer

provided or individually purchased. We also examined how these alternative tax treatments would affect the lifetime benefits and costs of individuals of different ages and in different tax brackets. We did not attempt to measure how changes in the cost of long-term care insurance would affect consumers' purchases of such insurance, nor did we attempt to estimate how an increase in the purchase of such insurance would affect the amount of long-term care provided.

Results in Brief

Although current tax practice regarding long-term care insurance is ambiguous, it appears to closely approximate the life insurance or annuity approach. Because investment income is not taxed, the annual premium for long-term care insurance costs less than it would if such earnings were taxed as accrued. For example, a 40-year-old customer in the 28-percent tax bracket realizes a 20-percent reduction in the annual premium resulting from exempting investment income. Interest accumulation is more important in calculating annual premiums for younger customers, so that the gain from exempting interest is much smaller for a 65-year-old about to retire. Such a worker only realizes an 8-percent reduction in the annual premium.

One important alternative approach would move the tax treatment of long-term care insurance to a pension model. Under this approach, individuals could deduct premiums paid for long-term care insurance or, if such insurance were provided by employers, exclude premiums from taxable income. This would lower the annual effective cost of such insurance. Deductions of premiums paid by individuals could be allowed in total or could be limited in some fashion, such as by the current 7.5 percent of adjusted gross income floor for medical and dental expense. If all long-term care insurance premiums paid by individuals were deductible or employer-provided premiums excludable, the effective percentage cost reductions would be equal to the consumer's marginal tax rate. If, on the other hand, the deductibility were limited to amounts above the current floor, less revenue would be forgone but fewer taxpayers would benefit.

Whether and how distributions from long term care policies should be taxed depends on how premiums paid and investment earnings are treated.[1] For example, if both premiums paid and investment earnings were fully taxed, there would be no rationale for taxing distributions under an

[1]Distributions can be payments for insurance claims or cash payments, depending on the type of policy.

income tax. To do so would be to tax the same income twice. If investment income is not taxed as it accumulates and not taxed even when distributed, high tax bracket purchasers who buy insurance well in advance of retirement would be favored. This advantage would be reduced, but not eliminated, if distributions attributable to investment income were subsequently taxed.

Some proposals that would treat long-term care insurance as accident and health insurance for tax purposes would significantly reduce the overall cost of such insurance. These proposals provide the most generous income tax treatment because they would allow deducting premiums and exempting both investment income and distributions from taxable income. Although someone paying at a 15-percent marginal tax rate would see some benefit, this combination of tax preferences would substantially lower the effective cost of long-term care insurance for those in the 28-percent or 31-percent tax brackets. If purchasers can borrow against or otherwise get access to a policy's cash value for reasons other than those related to long-term care, such policies may be purchased more as an investment than as insurance. For this reason, care must be exercised in defining long-term care insurance products for tax purposes, so that favorable tax treatment does not generate incentives—as it did in the life insurance industry—to create products that are tax avoidance mechanisms.

Because most proposals provide favorable income tax treatment, they primarily benefit those in the highest tax brackets who also tend to earn above-average incomes. According to a Congressional Budget Office (CBO) analysis, less than 25 percent of all families are expected to be in the top two tax brackets (28-percent and 31-percent) in 1993. One mechanism that could increase the incentive to purchase insurance for those in the 15-percent bracket—or possibly those who do not pay income taxes—would be to exempt long-term care insurance premiums from the payroll tax. If employers provided long-term care insurance as a fringe benefit and it were exempted from payroll taxes, the effective price reduction could be increased by over 15 percent for many low- and middle-income workers. Such a device would have very little effect on the price of insurance for those above the social security taxable wage base ($57,900 in 1993) because, for most of those taxpayers, social security taxes are not affected by small changes in taxable earnings.

Background

Few individuals purchase long-term care insurance, despite the fact that the population is aging and there are increasing strains on the Medicaid system. The likelihood of needing long-term care increases with age. For example, for those between ages 65 and 69 the risk of entering a nursing home during that period is about 3 percent, but the risk increases to about 30 percent for those between ages 80 and 84. As the baby boom generation ages, CBO has projected that the nursing home population could increase threefold from about 1.7 million in 1990 to 5.2 million in 2050.

However, even those who never go into a nursing home may require long-term care at some point in their lives. Many people require such care because of conditions that limit their ability to perform certain activities of daily living (ADL), including bathing, eating, and dressing. Again, the prevalence of such limitations increases with age. For example, CBO estimated that, in 1987, 4.2 percent of those aged 65 to 69 who were not in nursing or personal care homes needed assistance with at least one ADL, while 13.4 percent of those aged 80 to 84 who were living in a household needed such assistance.

Long-term care refers to medical, social, and support services provided over an extended period of time to people in nursing homes or in the community who are dependent on others for assistance. Paying for such care would represent a substantial financial burden for most people. Nursing home care, for example, can cost more than $30,000 per year. As a result, consumers may turn to long-term care insurance as a way to protect themselves and their families against the risk of paying such large and somewhat unpredictable costs.

There are basically two types of long-term care insurance: (1) a policy that provides a certain amount of money each day for an agreed-upon period of treatment in a nursing home or continuing care facility and, under certain circumstances, offers services such as home health care or (2) a rider to a life insurance policy that pays some portion of the death benefit as an accelerated benefit in case of entry to a nursing home or continuing care facility.

In 1990, Medicaid financed about 45 percent of the total expenditures for nursing home care.[2] A similar percentage (about 45 percent) of nursing home care expenses were financed out-of-pocket. About 1 percent was

[2]Medicaid is the primary government program financing long-term care services for certain categories of low-income people.

financed by private insurance.[3] About 2 million people had purchased long-term care insurance by 1990. In contrast, health and life insurance coverage is much more extensive. In 1990, more than 70 percent of the population had some form of private health insurance coverage. In 1984 (the latest year with available data), 81 percent of households had some form of life insurance coverage.

Most long-term care is provided informally by families and friends of the recipient. Thus, there is considerable potential for the use of formal long-term care to increase if policy changes make formal care less expensive. In particular, even if changes in tax policy make long-term care insurance cheaper and, as a result, more insurance is purchased, this does not mean the amount of long-term care provided will rise. There may be a substitution of one type of financing (private insurance) for another (out-of-pocket or Medicaid) or a substitution of formal care for informal care.

Some concerns have been expressed about the quality of long-term care insurance.[4] One particular concern is that nonforfeiture benefits, which are available for life insurance policyholders, may not be available for many long-term care insurance policyholders. Such benefits provide for the return of a portion of the reserves that have built up from policyholder premium payments. Without nonforfeiture benefits, someone who allows a policy to lapse will not receive any payment from the policy. This could be true even if the insured had been paying for the policy for many years and had built up a substantial amount of reserves from unused premium payments and investment income. The presence of nonforfeiture benefits, on the other hand, means that some residual amount accrues even to individuals who allow policies to lapse. These benefits can range from some reduced paid-up coverage based on reserves already accumulated to a cash surrender value that could be claimed by the insured.

[3]The remainder was financed by Medicare, private philanthropy, and state and local governments.

[4]For an analysis of consumer protection issues, see Long-Term Care Insurance: State Regulatory Requirements Provide Inconsistent Consumer Protection (GAO/HRD-89-67, Apr. 24, 1989) and Long-Term Care Insurance: Risks to Consumers Should Be Reduced (GAO/HRD-92-14, Dec. 26, 1991).

Although Long-Term Care Policies Are Structured Like Life Insurance, Motivation for Purchase Can Be Very Different

Long-term care insurance has many similarities to whole life insurance but also important differences. As is true of whole life insurance policies, most long-term care policies (1) offer a flat annual premium paid as long as the policy is in effect, (2) rely to some extent on investment earnings to provide insurance resources, and (3) have higher annual premiums when purchased by older individuals.[5] However, the two types of insurance differ in both the motivation for purchase and the criteria for payment of benefits.

Rather than pay an annual premium that increases with age, as with term life insurance, many life and long-term care insurance policyholders prefer to pay a flat amount per year as long as the policy is in effect.[6] The policy remains in effect while premiums are being paid and, under certain conditions, for a period after premiums have ceased.[7] In the early years of such a policy, the annual premium will exceed the amount someone of that age would have to pay for an equivalent amount of term insurance. The excess premiums are invested by the insurance company and earn interest for policyholders. The accumulation of these excess premiums and investment earnings are used to supplement annual premiums in later years when the premiums are insufficient to finance benefits paid.

While long-term care policies are structured in much the same way as whole life policies, the motivation for purchase can be very different. For example, the importance of life insurance often declines after retirement, while the importance of long-term care insurance is likely to increase. Because life insurance is generally insurance against lost income, it matters more during the working life than during retirement. Upon retirement, the level of earnings declines substantially and, as long as the worker's pension provides for a spousal benefit, the need for life insurance should also decline. If the children are grown and financially independent, the demand for life insurance declines still further.

Long-term care insurance, on the other hand, is insurance against the extraordinary expense of nursing home or extended home health care. While such insurance is useful for some families, it may not be appropriate

[5]While the premiums do not increase as the insured ages, most policies reserve the right to change the premium on the basis of experience. For example, if a company found that benefit payments were outrunning expectations for a class of policyholders, it might raise the premium for that class.

[6]Term life insurance pays the beneficiary the promised death benefit if the insured dies within a certain period of time, often 1 year. The premium for a given amount of such insurance increases with age because the insured's probability of death increases. The same would be true for long-term care insurance structured in the same way.

[7]This period will depend on the existence and type of nonforfeiture benefits.

for everybody. For the very wealthy, such expenses would not significantly reduce their standard of living or that of their heirs. Low-income individuals who require long-term care may be covered by Medicaid, so they do not require long-term care insurance. Such insurance may also be inappropriate for people who have income and assets so low that the expenses of a nursing home stay make them eligible for Medicaid.[8] A 1990 study indicated that people with less than $10,000 in nonhousing assets probably should not buy even the most basic policy and that certain policies may not be appropriate for people with $25,000 or less in assets.[9]

Policies purchased by prime age workers may cost hundreds of dollars a year but, in part because the probability of requiring long-term care increases with age, policies purchased by retirees are more likely to cost thousands of dollars per year. Currently, the primary purchasers of long-term care insurance are already retired, given that the average age of long-term care insurance purchasers is about 72. However, for most households, earnings and family income fall after retirement. Thus, retirees with lowered incomes are faced with higher premiums if they wait until retirement to purchase long-term care insurance. At least two studies examining the ability of older people to purchase long-term care insurance have found that many older people cannot readily afford it.[10]

For those with more assets to protect, long-term care insurance may be more appropriate. People in the middle- and upper-middle-income ranges might purchase insurance as a way of maintaining control over the form of long-term care they receive and which facility they might enter. In addition, these same people might purchase insurance as a way of protecting bequests against erosion by large health care costs. Long-term care insurance might also be useful to those who are concerned that Medicaid benefits might be restricted in the future.

The beneficiary of a long-term care policy may also have more control over the event that triggers payment from the policy than the beneficiary of life insurance. Life insurance coverage is triggered by the death of the

[8]People can become eligible for Medicaid once their income less medical expenses has been reduced to the eligibility threshold and their assets have been reduced to the legal maximum.

[9]Stephen C. Goss, Who Should Buy Long-Term Care Insurance? What Type of Policy Makes Sense?, presented at the Sixth Annual Conference on Private Long-term Care Insurance, March 1990.

[10]For a discussion about affordability concerns, see Alice M. Rivlin and Joshua Weiner, Caring for the Disabled Elderly: Who Will Pay?, the Brookings Institution (1988); James P. Firman and Susan Polniaszek, The Unaffordability of Nursing Home Insurance, Families USA Foundation and the United States Seniors Health Cooperative (Jan. 1990); and Long-Term Care Insurance: Better Controls Needed in Sales to People With Limited Financial Resources (GAO/HRD-92-66, Mar. 27, 1992).

insured. With some notable exceptions, such as suicide, this event is rarely under the immediate control of the insured or the beneficiary.

Long-term care insurance typically offers indemnity benefits for nursing care. The policies pay a set amount each day for a specific period of time a policyholder receives care. A policy may or may not cover all types of care (skilled, intermediate, or custodial) and policies may define covered services or facilities differently. Many policies also cover home health care services. These services can refer to either skilled nursing care provided at home by medical professionals or to assistance with daily activities such as eating and bathing, which can be provided by people without medical skills.

Long-term care insurance policies that put more discretion in the hands of the insured raise the degree of consumer protection but may also raise costs. As a result, companies often try to impose additional restrictions. For example, some policies require a policyholder to receive nursing home care before becoming eligible to receive home health care and require a physician to certify that a policyholder would need hospital or nursing home care in the absence of home health care. The National Association of Insurance Commissioners (NAIC) has deemed such provisions too restrictive because they tie the need for home health care to a more intensive level of care.[11] While home health care may be cheaper and more appropriate than nursing home care, the additional discretion in the hands of the insured can raise the cost of insurance through incentives for overuse.[12]

Tax Exemption of Investment Income Favors Younger Purchasers

The younger the purchaser of long-term care insurance, the lower the annual premium. In addition to the larger number of expected payments, early purchase takes advantage of (1) lower probabilities of needing care, (2) better risk pooling, and (3) accumulation of investment earnings to reduce the annual premium. If investment earnings are tax deferred or tax exempt, the benefits from early purchase are increased.

Because, in any given year, younger people have a substantially lower probability of needing long-term care than older people, the amount required to finance claims is lower. In addition, costs are lower for younger purchasers because of a better pooling of risks. Younger

[11]For a more detailed examination of regulatory issues regarding long-term care insurance, see GAO/HRD-92-14.

[12]This problem is called a "moral hazard" and is a traditional problem in many insurance issues.

purchasers are less likely to be in a position to predict whether they will or will not need long-term care before they die, while older purchasers may be more informed about these probabilities. As a result, the pool of young applicants is less likely to be biased toward high probability users and this broader pool leads to lower long-run costs for such coverage.[13]

Another important reason why younger purchasers pay a lower annual premium is that some of the cost of future coverage is financed out of investment earnings. The annual premium is lower than the average premium paid for year-by-year term coverage over a similar period. However, the accumulation of investment earnings may not reduce the cost of long-term care insurance in present value terms. If investment earnings are tax exempt, however, the long-run cost will be lower than if those earnings are taxable.[14]

Funding a particular level of insurance coverage is cheaper the higher the rate of return on investment. The rate of return is clearly affected by market conditions and by the investment performance of the insurance company. However, holding these variables constant, an important determinant of the cost of long-term care insurance is whether the company's investment income is taxable or whether individual policyholders are required to include such earnings in their taxable income. Currently, there is no tax at the company or the individual level. The result is a higher rate of return and a lower cost for these policies.

There is a larger cost reduction for younger purchasers than for older purchasers because the higher rate of return resulting from the tax advantage has a longer time to take effect. A comprehensive income tax would include the investment earnings of a long-term care policy in an individual's taxable income and would tax it at the individual's marginal tax rate. When we discuss the benefits and costs of different tax policy alternatives, either current tax treatment or this comprehensive individual income tax treatment will be our reference case.

An alternative that would involve less administrative cost but would raise tax equity concerns would be to include the earnings in the insurance

[13]A younger clientele reduces the likelihood of adverse selection—insurance parlance describing a tendency for poorer risks to seek or continue insurance to a greater extent than do better risks. That is, the most likely purchasers of insurance are those that are most likely to need it. To offset adverse selection, insurers may impose restrictions on paying claims or charge a higher premium.

[14]In present value terms, the cost of a given amount of insurance coverage should be the same whether the insurance is purchased as year-by-year term or as a level premium. However, if earnings accumulate at a higher rate—because they are untaxed—than the discount rate, the present value of the cost for the level premium policy will be reduced compared to year-by-year term insurance.

company's taxable income. In this case, the relevant tax rate would be the company's marginal rate rather than the individual's marginal rate. At present, the corporate tax rate is higher than all individual tax rates. As a result, everyone's investment earnings would be taxed at a rate higher than their individual marginal tax rate, but the difference would be greatest for the lowest income individuals.

Compared to including investment earnings in an individual's taxable income, the savings from tax exemption are greater for those in higher tax brackets. Table 1 shows the effect of exempting investment income on the annual premium of a representative long-term care policy for a 40-year-old and a 65-year-old purchaser. The first row gives the annual premium with no tax on investment income (current law). The second, third, and fourth rows show the premium if the investment income were to be taxed at a 15-percent, 28-percent, or 31-percent individual income tax rate. In each case, table 1 shows the premium and the percentage change compared with the no-tax case. For a discussion of the methodology used in the calculations, see appendix I.

Table 1: Annual Premiums for Long-Term Care Insurance Policies Purchased at Different Ages Under Alternative Tax Treatments

Marginal tax rate	40-year-old purchaser	65-year-old purchaser
no tax	$100	$692
Investment earnings included in individual's taxable income		
15 percent	112 (+12 percent)	723 (+4 percent)
28 percent	124 (+24 percent)	753 (+9 percent)
31 percent	127 (+27 percent)	760 (+10 percent)
Investment earnings included in company's taxable income		
34 percent	130 (+30 percent)	767 (+11 percent)

Source: GAO computation.

A married couple filing a joint return who had taxable income less than $35,800 in 1992—a household in the 15-percent tax bracket—received an implicit price reduction of about 11 percent because investment income was not taxed. Alternatively, such a couple would have seen their effective premium rise by 12 percent if investment earnings had been taxed. In contrast, a married couple whose taxable income was over $86,500—a household in the 31-percent tax bracket—received a price reduction of

21 percent from the exemption of investment income and would see a price increase of 27 percent if that income were taxed.

If the relevant alternative to exempting investment income is to tax at the company level, the savings that result from exemption are at their largest because the company tax rate is currently higher than the highest marginal individual bracket rate. In addition, the savings are the same for everyone, regardless of each individual purchaser's tax bracket or ability to pay. The last row of table 1 shows the effect of a 34-percent corporate rate on the premium. Comparing the last row with the rows representing individual marginal rates shows how much more the premium would rise under a system which taxed at the company rate relative to a system which taxed at the individual rates.

A different way of showing the effect of exempting investment income from taxation is to look at the expected present value of benefits and costs flowing from the purchase of a long-term care policy. The expected present value of benefits from the policy includes the discounted sum of all the amounts that the policy will pay multiplied by the probability that an individual will receive those benefits.[15] On the other hand, this present value of benefits does not measure all of the benefits from having insurance. Even if the insured does not collect from the policy, he or she receives benefits from the reduced exposure to the risk of financial loss that the policy provides. As such, the present value calculation is an understatement of benefits. However, the value of reduced risk will depend on the insured's attitude toward risk and is not readily observable.[16]

The expected present value of the cost of the policy is the discounted sum of all of the premiums that must be paid as long as the individual is alive and not living in a nursing home. We use a discount rate of 6 percent, the pretax earnings rate on the policy, to evaluate all of the alternatives.[17]

Table 2 shows how the ratio of the present value of benefits to the present value of costs would be affected by a change in tax treatment for

[15]These are called "contingent probabilities" because they depend on whether an individual is still alive to collect.

[16]Economists refer to this as the "degree of risk aversion." The more risk averse the insured, the more value the insurance has.

[17]For many purposes the after-tax rate is a preferred discount rate. However, using an after-tax rate in our analysis would mean we could not have properly compared results across different tax brackets because the discount rate would depend on the tax rate. A common discount rate allows such comparisons. See appendix I for further discussion of methodology.

individuals facing various tax rates. With no tax on investment income (the current treatment), the ratio is at its highest for each age and discount rate. If the premium charged properly reflects the amount necessary to fund expected benefits, the present value of benefits should be about the same as the present value of costs. The ratio should equal 1.[18] In all cases shown in table 2, the ratio is greater than 1. This generally reflects current practice of policies not having nonforfeiture benefits. As a result, those who do not allow their policies to lapse receive an extra benefit from the amounts contributed by those who pay for insurance for a time but then let the policy lapse.

As the tax rate on investment income rises, the ratio of benefits to costs falls. There is no effect from this tax change on the present value of benefits. Rather, the ratio falls because the annual premium cost, as well as the present value of these costs, rises as investment income is taxed at a higher rate. Because of the importance of investment income in financing policies for younger purchasers, the ratio falls much more for the 40-year-old purchaser than for the 65-year-old purchaser.

Table 2: Ratio of Present Value of Benefits to Present Value of Costs Under Alternative Tax Rates

Marginal tax rate	40-year-old purchaser	65-year-old purchaser
no tax	1.63	1.26
Investment earnings included in individual's taxable income		
15 percent	1.45	1.21
28 percent	1.31	1.16
31 percent	1.28	1.15
Investment earnings included in company's taxable income		
34 percent	1.25	1.14

Note: Discount rate is 6 percent.

Source: GAO computation.

Clearly, fully taxing investment earnings will reduce the attractiveness of these policies. However, the effect is much larger for younger purchasers than for older purchasers because of the importance of investment

[18]The premiums we calculate are "unloaded," that is, they do not include administrative expenses. Actual premiums would include such expenses and so would be higher. As such, the ratio of benefits to costs could be less than 1. Potential customers would have to decide if they were sufficiently risk averse to buy such insurance even though the present value of dollar benefits might be less than the present value of dollar costs.

earnings in the pricing of policies to younger purchasers. In our example, the benefit-cost ratio remains greater than 1 even with full taxation.

If investment earnings are taxed, younger purchasers in higher tax brackets see a greater reduction in the relative attractiveness of these policies. Exempting investment earnings from tax raises the ratio of present values by about 27 percent for someone in the 31-percent bracket (a married couple with more than $86,500 in taxable income in 1992), by 24 percent for a taxpayer in the 28-percent bracket (a married couple with $35,800 to $86,500 in 1992), and by 12 percent for a purchaser in the 15-percent bracket (a married couple with less than $35,800 in 1992). Retirees in higher tax brackets also gain more than those in lower brackets, but the percentage differences are substantially smaller.

Allowing Deductibility of Individual Premiums Would Favor Purchasers in Higher Tax Brackets

Several proposals for improving incentives to purchase long-term care insurance involve allowing premiums paid for such insurance to be tax deductible. This treatment could take either of two forms. The first would consider these premiums to be a medical expense and allow the annual cost to be included in that category of deductions. The second approach would be to treat premium payments in the same manner as contributions to an IRA, in that the annual premium would be considered an adjustment in calculating adjusted gross income.

Because the medical and dental expense deduction is meant to be for extraordinary expenses, it is only effective for those with expenses above 7.5 percent of adjusted gross income. In 1988, for example, 4.8 million taxpayers qualified for medical and dental expense deductions, while over 31 million taxpayers itemized. For those who currently qualify or those who are very close to qualifying, this deduction would lower the cost of insurance by an amount that depends on the marginal tax rate of the purchaser. However, if medical and dental expenses are small or if they fluctuate greatly from year to year, the effect may be either insignificant or highly uncertain. Using a deduction with a floor could give more incentive to buy insurance to those who are the sickest or most in need of care. Such incentives may enhance problems of adverse selection and could raise the cost of insurance.

Including such premiums as an adjustment to income would give a larger and more broad-based incentive. In this case, the effective annual percentage price reduction would be equal to the marginal tax rate of the purchaser. Thus, a married couple with taxable income of less than

$35,800 in 1992 would see a 15-percent reduction in the effective annual premium, while a similar couple with taxable income above $86,500 would see a reduction of 31 percent.

The long-run effect would depend on the earnings profile of the purchaser because this would influence the marginal tax rates faced over the purchaser's lifetime. It would also depend upon how distributions from the policy were treated. Making such distributions taxable, at least under certain circumstances, would offset some of the initial tax advantage. If the distributions are never taxable, there is no such offset.

We have constructed two cases to show the effects of allowing these premiums to be tax-preferred. In both cases we allow premiums to be subtracted from taxable income and, instead, fully tax distributions from the policies. We also follow current practice and allow investment earnings to be tax exempt as they accrue.

The first and simplest case involves the assumption that the tax rate faced by the taxpayer is the same every year from the date of purchase until entry to a nursing home or death. In this case, the ratio of the present value of benefits to costs is unchanged compared to the case presented in our discussion of taxing investment income. Under current law, both the deductibility of premiums and the treatment of distributions is ambiguous. Our earlier examples included premiums in taxable income but exempted distributions from taxation. If we reverse the tax treatment, premiums become deductible but distributions are taxed. Deducting premiums lowers after-tax premiums each year by the tax rate and taxing distributions lowers the effective benefit by the same percentage. Since both are reduced by the same percentage, there is no change in the ratio of benefits to costs.

A more likely scenario involves paying taxes at a higher rate during one's working life than during retirement. Of course, there are many such combinations. Table 3 contains examples for workers who, upon retirement, drop to lower tax brackets. For example, if a worker in the 15-percent bracket (someone whose household taxable income was less than $38,500 in 1992) fell to the zero bracket on retirement, he or she would find the ratio of the present value of benefits to costs would rise from 1.63 to 1.76. Similarly, someone in the 28-percent bracket (whose taxable income was between $38,500 and $86,500 in 1992) while employed who dropped to the 15-percent bracket upon retiring would find the ratio

rising to 1.76. The table also provides examples of more drastic marginal rate changes for comparison.

Compared to the case in which tax rates are constant over a lifetime, in this scenario, premium deductibility increases the ratio of present values for those who pay taxes. The ability to deduct the premiums reduces the present value of the costs by a larger percentage than taxing distributions reduces the present value of benefits. This occurs because the premiums are generally paid during working years when the tax rate and consequent effective cost reduction is higher, while the distributions are generally taxed during retirement, when the tax rate is lower.

Table 3: Effects of Exempting Premiums and Investment Income From Taxation on Ratio of Present Value of Benefits to Costs

Marginal tax rate	40-year-old purchaser
no tax	1.63
15 percent working / 0 percent retired	1.76
28 percent working / 15 percent retired	1.76
28 percent working / 0 percent retired	1.90
31 percent working / 28 percent retired	1.66
31 percent working / 15 percent retired	1.80
31 percent working / 0 percent retired	1.95

Note: Discount rate is 6 percent.

Source: GAO computation.

It is important to note that allowing premiums to be deductible for a taxpayer in a higher tax bracket has a larger effect on the ratio of benefits to costs because it reduces the cost by a greater percentage. This can be seen from table 3 by comparing cases with different working period tax rates but a zero retirement period tax rate. For example, if the tax rate while working is 15 percent (for example, a taxable income less than $35,800 in 1992) the ratio is 1.76. Alternatively, if the tax rate while working is 28 percent (a taxable income between $35,800 and $86,500 in 1992) and while retired is zero, the ratio is 1.90.

However, the level of tax rates is not as important as the difference in tax rates between work and retirement in determining the relative reductions in the present value of benefits—caused by taxing distributions—and costs—caused by premium deductibility. Therefore, in table 3 the ratio of benefits to costs is actually lower for a taxpayer in the highest marginal

bracket (31 percent working/28 percent retired) than it is for a taxpayer in a lower bracket, such as the taxpayers paying 15 percent while working and 0 percent retired or 28 percent working and 15 percent retired. Note that in the latter two cases marginal tax rates fell by 15 percentage points and 13 percentage points upon retirement, while in the first case marginal tax rates fell by only 3 percentage points.

People who buy these policies after they have retired will not be affected by this option, if we assume that their tax rate does not change. If, instead, such people pay higher taxes immediately after retirement and lower taxes later, the benefit-cost ratios are likely to be raised somewhat.

Different Components of Distributions May Be Taxed in Different Ways, but Clarification and Safeguards Are Necessary

As is true for whole life insurance, distributions from long-term care insurance have three components: the repayment of accumulated premiums, the payment of accumulated investment earnings, and the payment of an insurance amount. The first two components can be treated according to either income or consumption tax principles.[19] The proper tax treatment of the third component, the pure insurance component, is more ambiguous. While this component increases income in a technical sense, it does not necessarily reflect an increase in ability to pay taxes or in potential well-being. Strict treatment could appear harsh in some circumstances but overly generous treatment could lead to certain potential for abuse.

If premiums and investment earnings are fully taxed, there is no reason to tax the repayment of accumulated premiums or investment earnings. Because this accords with comprehensive income tax treatment, no tax advantage would exist. Once either investment earnings or premiums are granted a tax advantage, however, the tax treatment of payments from accumulated premiums and investment earnings becomes important. For example, in the case of tax-exempt investment earnings, generous treatment of distributions from accumulated earnings could lead to the development of investment-oriented policies. If contributions and investment earnings are not taxed on a current basis, the danger of potential tax-avoidance schemes becomes magnified.

At present, this does not appear to be a great basis for concern because many policies currently have little or nothing in the way of nonforfeiture

[19]Because a comprehensive income tax would tax premiums as paid and investment income as earned, there would be no tax on distributions. Alternatively, a consumption tax could exempt investment earnings and distributions or allow a deduction for the part of premiums that represents savings, defer taxes on investment earnings, and tax all distributions.

provisions. However, if the tax treatment becomes very generous, companies may offer more advantageous nonforfeiture provisions. To combat the use of long-term care insurance as an investment vehicle, assuming generous tax treatment and nonforfeiture provisions, it would be necessary to tax any surrender of cash values as income first and as return of premium second. Also, it would probably be best to deem amounts borrowed from the cash value as taxable income.

In our previous calculations, we assumed two alternative taxation schemes. In those cases in which premiums were taxable, we allowed distributions to be completely tax exempt. In those cases in which premiums were not taxed, we included the entire distribution in taxable income. These are clearly not the only possibilities. Because distributions are composed of different elements, we constructed examples of more complicated tax treatment. For example, if premiums were taxed and accumulating investment income were tax exempt, the part of distributions that represents investment income might be subjected to tax. Alternatively, the most generous tax treatment of long-term care insurance would not tax distributions even though premiums and investment earnings are not taxed.[20]

If the investment earnings were not tax exempt but merely tax deferred until paid out, the present value of the benefits from a policy would probably be reduced. Whether the benefits would be reduced would depend in part on whether the distributions occurred during a period when the insured was subject to income tax. The extent of reduction would be higher for those in higher tax brackets and would depend on the manner of inclusion. For example, a method such as that used for life insurance that would treat payments from a policy as return of premium first and interest second would reduce the present value of benefits by less than a method that treated payments as interest first (and taxable) and as return of premium second.

Taxing interest distributed from long-term care policies would reduce the ratio of the present value of benefits to the present value of costs somewhat if the recipient's income is subject to the 15-percent marginal tax rate and by more for those in higher tax brackets. However, it would not change the basic result that exempting investment income benefits those in high tax brackets more than those in low tax brackets.

[20]This is the most generous alternative if we confine our analysis to excluding income items or deducting expenditures. More generous treatment could be granted through tax credits for the entire premium or, at least, some part greater than the individual's marginal tax rate.

Fully exempting all distributions as well as premiums and investment earnings will raise the ratio of the present value of benefits to costs to its highest level. For example, someone subject to a 28-percent tax rate for their entire life would find the present value of benefits to be more than twice as great as the present value of the costs at a 6-percent discount rate. On the other hand, someone who faced a lower tax rate after retirement would see a somewhat lower ratio because the present value of costs would be a little higher as the deductibility of premiums is less valuable with the lower tax rate.

Exempting all distributions from a long-term care policy from any taxation does raise the potential for creation of investment-oriented policies. Again, strict rules on surrenders and borrowing can limit the potential for abuse. A lesser, but not irrelevant, source of concern arising from untaxed distributions from tax-advantaged policies is that they will be used to finance expensive continuing care or home health care expenses that are related to ADLs but more like consumption expenses.

In general, this has not been a problem with long-term care insurance. On the contrary, groups interested in consumer protection have often criticized those who offer long-term care insurance for limiting coverage and, in effect, refusing to pay for anything short of skilled nursing care.[21] State regulators have been primarily concerned with overly restrictive coverage and have been acting to gradually expand the types of care that must be covered. If the tax treatment is liberalized to the point where such insurance becomes a potential investment vehicle, there may be the need for oversight concerning the type of expenses that are tax free or tax deductible. Distinguishing what is allowable by use is one device to limit potential abuse, although one requiring an enforcement structure that could add to administrative costs. Caps on the amount of tax-free or tax-deductible expenses is another.

[21]GAO/HRD-89-67.

Employer-Provided Long-Term Care Insurance Might Benefit a Larger Population but Would Probably Cost More in Forgone Revenue

Rather than relying on individual purchases of long-term care insurance, an alternative device would be to increase the extent to which employers provide such coverage as part of their fringe benefit packages. If employers were to offer this benefit, they must have some assurance that employees would want it. Because the cost is likely to come out of other fringe benefits or wages, at least to some extent, it would be difficult for an employer to impose such insurance on its employees against their collective will.

There are two potential advantages to employer-provided long-term care coverage. The first is the possibility of group coverage and group rates. Although selection bias problems should not be great for those still in their prime working years, widespread group coverage could go a long way toward eliminating any selection cost premium that might remain in individual policies. The second advantage to the employee is that employer-provided coverage could be made exempt from payroll taxes as well as personal income taxes; this would spread the tax advantages more widely to include lower income workers. It is also a tax advantage that is not as large for higher income workers whose wages are above the social security taxable wage base ($57,900 in 1993).

Most individuals would not receive the maximum benefit from income tax preferences on long-term care insurance policies because they are not in the 28-percent or 31-percent marginal income tax brackets. According to CBO, only about 25 percent of taxpayers are expected to be in the top two income tax brackets—which under current law are 28 percent and 31 percent—in 1993.

Workers with adjusted gross incomes less than $20,000 are likely to be subject to a 15-percent marginal tax rate or, if they have enough exemptions and deductions, not pay any income tax. Allowing premiums to be deducted or exempting investment earnings would give small or no benefits to such taxpayers. However, if in addition to income tax preferences, some or all premiums paid for long-term care insurance are exempted from the employer and employee portions of the payroll tax, the tax savings for these workers would be based on rates that range from 15.3 percent to 30.3 percent, and the benefits from tax exemption would become more substantial.[22]

[22]This is assuming a payroll tax of 15.3 percent, 7.65 percent on employers, and 7.65 percent on employees.

While workers who are in higher income tax brackets but still subject to the social security wage limit would be getting an even larger break (about 43 percent), many workers who are in the 28- or 31-percent bracket are likely to be over the social security cap ($57,900 in 1993). If a worker is over the cap by more than the amount of the premium, the marginal benefit of protecting compensation from social security taxes is zero. At these wage levels, only the Medicare tax would be a relevant addition to marginal income tax rates.

Employer-provided coverage would be more costly from the government's perspective: forgone tax revenue. If employers fund the provision of long-term care insurance by reducing taxable wages rather than by reducing nontaxable fringe benefits, a smaller part of compensation will be subject to payroll taxes. The wider the coverage, the greater the tax revenue loss would likely be. The government would see two corresponding effects. Thus far, few people seem interested in purchasing long-term care insurance on their own. As a result, little of the tax revenues forgone would subsidize people to do what they would have done anyway. And the reduced payroll taxes would lower Social Security benefits in the future.

Most Additional Features Raise Cost of Policies, but Few Have Tax Implications

We and groups interested in consumer protection have suggested a number of features that should be included in long-term care policies.[23] Most of these features would likely raise the cost of insurance. For example, because benefits are normally stated in terms of dollars per day, some consumer protection groups have suggested that inflation protection would be a very important feature. Many policies are now including inflation protection of various types. Meaningful protection against inflation is going to be more costly for younger purchasers than for older ones. However, while such protection is likely to raise premiums, it is not likely to alter the relative effects of the different tax proposals that we have discussed previously.

We and others have suggested that some form of nonforfeiture benefits should be provided. In the event the insured decides to terminate the policy, such benefits provide the policyholder with certain benefits reflecting the reserves resulting from premium payments and accumulated investment earnings. For long-term care insurance, these benefits are likely to be an amount of paid-up insurance that pays a reduced benefit or a return of some percentage of the premium amount paid.

[23]GAO/HRD-89-67 and GAO/HRD-92-14.

The more generous these benefits, the more expensive the policies. The most generous, but also potentially the riskiest from a tax policy perspective, would be to provide a fully paid cash value similar to that associated with whole life insurance. This could have two potentially detrimental effects. First, it could generate incentives to produce investment-oriented long-term care policies. In an attempt to limit the development of investment-oriented life insurance policies, Congress defined life insurance policies for tax purposes and set up tests to see if a particular policy qualifies as life insurance or is considered "too investment-oriented." Similar tests may be required to see if long-term care insurance policies qualify for special tax treatment.

Second, establishment of paid-up cash values may also tempt consumers to dip into their policies for income and subsequently reduce their coverage, potentially exposing them to the very risks they are insuring against. More importantly, from a tax policy perspective, allowing policyholders to realize income without tax consequences would undermine the purpose of providing tax incentives, in this case encouraging people to obtain long-term care insurance.[24]

Objectives, Scope, and Methodology

Because there have been so many different proposals to define or to change the tax treatment of long-term care insurance, we did not discuss each proposal. Instead, we examined the generic types—including pension, life insurance, and health insurance—and showed how the related tax incentives would affect the price of long-term care insurance depending upon (1) the age and tax bracket of the consumer and (2) whether the coverage is employer-provided or individually purchased. We also examined how these alternative tax treatments would affect the lifetime benefits and costs of individuals of different ages and in different tax brackets.

We obtained lists of proposed legislation regarding long-term care insurance. From these lists we collected those proposals that dealt with changes in or clarifications to the tax treatment of long-term care insurance. We then categorized the relevant proposals into those that affected the tax treatment of premiums and those that affected the tax treatment of distributions. From these categories, we selected those aspects that were likely to have a significant effect either on the price or the attractiveness of insurance.

[24]For more discussion of these issues in the context of life insurance, see Tax Policy: Tax Treatment of Life Insurance and Annuity Interest (GAO/GGD-90-31, Jan. 29, 1990).

To estimate the effects of changes in tax treatment on the price of insurance, we calculated a premium for a long-term care policy with certain characteristics, including an assumed interest rate (6 percent), an amount of benefit paid per day ($100), the purchaser's age (40 and 65), and assumed lapse rates. The underlying actuarial assumptions regarding probability of entering a nursing home and expected length of stay at various ages came from the actuarial literature. We also did our calculations assuming that those who died or whose policies lapsed received no benefits from the policy. While changing these assumptions would affect the actual premium charged for the policy, we did not believe that such changes would affect the basic tax implications.

To determine how different tax policy alternatives would affect the incentive to purchase long-term care insurance, we calculated the expected present value of the benefits of such policies as well as the expected present value of the costs. We used the ratio of the present value of benefits to the present value of costs as our measure of attractiveness. Tax policies that raised the ratio were presumed to be more attractive than policies that lowered the ratio. We did these calculations for two ages, 40 and 65 years old, and for each personal income marginal tax rate as well as the corporate rate in those cases in which we considered alternative treatment of investment earnings.

A more detailed description of our methodology is in appendix I. We did our work between October 1991 and August 1992 in accordance with generally accepted government auditing standards.

As arranged with the Committee, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of issuance. At that time, we will send copies of this report to interested parties. We will also make copies available to others upon request.

Major contributors to this report are listed in appendix II. Please contact me on (202) 512-5407 if you or your staff have any questions.

Sincerely yours,

Jennie S. Stathis

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Methodology for Calculating Premiums and Present Value of Benefits and Costs

Methodology for Calculating Effects of Alternative Tax Policies on the Annual Premium

To evaluate how different tax policy options might affect consumers' incentives to purchase long-term care insurance, we calculated premiums under different tax policy scenarios. As our baseline, we calculated premiums for two different ages under the assumption that all investment earnings were tax exempt. We then recalculated the premium assuming that investment earnings were subject to tax at alternative marginal tax rates.

In each case, the calculations required assumptions about certain probabilities including

- the likelihood of requiring nursing home care,
- the likelihood of dying, and
- the likelihood of allowing the policy to lapse.

The first two types of probability are based on published actuarial data, while the last is based on assumed lapse rates that were present in a sample policy. Because of the short amount of time that long-term care insurance has been available and the small number of people who have purchased the insurance, data on actual lapse rates are not widely available. In addition, because policies have changed drastically in a short period of time, lapse rates may reflect in part people moving from insurance that is less than adequate to policies that are much improved from a consumer protection standpoint. Other more traditional reasons for lapsing have to do with death, unforeseen changes in financial circumstances, or a reevaluation of the purchaser's benefits and costs from the policy.

Lapse and death rates are very important in cases where nonforfeiture benefits are limited or do not exist. When there are no nonforfeiture benefits, nothing is paid to those who die or lapse, so all the other policyholders get to share in the accumulated excess premiums and investment earnings. This has the effect of reducing the premium necessary to fund a given policy for those who remain policyholders.

The death rates we used in our computations are not controversial. They are based on standard actuarial tables, that is, 1980 Commissioners' Standard Ordinary Mortality Table. Because there is much more controversy about lapse rates, we calculated premiums under a number of different lapse rates. As might be expected, the higher the assumed lapse rates, the lower the annual premium necessary to fund a given benefit. However, because all of the assumed lapse rate structures had similar time

patterns, alternative tax treatments had similar proportional effects on the premium.[1]

We calculated the annual premium that would be required to fund a particular benefit amount. The benefits were specified in terms of dollars per day. For example, a standard policy option is one that pays $100 dollars per day for each day spent in a nursing home. The premiums associated with higher or lower per day benefits are simply proportionately higher or lower. A more important source of variation is the expected length of stay.

We used data from the 1985 National Nursing Home Survey conducted by the National Center for Health Statistics between August 1985 and January 1986. These data were tabulated and expected nursing home stays were calculated by the Long-term Care Experience Committee of Society of Actuaries. The table of expected stays was reported in a 1990 volume of Transactions, which includes the minutes of the Society. Both the expected stay for any age group and how those expected stays change with age can have a substantial effect on the calculated annual premium. Longer expected stays will clearly raise the premium in proportion to the average length. The effect of major changes in the time profile of expected stays would depend on whether those stays declined more or less rapidly with age. Because we believe that this data source is very reliable, we did not do formal sensitivity analysis on expected stays.

Calculating Expected Present Values of Benefits and Costs

Our calculations of the overall benefits and costs of these policies uses an expected present value approach. This approach takes the perspective of a long-term care insurance policy purchaser who expects to keep the policy for the rest of his or her life. It calculates expected benefits and costs based on the probability that the individual will be alive at any date in the future and the probability that the individual will need nursing home care.

While the probabilities of death or need for nursing home care are generally beyond an individual's control, the decision to let a policy lapse is not. At any time the decision on letting a policy lapse depends on the individual's circumstances, both financial and personal, and can change over time. We have no way of modeling or predicting when an individual might decide to let a policy lapse. As a result, for our analysis we assumed

[1]In each case, the highest lapse rate was in the first year after purchase followed by a declining rate for 10 years and then a constant lapse rate from the 11th through the final year of the policy.

that, while other purchasers may allow their policies to lapse, our purchaser will not.

To calculate the present value of expected benefits we first had to calculate the expected benefit in each period of the policy. The expected benefit was calculated as the probability that an individual would need nursing home care multiplied by the expected value of the benefits received from the policy. The expected value is the length of the expected stay, measured in days, multiplied by the per day benefit paid. Clearly this is a minimum measure of these benefits both because the dollar amount paid by the policy measures only marginal benefits and because the benefit measured does not include an amount for the risk reduction offered by the policy. Once we had calculated the expected benefit per year, we used a discount factor to convert the series of expected benefits into a present value.

To calculate the expected cost per year, we had to calculate a survivor probability. This probability measures the likelihood that an individual will still be able to pay a premium in the sense that he or she has not died or entered a nursing home in the previous periods. We multiplied this probability by the annual premium and converted the series of expected annual costs into a present value using a discount factor.

So that we could compare alternative tax policies, we used a common discount factor; the pretax earnings rate paid by the policy. Changes in this pretax earnings rate have predictable effects on the costs and benefits of a policy. Higher pretax earnings rates mean lower annual premiums. However, for a given pretax rate and its resulting premium, alternative tax policies should have similar proportionate effects.

Our calculations are subject to a number of limitations. First, we are not able to directly measure the benefits of reducing risk. These benefits are the underlying reason for purchasing the insurance and depend on an individual's circumstances and preferences. As a result of these risk reduction benefits, people might buy long-term care insurance even if the present value of expected dollar benefits was less than the present value of dollar costs. Second, we are using "unloaded" premiums in our calculations. This means that we are ignoring administrative, sales, and overhead costs as well as any allowance for profit by the seller. Such additional costs would clearly raise the present value of costs without affecting benefits and lower any net benefit. Finally, there is a concern that

people may not buy this insurance because they have insufficient concern about the future or because they substantially underestimate future need.

One simple way of reflecting this shortsightedness is to use a higher discount rate. In the text, we used a discount rate of 6 percent. Surveys of policies done in the late 1980s showed that earnings rates usually ranged between 5 percent and 9 percent. We chose 6 percent because it was the rate used in a sample policy we examined and because it was within the range. Slightly higher or lower rates would not affect the results significantly.

Although economists normally use the interest rate that savers receive as their discount rate, individuals thinking about purchasing a policy may in fact have an individual discount rate higher than the rate they would earn on a long-term care policy. They might still be interested in the policy, not so much as an investment, but because it is insurance. In addition, a calculation using a higher discount rate may be useful because it can show how more generous tax treatment could conceivably turn a policy with a benefit-cost ratio less than 1 to a policy with a ratio greater than 1. We used a 10-percent discount rate because it is outside of our range but not so high that it would be an unrealistic reflection of an individual's balancing of the benefits of the present and the future.

The difference in discount rates is more important to a younger purchaser than to an older purchaser. In table I.1, a higher discount rate reduces the ratio of present value of benefits to costs from 1.63 to 1.02, even when there is no tax on earnings, while for a 65-year-old the reduction is only from 1.26 to 1.07. A 40-year-old with a 10-percent discount rate would barely find such a policy worthwhile even if interest were not taxed. With taxation, they are unlikely to purchase any long-term care insurance, unless they are very risk averse. The effect of taxing investment earnings is to reduce the ratio but in about the same proportion regardless of the discount rate.

Table I.1: Ratio of Present Value of Benefits to Present Value of Costs Under Alternative Tax Treatments

	40-year-old purchaser		65-year-old purchaser	
Marginal tax rate	6-percent discount rate	10-percent discount rate	6-percent discount rate	10-percent discount rate
no tax	1.63	1.02	1.26	1.07
15 percent	1.45	0.91	1.21	1.03
28 percent	1.31	0.82	1.16	0.98
31 percent	1.28	0.80	1.15	0.98
34 percent	1.25	0.79	1.14	0.97

Source: GAO computation.

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