An Economic Appraisal of Pension Tax Policy in the United States

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CHAPTER 2

Economic Justification of Pension Tax Policy

Why should the government award special tax-exempt status to pension trust funds? The defense of the system does not lie in the government trying to encourage early retirement or higher levels of consumption during retirement. Quite the opposite is true. Its defense is that the policy avoids application of a *double tax* on retirement savings. In effect, as will be shown below, the policy gets the government out of the business of influencing retirement decisions, leaving these matters to individual choice.

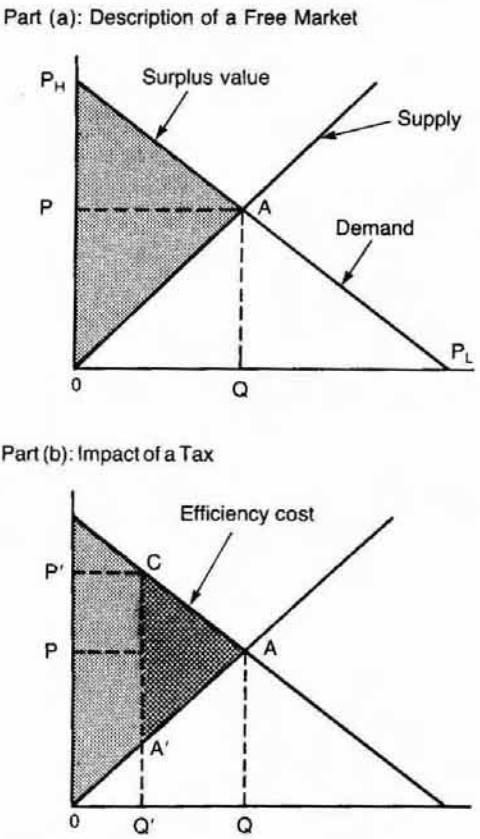
Put another way, the special tax treatment restricts the effective tax rate on income used for retirement consumption to the marginal rate stated in the Internal Revenue Code; without these rules, the statutory rates are increased substantially, but *only* if income is used to support consumption later in life.

ECONOMIC EFFICIENCY AND DISTORTIONS

It is useful to start by introducing a framework to evaluate the impact of public policy on an otherwise free market. For the sake of illustration, consider the market for fish depicted in Figure 2–1, Part (a). The figure might depict pounds of fish consumed during some period of time, say one year. The demand curve slopes downward, reflecting diminishing marginal value to consumption.

That is to say, the first few fish meals that are consumed are highly valued, so consumers are willing to pay a relatively high price for these, say P_H. After they have consumed lots of fish during the year, they are willing to pay a lower price for incremental fish meals, say price P_L. The quantity of fish actually consumed during the year depends on demand *and* supply conditions.

FIGURE 2–1 Efficiency Concepts



The amount of fish supplied is reflected in the upsloping schedule in the figure. At the low price P_L, fishermen might exploit some coastline schools of fish, which they can harvest at low cost. At the high price P_H, they might be willing to rent more boats, hire more labor, and harvest more distant, harder-to-find schools of fish. Equilibrium is determined when the marginal cost of finding and bringing to market one more pound of fish is equal to the marginal value of consuming one more pound of fish. In the figure, this equilibrium is described by the intersection of supply and demand, labelled point A. Market price is P and quantity of fish supplied and consumed is Q.

The value added from this market is described as follows: The total value of consuming Q pounds of fish is the summation of the marginal value of consuming each pound of fish from 0 to Q; this amount is

described by the area under the demand curve, area $0P_HAQ$. The total cost of farming the fish and bringing them to market is equal to the area under the supply curve, area 0AQ. The difference between the total value of consumption and the total cost of supplying the quantity Q of fish represents "surplus" value, denoted by the shaded area $0P_HA$ in the figure.

Now suppose the government imposes a tax on fish consumption in the amount P–P′ per pound. The impact of this tax is depicted in Figure 2–1, Part (b). The tax has the effect of raising price to consumers from P to P′. At the higher price, consumers are willing to eat fewer pounds of fish. They will consume the amount of fish denoted by the amount Q′ in the figure rather than amount Q because further fish consumed beyond Q′ are valued less than the new price, including the tax. Thus, only Q′ fish are harvested and brought to market.

This tax has imposed a *distortion* on the fish market, because, in the absence of a tax, more resources would have been devoted to fishing, and more fish would have been consumed. This distortion results in *economic inefficiency* or, equivalently, *economic cost* because even though the incremental quantity of fish Q–Q′ can be brought to market at a cost less than the value attached to the fish by consumers, the fish, in fact, will not be marketed. They will not be marketed because the tax acts to make consumers act as though the marginal cost of production is P′, when in reality the economic cost is only P. The measure of this inefficiency is the difference between the value attached to the incremental fish no longer consumed and the cost that would have been incurred to supply the additional fish. The inefficiency is denoted by the blackened triangular area A′AC in Part (b) of the figure.

As a general rule, when the government interferes with the operation of a market, economic costs are imposed because the interference distorts the behavior of consumers and suppliers from the optimal production and consumption of goods, services, or methods of production.[1] This is the essential argument why government policy towards retirement decisions should be guided by the free market. If the government artificially distorts relative prices of retirement consumption through the tax system, individuals will react to the distorted price system just as participants in the fish market reacted in Figure 2–1 (compare parts *a* and *b* in the figure).

That is to say, if the price of retirement is artificially increased through government policy, workers will retire later and consume less during retirement, just as a tax on fish would lead to less production and consumption of fish and more production and consumption of, say meat. The distorted retirement equilibrium is inefficient, just as the fish market depicted in Figure 2–1, Part (b), because workers and consumers essentially are prevented from creating the combination of lei-

sure and consumption over a lifetime that maximizes overall economic value.

ILLUSTRATION OF HIGHER INCOME TAX RATES ON FUTURE CONSUMPTION

With these ideas in mind, I will now proceed with a discussion of the impact of a hypothetical pension tax policy, one that does not award tax-free status to pension trust funds. Such a policy increases the relative cost of retirement which, in turn, causes distortions in workers' behavior and thus imposes economic cost on society.

To illustrate, consider a 40-year-old worker who pays a marginal income tax rate of 15 percent. Suppose the interest rate is 5 percent, and the real rate of interest is zero, so that the entire 5 percent interest reflects the anticipated rate of inflation. Thus, if $1.00 is saved for consumption next year, its value will increase with interest to $1.05, which will enable the individual to purchase the same commodity next year when it costs $1.05.

Suppose now that the age-40 individual wishes to postpone $1 of current wages to have available for consumption at age 65. Owing to inflation, which I assume amounts to 5 percent per year, products that cost $1.00 today will cost $3.49 in 25 years (one dollar compounded continuously at 5 percent per annum for 25 years is $3.49). The change in nominal prices is not a problem as long as my hypothetical saver can earn the full 5 percent interest rate. The worker's $1.00 also will increase with accumulated interest to $3.49 at age 65.

If the worker must save in a tax-exposed savings vehicle, however, $3.49 will not be available to spend in 25 years; that is, if the worker saves the $1 in a tax-exposed vehicle, he earns the *after-tax* interest rate. If the worker faces a tax rate of 15 percent, the after-tax interest rate is 4.25 percent, not 5 percent. Thus, at age 65, the worker has $2.89 available, only 82.9 percent of the $3.49 needed to purchase the same products that cost $1.00 at age 40.

In effect, there is an extra income tax applied to earnings *only if* these earnings are saved for future consumption. If the age-40 worker in the example consumes one dollar in earnings immediately, there is no extra tax. But if he saves the $1 for later consumption at age 65, in effect, his dollar is assessed an extra tax in an amount equal to 17.1 percent of the original $1 in savings.[2] Thus, because of the so-called double tax, the worker pays tax on earnings once, then pays a second tax (in a series of increments) as he tries to convert today's dollars into tomorrow's dollars. By waiting to spend $1 instead of consuming it immediately, the worker in the example loses 17.1 cents of that dollar's purchasing power.

Impact on effective income tax rate. It is useful to restate this extra tax as an addition to the stated income tax rate on earnings. The worker in the example faces an income tax rate statutorily set at 15 percent. Thus, our hypothetical worker presumably started out earning approximately $1.18 in gross earnings; then he was assessed an income tax at the rate of 15 percent, leaving $1 in after-tax earnings.

If this worker spends the $1 immediately, the statutory income tax on the original $1.18 wage is 15 percent. But if the worker postpones consumption until age 65, the $1.18 wage is assessed a double tax: First, a 15 percent income tax is assessed, leaving $1 after tax. Then, several additional income tax assessments are made on the interest earned as the worker tries to translate today's dollars into tomorrow's dollars. These additional tax assessments amount to 17.1 percent of the amount saved, leaving 82.7 cents in real terms to spend at age 65.[3] Thus, the *total* income tax assessed on our hypothetical worker's earnings is not 15 percent, but almost 30 percent.

In effect, the statutory income tax rate is higher than stated in the Internal Revenue Code, *but only if earnings are used to support later consumption*. The extra tax rate is higher, if there is a higher rate of interest, a longer savings period, or a higher marginal tax rate. These effective income tax rates are shown in Table 2–1 for individuals aged 30 through 60, for interest rates equal to 5 and 10 percent and for individuals facing statutory marginal tax rates of 15 and 28 percent. Future consumption occurs at age 65.

The table makes it clear that income tax rates on earnings used for later consumption greatly exceed those stated in the Internal Revenue Code. When the interest rate is 10 percent, an age-40 worker pays a 28 percent marginal tax rate on earnings used to support immediate consumption and a 64.2 percent tax rate on earnings used to support age-65 consumption.

The net effect of "special" pension tax policy is to reestablish the income tax rates announced in the Internal Revenue Code, regardless of whether earnings are used to support immediate or future consumption. In so doing, a large distortion against savings for retirement is removed. In my hypothetical example (interest rate equals 5 percent; marginal tax rate equals 15 percent), the age-40 worker is entitled to save the original $1.18 in earnings in the pension trust, which will earn the full pre-tax interest rate of 5 percent, leaving a balance of $4.10 at age 65. After paying the 15 percent income tax on the pension distribution, the worker is left with $3.49 to spend at age 65, which is worth exactly $1.00 in real terms.[4]

Impact on federal tax revenue. These arguments demonstrate why it is misleading to label special tax treatment of pensions as a tax "expenditure." The special tax treatment of pensions merely prevents the U.S. Treasury from levying a higher income tax rate than is statu-

TABLE 2–1 Tax Rates on Immediate versus Future Consumption

Age Income Is Earned	*Tax Rate on Consumption at Age 65*	
	i = 5%	*i = 10%*
	Statutory Tax Rate: 15%	
40	29.5	41.6
50	24.0	32.1
60	18.1	21.1
	Statutory Tax Rate: 28%	
40	49.2	64.2
50	41.6	52.6
60	32.8	37.4

NOTE: Numbers in the table are percents.

torily provided against wage income when it is used to support retirement consumption.

The amount of tax revenue that otherwise might be collected, except for the pension provision in the code, can be calculated if the assumption is made that individuals' behavior is unaffected by a tax code that exposes pension trust funds to taxation. Table 1–2 in Chapter 1 suggests that if the long-term interest rate is 10 percent, individuals will collect after-tax pensions that are 16.6 and 28 percent less if earnings are subject to taxation, the amounts depending on whether workers' tax rates are 15 or 28 percent. Expressed as a percent of before-tax pension benefits, these numbers are 14.1 and 20.1.

Assuming that workers are spread between these tax rates in the ratio of 1:1[5], the average portion of before-tax pension income that has been collected in the form of an extra tax levy is 17 percent. Annual private pension benefits in 1989 are in the range of $110 billion per year.[6] Thus, on the assumption that there are no income-smoothing effects from pensions (see next section), then elimination of special tax-exempt status to pensions would generate additional tax revenue in the amount of $19 billion per year. If state and local government pensions were added to this, the amount would be closer to $25 billion.[7,8]

INCOME SMOOTHING EFFECTS

Thus far, I have ignored a second income tax advantage from pensions: that is, their tendency to smooth taxable income over the lifetime. In a proportional tax system with no deductions, income smoothing has no implications for lifetime taxes. In a progressive income tax system, however, income smoothing has the effect of *reducing* the statutory in-

come tax rates set out in the Internal Revenue Code. This produces a distortion in the opposite direction to the double tax on workers' decisions to retire.

For example, consider a worker paying a 28 percent marginal income tax rate. If he spends one dollar of earnings immediately, he keeps 72 cents. If he saves the dollar through a pension fund to consume during retirement, he may pay a lower marginal tax rate, say 15 percent. If this is so, the worker keeps 85 cents out of his one dollar in earnings. Postponed consumption is taxed more lightly than immediate consumption.

The Tax Reform Act of 1986 eliminated the income tax smoothing effects for a significant portion of taxpayers because it established two broad marginal tax rates at the 15 and 28 percent levels.[9] Thus, to the extent that workers remain in the same tax bracket during work and retirement, the smoothing effect is eliminated. A back-of-the-envelope calculation suggests that approximately half of all households still might benefit from the income-smoothing effect of pensions.[10] For these individuals, the effect is worth up to 15 cents on each dollar of pension income taxed at a lower rate during retirement. This artifact of the tax code will artificially encourage these workers to prefer future consumption to current consumption and thus will encourage premature retirement.

The smoothing effect can be eliminated for all workers, thereby removing a distortion favoring spending during retirement. This correction can be made by changing the tax code to require all reported pension income to be taxed in full[11] at the same marginal tax rates paid during work years. This change would raise tax revenue and remove one of the remaining tax distortions affiliated with the pension system.[12] An equally effective alternative is to subject all pension contributions to taxation during the individual's worklife and exempt all pension income from taxation during retirement. As discussed in Chapter 1, this is economically equivalent to current pension tax policy, except that it eliminates the income-smoothing effect (see, in particular, Figure 1–1).[13]

A rough measure of the current impact of such a change can be derived by a back-of-the-envelope calculation. Suppose that half of all workers receiving pensions are able to shift to a lower marginal tax bracket compared to what they had during their work years. For simplicity, assume that all of their pension incomes are taxed at the lower bracket during retirement. Annual private pension payouts in 1989 were roughly $110 billion per year. The typical income-smoothing effect for those affected by smoothing is approximately 15 percent (the difference in tax rates during work and retirement years). This means that long-run revenues from this change in policy might be higher in the amount of $8.25 billion per year for private-sector

workers ($110 billion, times the 15 percent tax effect, times 50% of workers affected).

Remember that, at existing tax rates, the tax-exempt pension trust fund provision reduces tax revenue by approximately $19 billion per year (in 1989 dollars). Adding the income-smoothing effect increases this number to almost $27 billion ($35 billion including government workers). What the above argument suggests is that Congress could recapture approximately 25 percent of this loss by eliminating the income-smoothing effect and, in so doing, increase economic efficiency.

Social security income. There is a parallel income tax distortion inherent in the social security system. Currently, half of social security contributions are subject to the individual income tax during work years (the so-called individual's contribution). The other half, though technically the "employer's contribution," is exactly like an "employer contribution" to a pension plan. Both, in effect, are a part of wages; and, presumably, workers effectively pay for both pensions and social security through lower cash wages.

From the perspective of efficient tax policy, the problem with social security is that this "second half" of the contribution is *never* subject to taxation. Thus, there is an explicit distortion in the federal income tax code, encouraging overuse of the social security system: that is, workers are encouraged to overvalue social security, not because the system itself is valuable, but because there is a hidden tax subsidy embedded in the system.

This distortion was partially addressed in the Social Security Amendments Act of 1983. The second half of social security income was included as taxable income, but only for individuals with taxable income in excess of $25,000 and for couples with taxable income in excess of $32,000. (The tax revenue raised by this provision is transferred to the social security trust fund.) If social security is put on the same tax basis as private pensions, these limits would have to be eliminated. In this way, all social security income would be taxed once (half when contributions were made, and half when benefits were received). This is analytically equivalent to taxing all social security income at the time benefits are collected, just like private pensions.

Actually, these limits will effectively be eliminated over the long run. The 1983 amendments were written specifically to freeze the $25,000 and $32,000 thresholds at these *nominal* levels. Over the long run, as inflation takes its inevitable toll, the real value of the thresholds will gradually fall towards zero. Thus, for example, if the inflation rate was 5 percent per annum, after 20 years these limits would be more like $10,000 and $12,000 in real terms. There is some reason to believe that the thresholds will not be adjusted upwards in future years.[14] If this policy, in fact, is carried out as intended, then a neutral tax policy

towards social security benefits will be effected, albeit over a long period of time.[15]

If the income tax smoothing effect is eliminated for private pensions, it should be eliminated for social security. All pensions and half of all social security income should be taxed separately at rates that reflect marginal tax rates during work years. Since low-income individuals would pay no income tax during work years, there would be an automatic exemption of the tax for these individuals.

To give some idea of the revenue impact from this source, consider that social security benefits paid to retired workers in 1986 was $124 billion.[16] In the long run, half of these benefits, or $62 billion, will be subject to the income tax. Then, using the same rules of thumb as above (50 percent of households will benefit from income smoothing, and the amount of the tax benefit will be 15 percent of benefits received), an additional $4.6 billion in tax revenue can be raised annually ($62 billion, times 50 percent of recipients, times 15 percent income-smoothing benefit). In 1989 dollars, the revenue impact of this change in policy would exceed $5 billion.

Again, these adjustments to the tax code represent opportunities to raise revenue and, at the same time, remove the government from the business of influencing retirement decisions through the tax system. Since individuals have retired under the expectation of existing rules, however, the introduction of these new rules should be phased in over a lengthy period.

IMPACT OF ELIMINATING SPECIAL PENSION TAX POLICY

Given the tax structure in the United States, pensions are an efficient way to save income to support consumption during retirement years. Retirement does not usually occur because workers are no longer a productive part of the work force. Most workers—who typically enjoy better health and longer life expectancies than their predecessors who retired at older ages[17]—could work productively for many years beyond their age of retirement (which most typically occurs in the workers' early 60s).[18]

Viewed broadly, retirement is a choice variable for workers. Retirement is a bunching of leisure at the end of life. If wages were sufficiently low, workers simply could not afford to take this amount of leisure.

Similarly, if government policy made it prohibitively costly to save for retirement, workers would choose less of it. In this sense, federal tax policy toward the accumulation of worker savings for retirement undoubtedly will influence the broad scheme of observed retirement practices. Within this framework, it is interesting to try to predict the likely impact of eliminating the tax-exempt status of pension plan trust funds.

Retirement Age and Consumption

For the purposes of this discussion, I will assume that the income-smoothing effect will be eliminated in future tax legislation, so that what remains is the tax-exempt status of pension trust funds.

Without pensions, savings for retirement will be costly, and hence workers generally will retire later and enjoy lower standards of living during retirement. This point is made in Table 2–1, which shows that in the absence of the tax-exemption granted pension trust funds, the effective tax levied against income earned and saved for future consumption is much higher than tax rates levied against income used to finance immediate consumption. To illustrate how workers might react to a tax code policy that eliminated the tax-exempt pension fund status, I will consider a simple example.

Consider a worker who saves for retirement without a pension. This person earns $10 in real terms per year from age 35 until age 65 and, with certainty, will die at age 80. Suppose the expected inflation rate is 5.5 percent, and the real interest rate is 2 percent, so that the nominal long-term interest rate is 7.5 percent. Also, suppose for convenience that the prevailing tax rate is precisely 26.6 percent. In this case, the worker's after-tax real interest rate is zero.[19] All consumption and savings numbers in the example will be stated in real terms.

The worker intends to enjoy a constant level of income over his 45-year life after age 35. The worker would like to consume $6.66 per year ($10 × 30 years of work divided by 45 years of consumption). This means that a total of $100 is needed to support years of retirement after age 65 (i.e., $100/15 = $6.66). If the worker does not have access to a pension, he can earn an after-tax real rate of return, which, in this example, is zero. Thus, to support retirement in the amount of $100 in real terms, the worker must sacrifice $3.33 of consumption each year during the work life.[20]

This situation changes with a pension. Since pension earnings are tax exempt, the worker can earn a pre-tax real interest rate (2 percent in the example) on the savings made each year to support retirement. This means he can support the identical retirement consumption level of $100 by saving only $2.43 per year.[21] Thus, by using the pension, the individual consumes $.90 (= $3.33 − $2.43), or 13.5 percent more during work years without reducing retirement consumption.[22]

If the worker without a pension wants to save the same $2.43 per year instead of $3.33 and maintain consumption at the level of $6.66 per year, he can work three more years, retiring at age 68 instead of 65.[23] *Thus, one way workers can reduce the impact of taxation on interest income is to take fewer years of retirement*—hence reducing the need to transfer monies through savings that trigger the extra tax assessments.

On the other hand, *workers can reduce the level of consumption*

during retirement and maintain the retirement age of 65. This option is accomplished by reducing retirement consumption from $6.66 per year to $4.86.[24]

Also, *workers can switch leisure away from older to younger ages.* In the extreme, if all workers remained fully productive until death, they could take the same amount of lifetime leisure by working shorter work weeks and never retiring. In this way, lifetime consumption and lifetime leisure would be the same as under the current pension tax policy; it simply would be rearranged.[25] For example, if the worker in the example reduced his work week by one third, he could earn $6.67 per year over 45 years with no retirement. There would be no savings and thus no "extra" tax levies on interest earnings. Of course, if workers lose productivity as they age and/or firms are less efficient if workers work shorter work weeks, this "rearrangement" of leisure could have important implications for productivity (and thus wages).

In short, if tax-preferred status for pensions was eliminated (their tax-exempt status canceled), an additional tax burden would be imposed on early retirement and retirement consumption. Rather than react in only one of the ways described above, workers more likely will react in some combination. They likely will retire at later ages, enjoy lower standards of living during retirement, and work shorter work weeks during their worklife.

It is difficult to provide a quantitative estimate of these effects, but, given the large costs imposed on retirement by a double tax scheme (see Table 2–1), it is likely that workers' reactions would be substantial. Whatever the response, clearly it would not represent the distribution of work and consumption over the lifetime desired by individuals. Instead, equilibrium would be determined in an important way by a tax policy that levied special high income taxes on earnings used to support postponed consumption during retirement.

National Savings

We can also ask whether distortions in retirement patterns caused by an alternative pension tax policy imply reductions in national savings. The alternative tax policy is defined as one that does not grant tax-exempt status to pension trust funds. To the extent that savings are negatively affected by an alternative tax policy, a second-round impact on capital accumulation occurs, resulting in reductions in overall wage levels in the long run.

It is not obvious whether savings for retirement increase or decrease under an alternative pension tax policy. To the extent that retirement behavior is unaffected by the new policy, the national savings rate would *increase*. Recall from the above example that to maintain the retirement age of 65 and a retirement consumption of $6.66 per year,

the worker must save $3.33 per year without a pension, but only $2.43 per year with a pension. In other words, to accumulate the same amount to support consumption during retirement by age 65, a worker must have a higher rate of savings to offset the taxes assessed during the accumulation period.

On the other hand, because the cost of retirement increases, either the retirement age will be postponed or annual retirement consumption will be reduced, or both. These effects work to *decrease* the rate of retirement savings. In the above example, either if retirement age was postponed until 68 or annual consumption during retirement was reduced from $6.66 to $4.86 per year, the worker could maintain the savings rate he had with a tax-exempt pension.

It is not obvious which effect would dominate. Available estimates, however, suggest that pensions increase overall savings. Estimates suggest that for each $1 of pension savings, roughly 50 cents is saved in the absence of pensions.[26] In short, if pensions are replaced by ordinary savings vehicles, the savings rate for retirement consumption likely would be reduced by about half. This would imply a slower rate of capital accumulation, which, over the long run, would reduce overall wages levels in the United States.[27]

THREADS OF A NATIONAL RETIREMENT POLICY

The above discussion helps make it apparent that current tax policy towards pensions is not intended to promote long and prosperous retirement periods. Instead, it represents a policy of keeping the government neutral in workers' retirement decisions. Not awarding pension trust funds tax-exempt status is the equivalent of the government actively discouraging early retirement and consumption during retirement. The government influences decisions in this alternative world by imposing a special tax on earnings used to support consumption during older ages.

Other recent legislative activity by the Congress has been reenforcing the theme of letting individual choice determine retirement decisions. Two changes were made in 1977 and 1983 to eliminate important features in the social security system, which previously provided strong influences on individuals' retirement decisions.

Prior to 1977, the social security annuity formula was a function of *nominal* wage histories of retiring workers. The lowest five years of earnings were eliminated before average earnings were calculated. Solely because of increasing wages over time (due to economy-wide productivity increases and inflation), workers could substantially increase their social security annuities by continuing to work, thereby replacing inflation-eroded earnings in the early 1950s with current-dollar wages earned at older ages. This provided a strong incentive to con-

tinue working, perhaps as late as age 65, when the earnings test encouraged retirement (see below).[28]

In 1977, Congress changed the social security rules so that workers' earnings histories were adjusted by a national wage index up to levels that prevailed during the year the worker turned age 60. Thus, 1953 wages, for example, were restated in terms of current wage levels at age 60. This ruling eliminated most of the artificial incentive to keep working beyond optimal retirement ages determined in a free market, and instead let individual choice and productivity effects dominate the retirement decision.

While this change in policy reduced the social security system incentive to postpone early retirement, it left in place another provision—called the *earnings test*—which provided incentives for workers to retire no later than age 65. If an age-65 individual continued to work, he would lose 50 cents in social security benefits for each one dollar in wages earned. This was the equivalent of adding a 50 percent income tax on top of ordinary income taxes.[29]

While this individual could evade the explicit tax by postponing receipt of his social security benefits until he stopped work, he would not eliminate the effective tax imposed by the rule. If an age-65 worker continued to work for one more year, he would forgo one year's worth of social security benefits. In return, he would be awarded a slightly (3 percent) higher annuity beginning in the next year. However, since the present value of the higher annuity is substantially less than the benefits forgone during his age-65 work year, this option also acted like a special extra tax on work past age 65.[30] This tax rate was not trivial.[31]

In the Social Security Amendments Act of 1983, Congress did not eliminate the earnings test as such (though it reduced the rate from 50 to 33 percent), but it did act to gradually eliminate the penalty for work after age 65. In this way, one year's worth of forgone social security benefits are offset entirely by an increase in the annuity starting at a later retirement age. However, the penalty is to be removed gradually. The system is expected to be completely neutral on the decision whether to work after age 65 only by the year 2005.

While the impact of the 1983 law will not be fully effective for some time, it completes the policy begun in 1977 to substantially reduce government influences on the decision to retire. Once full equilibrium is attained, the social security system, following a long period of perhaps influencing the retirement decision in an important way, no longer will exert important artificial barriers to individuals' retirement decisions.[32] In addition, as noted above, the exemption of half of all social security benefits from taxation also is scheduled to be gradually eliminated over a lengthy period of time.

Once these changes are fully effective, social security policies will be consistent with a national pension tax policy that creates neutrality on the part of the federal government concerning individuals' decisions to retire. At the same time, the social security system addresses Congressional concern that all workers have "adequate" income during retirement. All workers—including "spenders" who might otherwise take advantage of "savers" when they attain old age—are required to contribute part of their earnings to a system designed to provide some minimum level of support during old age. In addition, the system is deliberately skewed to ensure that wage replacement rates are extraordinarily high for lower-wage workers.

It cannot be concluded, however, that this emerging federal policy implies that the government will leave the retirement decision entirely to the private sector. A fair reading of government actions in recent years implies a tendency to interfere with corporate retirement policies. Actions recently taken in this direction include the elimination of mandatory retirement policies and restrictions on the actuarial penalties imposed by most defined benefit pensions on older workers.[33]

For the most part, however, Congress continues to permit firms to influence the retirement decisions amongst their workers through a system of incentives to discourage "early" or "late" departure from the firm (see Chapter 1). This policy leaves the retirement decision to individuals and firms. As long as the government itself does not influence the retirement decision, older workers, even though encouraged to leave their main jobs at some point in their career, will not be discouraged from finding new jobs after taking their primary retirement.[34]

The next chapter builds on the essential threads of a national retirement policy that has government neutral in retirement decisions. The chapter begins the process of evaluating the tension between this policy, some of which is quite new, and other legislation, some of which is quite old, that interferes with savings and retirement decisions made in a free market. Evaluation of these policies in light of a more neutral national retirement policy may lead to a rethinking and revision of some perhaps outdated remnants of an older, more interventionist policy.

ENDNOTES

1. An exception occurs when the government attaches a tax on a market to correct an externality. For example, a pollution tax might align market incentives to account for effects on individuals not participating in the market.
2. That is, ($3.49 − $2.89)/$3.49 = 17.1%. In real terms, $3.49 is worth $1, and $2.89 is worth $.827.

3. See previous footnote.
4. That is, since the inflation rate is 5 percent in the example, then deflating $3.49 to age-40 dollars amounts to $1.
5. Roughly 44 percent of households headed by a 45 to 54-year-old (the most likely group of pension savers) have incomes in excess of $40,000, which likely makes them subject to the 28 percent marginal tax rate (taxable income for a joint income tax return must have taxable income equal to approximately $30,000 to face the 28 percent tax rate). Roughly 11 percent have incomes less than $10,000, likely making them exempt from taxation (owing to the standard deduction and personal exemptions). Since pension participants tend to have higher incomes, a 1:1 split between the 15 and 28 percent marginal rates seems reasonable.
6. Pension benefits in 1985 were $92 billion (Table 1–4). Assuming that these benefits have increased in nominal terms by 20 percent through 1989, puts the 1989 estimate at approximately $110 billion.
7. For an estimate of government pensions in relation to private sector amounts, see Ippolito, *Pensions, Economics, and Public Policy*, Chapter 5.
8. These estimates differ from the Joint Committee on Taxation numbers (see Chapter 1) because my estimates (a) exclude the effects of income smoothing (see next section in text) and (b) are based on a lifetime present value calculation. Congressional estimates are made on a cash accounting basis which offsets current contributions by current benefit payments. In a system that is growing, this method overstates the revenue impact of the pension tax provisions.
9. Some taxpayers, however, effectively face a marginal tax rate of 33 percent.
10. Households with less than $10,000 in income are likely to escape taxation owing to the standard deduction and personal exemption. Roughly 11 percent of households headed by 45 to 54-year-olds have incomes less then $10,000; 36 percent of over-age-65 households have incomes less than $10,000. This implies that 25 percent of households might shift from a 15 percent to a zero percent tax bracket when they retire.

    Married individuals filing joint returns must have gross family income in excess of $40,000 to be in the 28 percent tax bracket (in reality 33 percent—see footnote 9). Roughly 44 percent of households headed by a 45 to 54-year-old have income in excess of $40,000; only 14 percent of over-age-65 households have this level of income. These data suggest that 30 percent of households could shift from a 28 to a 15 percent tax rate during retirement. Data source: *Statistical Abstract of the U.S.*, 1988, p. 423.
11. This means that taxes owed on pensions would be calculated without consideration of deductions and exemptions.
12. Operationally, the calculation might work like income averaging prior to the Tax Reform Act of 1986. Upon retirement, individuals could be required to report the marginal tax rate over some sample of work years; this would be the rate against which all pension income would be taxed in the future.
13. This would be relatively easy in defined contribution plans since contributions are explicit. In defined benefit plans, this approach might well be intractable.
14. The reason is that revenue from taxation of social security benefits goes to the social security trust fund and is part of the equation that describes long-term solvency in the system.
15. See footnote 32 below.
16. See *Social Security Bulletin*, Annual Statistical Supplement, 1987, p. 102.
17. For example, male worker participation after age 65 in 1984 was only one half of

its value in 1940. See, U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States*, 1984. Also, see Richard A. Ippolito, "Towards Explaining Earlier Retirement After 1970," *Industrial & Labor Relations Reviews* (1990), forthcoming.

18. For example, using the database from the U.S. Department of Labor's Survey of Pension Benefit Amounts, I found that only 4 percent of the retirees covered by pension plans retired after "normal" retirement age (usually age 65).
19. That is, one minus the tax rate (1 − .266), times the nominal interest rate (.075), less the inflation rate (.055), is zero.
20. The amount \$3.33 times 30 years of work is \$100.
21. That is, if \$2.43 (real) is saved during each of 30 years and accumulates at a real interest rate of 2 percent, the amount \$100 (real) will be available in year 30.
22. That is, \$.90 is 13.5 percent of \$6.66.
23. That is, the solution to $(45 - y) \times \$2.43 = y \times \$6.66$, where y is the number of retirement years, is $y = 12$.
24. The solution to $30 \times \$2.43 = 15X$, where X is retirement consumption, is $X = \$4.86$.
25. In a study I did of retirement for a cross section of workers that retired in the 1960s, I found that there was at least a one-to-one relationship between earlier retirement and more hours of work during work years. See Richard Ippolito, "Income Tax Policy and Lifetime Labor Supply," *Journal of Public Economics* (April 1985), pp. 327–347.
26. See Peter Diamond and Jerry Hauseman, "Individual Retirement and Savings Behavior," *Journal of Public Economics* (February 1984), pp. 81–114; Louis Dicks-Mireaux and Mervyn King, "Pension Wealth and Household Savings: Tests of Robustness," *Journal of Public Economics* (February 1984), pp. 115–140; and Alicia Munnell, "Private Pensions and Saving: New Evidence," *Journal of Political Economy* (October 1976), pp. 1013–1031. Also see Martin Feldstein, "Do Private Pensions Increase National Saving?" *Journal of Public Economics* (December 1978), pp. 277–293.
27. Two factors might ameliorate the personal savings effect. First, if the government used the new tax revenues to reduce existing debt, the increase in government savings might offset the reduction in personal savings. Second, in a world capital market, a lower U.S. savings rate would be spread across international labor markets, thereby softening the impact on U.S. wages alone.
28. See Alan Blinder et al., "Reconsidering the Work Disincentives of Social Security," *National Tax Journal* (December 1980), pp. 431–442.
29. In 1987, workers could earn up to \$8,400 per year before the special earnings test was triggered. The threshold amount is indexed to the overall social security wage base.
30. See Richard Burkhauser and John Turner, "Can Twenty-Five Million Americans Be Wrong? A Response to Blinder, Gordon, and Wise," *National Tax Journal* (December 1981), pp. 467–472.
31. To illustrate, since wages are now indexed in the formula, then, with little consequence, I can ignore the recalculation effect that might occur because wages at age 65 might be higher than average real wages. An actuarially fair adjustment is roughly 8.3 percent per year. Thus, the amount of lost benefits for working the 65th year amount to roughly 5 percent (8.3 percent actuarially fair rate minus the 3 percent actually paid), times the number of retirement years left to death. If these years number 12, the tax would be 60 percent (5 percent penalty times

12 years), times annual benefits. If benefits replaced 60 percent of final wage (see Table 3–2 below), the tax rate on earnings equals 36 percent.

32. The social security system could have exerted important influences on retirement behavior even apart from the incentive effects discussed above because the system awarded important "wealth effects" (present value benefits greatly exceeded the present value of contributions). This action itself may have stimulated early retirement for many workers. But since these wealth effects have been diminishing gradually, these effects are expected to evaporate for workers retiring in the next century. See, for example, Robert Moffitt, "Trends in Social Security Wealth by Cohort," in *Economic Transfers in the United States*, edited by M. Moon (Chicago: University of Chicago Press, 1977), and Alicia Munnell, *The Future of Social Security* (Washington, D.C.: Brookings Institution, 1977). Also see Ippolito, "Towards Explaining."

    All of these studies were done before the 1983 amendments were enacted: retirement age with full benefits was increased gradually from 65 to 67; a new schedule of higher contribution rates was put into effect; and, as discussed in the text, half of all benefits will ultimately be subject to income taxation. These changes virtually ensure that the wealth effects for cohorts retiring after 2020 will be close to zero. See M.J. Boskin and D.J. Puffert, "The Financial Impact of Social Security by Cohort under Alternative Financing Assumptions," NBER Working Paper No. 2225, April 1987.

33. Actuarial penalties can still be imposed as shown in Chapter 1, but firms can no longer simply stop crediting service or freeze wages in the benefit formula solely because the worker reaches normal retirement age.

34. This essentially describes the system of retirement in Japan. See Kingsley Davis, "Retirement as a Dubious Paradise—Another Point of View," in *Issues in Contemporary Retirement*, edited by E. Lazear and R. Ricardo-Campbell (Stanford CA: Hoover Institution Press, 1988).