

# The Social Security Fund and National Capital Accumulation

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The Social Security program is almost certain to have a major influence on the Nation's rate of capital accumulation. For most Americans, Social Security is the primary form of saving for retirement. As such, the high and increasing level of Social Security benefits can markedly reduce personal saving and private capital accumulation; the evidence reviewed below suggests that this does in fact occur. The Social Security program also provides the opportunity to offset this reduction in private saving by developing a substantial Social Security capital fund. Indeed, the long-run financial problem that Social Security faces because of the Nation's changing demographic structure will almost certainly require the accumulation of a significant fund during the period of demographic transition.

The primary purpose of this paper is to present estimates of the Social Security fund and the associated contributions to national capital accumulation that would result from alternative tax rates. The analysis shows that even a transitional Social Security fund, i.e., one that is intended only to permit a constant level tax rate for present and future generations, makes an important temporary contribution to capital accumulation. The possible permanent contributions of alternative Social Security capital funds are also analyzed.

To put these simulations into perspective, I shall begin in section 1 with a general discussion of the effect of Social Security on private capital accumulation. The second section summarizes the long-run financial problem of Social Security and the role that a Social Security fund could play in its solution. Section 3 then discusses in more detail the way in which the accumulation of such a fund might operate and reviews the objections to a Social Security fund. The simulations of alternative Social Security funds are presented and discussed in section 4.

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*1. Social Security and Saving<sup>1</sup>*

With our current pay-as-you-go method of financing Social Security, each year's Social Security tax receipts are paid out as concurrent benefits and are not accumulated. There is no real investment of Social Security tax payments, and therefore no interest as such is earned on these compulsory contributions. When we, the current generation of workers, retire, we will not receive Social Security benefits by drawing down an accumulated fund. Instead, our benefits will be financed by the tax payments of those who are at work when we retire.

Because of the growing population and rising level of real wages, the taxes collected in the future will allow us as retirees to receive Social Security benefits greater in total value than the amount we will have paid in taxes while we were working. On average, the level of benefits will be equivalent to receiving a modest real rate of interest on our previous compulsory contributions to Social Security. If there is no further expansion of coverage or of benefit replacement rates,<sup>2</sup> future Social Security benefits will on average reflect a real rate of return equal to the rate of growth of total wage income (i.e., the rate of growth of the labor force plus the rate of growth of the wage rate). With zero population growth, the implicit real rate of return would be about 2 percent; although this seems low, it should be remembered that this is a real after-tax rate of return and therefore about as much as most low-income and middle-income households have traditionally received from personal savings accounts or government savings bonds.

For most Americans, the Social Security program is the major form of saving. Consider, for example, an individual with an income of \$10,000 who, in the absence of Social Security, would wish to save 10 percent of his total income for his old age. With Social Security, such an individual would not have to do any saving at all for his retirement. He need save only to buy consumer durables and to have a cash balance for emergencies. Similarly, an individual with an income of \$20,000 who, in the absence of Social Security, would want to save 10 percent of his income (or \$2,000), finds that Social Security now involves compulsory savings of about \$1,600. He would therefore need to save only an additional \$400 instead of \$2,000.<sup>3</sup>

<sup>1</sup>This section draws on Feldstein (1975, 1976a).

<sup>2</sup>Past increases in Social Security benefits were possible in part because new groups were being added to the covered population. Relatively few workers are now not covered, and the \$15,300 maximum causes the tax base to include all of the earnings of 85 percent of covered workers.

<sup>3</sup>This may be saved directly or through a private pension. Many private pensions are adjusted for changes in Social Security and provide very different rates of contribution on incomes above and below the Social Security maximum. This "integration" of Social Security and private pensions is explicitly recognized in the tax treatment of pensions.

In 1975, Social Security contributions for old age and survivors' benefits were \$57 billion, or 5.3 percent of disposable personal income. If individuals think of these contributions as equivalent to savings and reduce their own personal savings accordingly, the effect on total savings would be very substantial. In 1975, total private savings, including both personal and corporate saving, were \$111 billion.<sup>4</sup> If Social Security did reduce savings by \$57 billion, the total potential private savings of \$168 billion had been reduced by about 34 percent. If such a reduction in savings occurs every year, the U.S. capital stock would eventually be about 46 percent less than it would otherwise have been.<sup>5</sup>

Because Social Security taxes are not actually compulsory savings, but only an exchange of taxes for an implicit promise of future benefits, it is also useful to look at the likely effect of Social Security on savings in a quite different way. Instead of considering the Social Security contributions, the individual might focus on his expected benefits. Being covered by Social Security is like owning an annuity — i.e., a claim on future annual payments when the individual reaches age 65. Although the individual is not guaranteed these benefits by contract and could in principle be deprived of them by a legislative change, the past experience of the program and the current legislation suggest not only that benefits will continue to be paid, but also that they will increase with the general level of income.<sup>6</sup> These implicit Social Security annuities are an important part of each family's wealth. An individual with such an annuity could reduce his own private accumulation of wealth — whether held directly or through private pensions — by an equal amount.

It is therefore interesting to use the total value of these Social Security annuities as an estimate of the likely effect of Social Security on the total private stock of real wealth. The total value of these annuities reflects the number of workers at each age, their age-specific mortality rates and the mortality rates of their wives, the rate at which per capita income can be expected to grow in the future, and the appropriate rate of interest at which to discount future benefits in evaluating the future annuity benefits. A few years ago I estimated the 1971 value of this Social Security

<sup>4</sup>The private savings rate in 1975 was relatively high for the postwar period. From 1946 through 1975, the private savings averaged 6.7 percent of GNP; by comparison, in 1975 it was 7.4 percent.

<sup>5</sup>This is based on the assumption of a Cobb-Douglas technology with a capital coefficient of one-third; this implies that the equilibrium capital stock is proportional to the saving rate raised to the power 1.5.

<sup>6</sup>Even before the 1972 Social Security law, benefits were repeatedly raised by ad hoc legislation, so that the ratio of the average basic benefit (i.e., the benefit received by a worker with no dependents) to per capita income had fluctuated around 41 percent since the beginning of the Social Security program, with no noticeable trend.

"wealth" at \$2 trillion.<sup>7</sup> Since the total private wealth of households in that year was about \$3 trillion, the calculation suggests that Social Security may have reduced the stock of private wealth by about 40 percent — i.e., from \$5 trillion of wealth that would exist without Social Security to the \$3 trillion that currently exists. The 40 percent reduction is remarkably close to the estimate obtained by looking at the reduction in personal savings that would occur if households viewed Social Security taxes as an alternative to savings.

Two caveats must be noted at this point. First, while it is clear that rational individuals who are fortunate enough to have had a basic course in economics might understand the wealth implied by the Social Security program, the typical American household might not behave as this theory predicts. The two preceding calculations showed the extent to which the Social Security program would reduce private capital if households did substitute Social Security "wealth" for private savings, but they did not show that such substitution actually occurs. Second, even if households are perfectly rational in reducing private wealth accumulation by the value of their Social Security "wealth," the effect of Social Security is more complex than the preceding discussion indicated. As I have noted earlier, an important effect of the Social Security program (and especially of the rule that benefits are paid only to those who are effectively retired) is to induce a higher rate of retirement among older persons. But a higher rate of retirement will in itself increase the rate at which people choose to save. A man who plans to continue working until his death need only accumulate enough wealth to support himself (and any surviving dependents) if he becomes unable to work before he dies. If that same man is induced to plan to retire at 65, he will want to accumulate sufficient wealth to provide for this lengthier retirement period. At age 65 a man now has a life expectancy of more than 13 years. Since Social Security benefits are substantially less than earnings, the induced retirement is likely to lead to some additional private savings before retirement.

<sup>7</sup>Feldstein (1974a). This social security "wealth" is not real wealth but only an implicit promise that the next generation will tax itself to pay the annuities currently specified in the law. Although there are no tangible assets corresponding to this "wealth," it is perfectly rational for households to regard the value of their future Social Security benefits as part of their personal wealth.

The relative importance of Social Security "wealth" has grown very rapidly in the past two decades. In 1950, Social Security "wealth" was 88 percent of gross national product. A decade later it had increased to 133 percent of gross national product. Today it is more than 200 percent of gross national product. The impact on capital accumulation is thus more important than ever before.

The U.S. Treasury recently prepared an estimate of \$4 trillion for the unfunded liability of the Social Security program. Although the financial liability as such is not important, the \$4 trillion is significant as an estimate of the value of Social Security wealth as perceived by households.

The net effect of the Social Security program will therefore depend on the balance between the extra savings due to induced retirement and the reduced savings due to the replacement of private accumulation by Social Security "wealth."<sup>8</sup> The relative strength of these two effects will, of course, depend on the magnitude of the increase in retirees due to the Social Security program. In 1929, 45 percent of men over the age of 65 were retired. By 1971, the retirement rate had increased to 75 percent. Although the higher rate of retirement also reflects higher income, changing life expectancies, and a different occupational mix, the Social Security System is probably responsible for some of the increase in retirement. Nevertheless, it is clear that even if half of the increase in retirement were attributable to Social Security, the reduction in savings due to the replacement of private wealth by Social Security "wealth" is almost certain to be much greater than the effect on savings of induced retirement.

Evidence is now beginning to accumulate to support this conclusion about the adverse effect of Social Security on aggregate national savings. In the first direct test, I examined savings behavior in the United States from 1929 to 1971 (Feldstein, 1974a). The analysis employed a generalization of the consumption function specification that Ando and Modigliani (1963) had used to test the traditional life-cycle model. I reasoned that the effect of Social Security was most appropriately represented by the present actuarial value of the retirement and survivor benefits to which the current adult population was entitled, i.e., by Social Security wealth.

The Social Security wealth variable should play the same role in the aggregate consumption function that is expected of the ordinary "fungible wealth" variable: a higher level of wealth should increase current consumption and decrease current saving. In addition to this direct effect, the growth of Social Security wealth should increase retirement and thus stimulate saving. The coefficient of the Social Security variable should therefore reflect the net effect of these two influences.

The statistical estimates indicate that Social Security does reduce private saving. The estimated marginal propensity to consume Social Security wealth was generally significantly positive and not significantly different from the coefficient of ordinary wealth. The implied magnitude of the effect of Social Security on saving is therefore very large. The point estimate of the coefficient of Social Security wealth indicates that personal saving in 1971 was approximately halved by Social Security, implying a reduction in total private saving (including corporate saving) of 38 percent. When the sample was restricted to the period since 1947, the coefficients remained quite similar but the standard errors became so large that the effects of both ordinary wealth and Social Security wealth were

<sup>8</sup>I have discussed these offsetting effects more formally in Feldstein (1974a, 1976a, 1977b) in the framework of what I have called the extended life-cycle model.

insignificant. This evidence thus provides preliminary support for the conclusion that Social Security substantially depresses saving, but indicates the need for research with new bodies of data that can provide more precise estimates.

The time series data were subsequently analyzed in a number of interesting ways by Munnell (1974a, b). She tested the effect of retirement explicitly by modifying the consumption function with Social Security wealth to allow the marginal propensity to consume out of disposable income to vary with the labor force participation of men over 65. Although this provides a very imperfect measure of the expected future retirement of current workers, the interaction variable always had the expected sign. With this method of adjusting for the induced retirement effect of Social Security on saving, the coefficient of Social Security wealth was closer to an estimate of the pure wealth substitution effect; Munnell's coefficient of Social Security wealth was nearly 50 percent greater than my estimate was in an equation that did not try to separate the effect of induced retirement. Munnell's decomposition also permits explicit estimates of the way in which the Social Security wealth replacement effect and the general increase in retirement have had offsetting effects on aggregate saving: in 1969, according to her estimates, Social Security wealth reduced personal saving by \$54 billion while the greater retirement since 1929 increased saving by \$26 billion.<sup>9</sup> In interpreting these figures it would of course be wrong to regard all of the impact of the increased retirement to be the indirect induced retirement effect of Social Security. Much of the increased retirement would no doubt have occurred simply because of higher incomes, urbanization, the decline of self-employment, the depression, etc.; a simple extrapolation of the geometric rate of decline in the labor force participation of older men from 1900 to 1929 can account for nearly 75 percent of the increase in retirement from 1929 to 1969.

A quite different type of evidence supporting the extended life-cycle model is provided by an analysis of intercountry differences in saving rates. Modigliani (1970) has shown that the pattern of intercountry differences in private saving rates is consistent with the predictions of the traditional life-cycle theory: higher saving rates in countries with higher rates of economic growth and higher proportions of the population of working age. To assess the effect of Social Security, Feldstein (1977b) added measures of retirement behavior (the labor force participation rate of men over 65 and the life expectancy at age 65) and of the substitution effect of

<sup>9</sup>This calculation is based on the first equation of Table 3, p. 562 of Munnell (1974a). It differs from Munnell's estimate which is based on her strange and extremely narrow concept of "retirement saving" which she defines to include only the increase in the net assets of life insurance companies and of private and government pension plans; by ignoring most forms of saving, Munnell greatly underestimates the saving effects of both Social Security wealth and changing retirement behavior. Her later work (Munnell, 1976a) uses only the more traditional definition of saving.

Social Security (the ratio of Social Security benefits per aged person to average income per capita). The coefficients of these variables had the predicted signs, were statistically significant in a variety of specifications, and accounted for a substantial portion of the variation in the saving rates of the 15 developed countries in the sample. In particular, the coefficient of the Social Security variable implied that the average level of Social Security benefits reduced the saving rate by 4.2 percentage points or one-third of the average private saving rate; similarly, an increase in relative Social Security benefits from one standard deviation below the mean to one standard deviation above reduced the private saving rate by 5.4 percentage points.

This of course reflects only the partial wealth replacement effect of Social Security since retirement is held constant statistically. However, the evidence indicates that the wealth replacement effect is much more important than the induced retirement effect. The net effect of Social Security implies that the average level of Social Security benefits reduces the saving rate by 3.5 percentage points, more than four-fifths of the pure wealth replacement effect.

The use of microeconomic household data to measure the impact of Social Security is just beginning. Munnell (1976a) analyzed data collected by the National Longitudinal Survey of the Department of Labor and studied saving defined as the change in net worth over a three-year period. She found strong evidence that men aged 45 to 65 substantially reduce their own saving if they are covered by Social Security or by a private pension. Her analysis used an extended life-cycle model that explicitly included the expected time to retirement and life expectancy after retirement, but there was no specific test of the effect of differences in expected retirement date. Because Social Security now covers almost everyone (the exceptions are almost all government employees or railroad workers with their own pension programs), the estimated effect of Social Security coverage is difficult to interpret. It is reassuring therefore that Munnell finds that saving is reduced by private pension coverage and varies inversely with crude estimates of pension benefits and Social Security benefits.

This finding is supported by a new study using different microeconomic data and a quite different method of analysis. Feldstein and Pellechio (1977) relate the value of household assets (rather than saving) to Social Security wealth. The analysis, which uses the 1962 Federal Reserve Board *Survey of Consumer Finances*, finds strong evidence of the substitution of Social Security wealth for other assets of those nearing retirement age (i.e., those age 55 to 64) although more ambiguous results for younger persons.

The effect of Social Security on private saving also explains the surprising fact that the concentration of wealth as traditionally measured has remained stable during the past 50 years in spite of strong economic pressures toward greater equality. Simon Kuznets (1956) calculated that the top 1 percent of the population received 15.6 percent of disposable income

in the 1920s but only 7.7 percent in 1946 (the last year of his analysis). Although exactly comparable figures are not available for more recent years, there is no evidence of an increasing concentration of income and some evidence that the share received by upper income families has continued to decline. In contrast, Robert Lampman's (1962) classic study concluded that the share of wealth held by the top 2 percent of families varied only from 32 percent in 1922 to 29 percent in 1953; more recent evidence shows no decrease in concentration in the 1960s. It seems at first a paradox that the concentration of wealth has remained unchanged in spite of the reduced concentration of income and the rapid increase in estate and gift tax rates. The paradox is easily resolved, however, by recognizing that the vast majority of middle-income and lower-income households have substituted Social Security wealth for ordinary fungible wealth. I used the 1962 Federal Reserve Board *Survey of Consumer Finances* to compare the distribution of fungible wealth (i.e., excluding Social Security) with the distribution of total wealth including a detailed estimate of each family's Social Security wealth (Feldstein, 1976c). The results show that the distribution of total wealth is much less concentrated than the distribution of fungible wealth and has therefore become much more equal during the past half century. For example, the top 1 percent of families with a head between 35 and 64 years old owned 28.4 percent of fungible wealth but only 18.9 percent of total wealth.

Finally, the expected impact of Social Security is supported by the general aggregate evidence on the long-term trend in net capital accumulation. Kuznets (1961) reported that the ratio of net capital formation to net national product averaged 12 percent during the 60 years ending in 1928.<sup>10</sup> In the 30 years since World War II, the ratio of net capital formation to net national product has averaged only 7.7 percent.<sup>11</sup> While this fall in the net saving rate no doubt reflects a great many changes in the Nation in the past 50 years,<sup>12</sup> it is certainly consistent with the view that Social Security has reduced real capital accumulation.<sup>13</sup>

With less capital accumulation, there is a lower level of productivity and therefore a lower national income. The parameter estimates in my

<sup>10</sup>More specifically: 1869-1878, 12.5 percent; 1879-1888, 12.1 percent; 1889-1898, 13.2 percent; 1899-1908, 12.9 percent; 1909-1918, 10.4 percent; 1919-1928, 10.1 percent.

<sup>11</sup>See Feldstein (1977c) for a description of these data and a more detailed analysis. Government deficits decreased the postwar rate of net capital accumulation, but by less than 1 percent of net national product.

<sup>12</sup>As Kuznets has written: "The general answer to the question as to why savings-income ratios failed to rise with the secular rise in real income per capita is quite simple: because the whole pattern of economic and social life changed." (Kuznets, 1952, p. 522)

<sup>13</sup>The fall in the gross saving rate has been much less sharp but is clearly perceptible in the data: a fall from more than 20 percent before the depression to less than 16 percent in the postwar period. See my discussion of this evidence and of the study by David and Scadding (1974) in Feldstein (1977c), part 1.

study of U.S. time series data implied that Social Security would eventually reduce the U.S. capital stock by some 40 percent of what it would otherwise have been. If the Nation's capital stock is now 30 percent lower because of Social Security, national income is reduced by about 11 percent or, for 1975, \$165 billion.<sup>14</sup> To put this number in perspective, note that \$165 billion was nearly one-fifth of total consumer spending and nearly equal to all of gross private domestic investment. Viewed somewhat differently, \$165 billion is \$750 per person or more than \$2,000 per family. Let me emphasize that this reflects the pay-as-you-go nature of the Social Security System and not Social Security as such.

The important effect of the reduction is not however the fall in income or wage rates. The reduction in national wellbeing comes from foregoing the opportunity to invest in real capital with a rate of return to the Nation of 12 percent and substituting instead a very low-yielding implicit intergenerational contract.<sup>15</sup>

## 2. *Social Security's Long-Run Financial Problem*

Although the effect of Social Security on the Nation's rate of capital accumulation might, unwisely, be ignored, there are financial problems that must be faced.<sup>16</sup> In the near future, it will be necessary to correct the "double indexing" of benefits to inflation that was erroneously introduced in 1972<sup>17</sup> and to raise taxes by enough to eliminate the current deficit;<sup>18</sup> in order to discuss the future sensibly, I will assume that both of these short-run problems are solved. It is on the remaining long-term financial problem that I will concentrate.

<sup>14</sup>The calculation assumes a Cobb-Douglas technology with a capital coefficient of one-third.

<sup>15</sup>The nature of the welfare loss is discussed in some detail in Feldstein (1977c, section IIB). See also Feldstein (1977a).

<sup>16</sup>The issues discussed in this section are dealt with more fully in official reports by Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds (1976), Consultant Panel on Social Security (1976) and Quadriennial Advisory Council of Social Security (1975) and in unofficial studies by Feldstein (1975, 1977d), Kaplan (1976), and Munnell (1976b).

<sup>17</sup>While adjusting benefits and taxable wages for inflation is clearly a good idea, it is generally agreed that the method used was technically wrong. It makes real benefits and taxes hypersensitive to inflation. As far as I know, all Social Security experts believe that the current method of indexing should be corrected.

<sup>18</sup>This is perhaps an appropriate point to stress that the popular concern about the possible bankruptcy of Social Security is based on a fundamental misunderstanding. It is true that the Social Security System has a trust fund of only about \$40 billion and obligations of about \$4,000 billion; by the conventional standards used to determine the actuarial soundness of private pension programs, Social Security would be judged bankrupt. But this analogy of Social Security to private pension programs is totally misleading. There is no economic reason why Social Security should ever be bankrupt. The government's power to tax is its power to meet the obligations of Social Security to future beneficiaries. As long as the voters support the Social Security System, it will be able to pay the benefits that it promises.

Table 1

TAX RATES TO FINANCE CONCURRENT BENEFITS

Years	Benefits Based on Wage Indexing <sup>1</sup>	Benefits Based on Price Indexing <sup>1</sup>
1976-1980	10.74	10.70
1981-1990	11.19	10.49
1991-2000	12.25	10.28
2001-2010	12.80	9.85
2011-2020	15.00	10.76
2021-2030	17.99	12.20
2031-2040	18.99	12.10
2041-2050	18.76	11.51

<sup>1</sup>“Wage indexing” refers to the method of inflation adjustment proposed in Department of Health, Education and Welfare (1976), while “price indexing” refers to the method of adjustment proposed by the Consultant Panel (1976).

Source: Estimates of benefits and taxable wages were prepared by the Social Security actuaries for the Board of Trustees 1976 Report and for the Consultant Panel.

The problem and its causes can be summarized very briefly. To maintain the current structure of benefits and the pay-as-you-go method of finance would require the Social Security tax rate to double over the next 50 years. This is a result of the changing demographic structure of the population and the maturing of the Social Security program. A short explanation of each is in order.

The birth rate has dropped dramatically since 1960 at every age level. The total fertility rate, i.e., the average number of babies born per woman in her lifetime, remained above 3.0 from 1947 to 1964 and then declined sharply and continuously to less than 2.0 today. A rate of 2.1 is required just to maintain the population at its current size over the long run. Even if the fertility rate were to rise immediately to this zero population growth value of 2.1, the demographic structure of the population would still change markedly over the next 60 years because of the demographic swing from baby boom to baby slump that has already occurred.

Today there are 30 retirees per 100 workers. The Social Security actuaries now estimate that even if the fertility rate were to rise rapidly to the zero population growth rate of 2.1, there will be 45 retirees per 100 workers in the year 2030. If the current pattern of benefit replacement ratios (i.e., the ratio of benefits to previous earnings) is to be maintained, the tax rate would also have to rise by 50 percent, from 11 percent to more than 16 percent.<sup>19</sup> Although this simple proportionality is only an approximation of the more complex calculation that will be examined in section 4 below, it does illustrate the powerful effect of the changing demographic structure.

The maturing of the Social Security program is important because it implies that the high implicit "rate of return" that retirees have, until now, received on the taxes that they paid will be very much lower for those who retire in the future. Although it is still not understood by the general public, readers of this paper know that the secret of Social Security's ability to pay back more in benefits than the retirees (and their employers) previously paid in taxes is not the productivity of capital investment but the growth of real Social Security tax revenue. Its rapid growth for the past 30 years has had four separate sources: the rise in average weekly earnings, the growth of the labor force, the expansion of Social Security coverage and the fivefold increase in the tax rate.<sup>20</sup> Although real wage rates will continue to rise, none of the other sources of tax revenue growth can continue to expand as they have in the past. When the tax

<sup>19</sup>The 11 percent rate is the total rate required to finance the 1976 benefits for old age, survivors and disability insurance. The 9.9 percent combined rate paid by employers and employees represents a deficit level. An additional 1.8 percent is paid for health insurance. I shall always refer to the combined employee-employer rate.

<sup>20</sup>The tax rate has increased from 2 percent in 1937-49 to 9.9 percent today with an additional 1.8 percent for health benefits.

rate, the coverage and the population have stabilized, the "rate of return" that participants earn on their Social Security contributions will be limited to the growth rate of real wages, at most about 2 percent per year.

The financial consequences of the demographic change and of the maturing of the system can be summarized by the changes in the tax rate required to finance each future year's benefits *on a concurrent basis*. For this purpose, I assume that the current faulty method of indexing is corrected in the way proposed by the Department of Health, Education, and Welfare (1976). The HEW proposal bases benefits on previous relative wages and thus makes the ratio of the retiree's benefits to his previous earnings depend on his previous relative position in the distribution of earnings and not directly on his previous real income. The importance of "wage indexing" instead of price indexing is discussed below. The tax rates required to finance future benefits are shown in the first column of Table 1. Decade averages are presented for the entire period for which Social Security Administration actuarial estimates have been prepared.

The projected tax rate rises from the current value of 9.9 percent to more than 19 percent in the decade 2031-40. Even 35 years from now, the projected rate already reaches 15 percent. By promising the current structure of benefits and by relying on pay-as-you-go financing we are trying to impose these very high tax rates on future generations of workers and taxpayers. There is a serious moral question of whether we have the right to impose such a burden on future generations. There is also the important practical problem that those future generations may reject the "obligation" to pay a higher tax rate than we ourselves are willing to pay. The marked fall in the "rate of return" that I noted above will make Social Security less of a "good deal" for participants than it was in the past and will thereby reduce political support for a large Social Security program. When labor and management see that they can get a much higher return from private pension plans, their support for Social Security will turn to pressure for a reduced program that concentrates on providing a more minimal level of benefits. In short, planning for a sharp increase in tax rates courts the danger that future retirees will not receive the benefits that they had anticipated.

A second important problem with high future tax rates is that, to the extent that they actually occur, they raise the overall marginal tax rate (including income and sales tax) of middle-income and low-income households. The higher Social Security tax rate thus exacerbates the distortions and disincentives already produced by our current tax system. A specific example will illustrate this point. A family of four in Massachusetts with earnings of \$12,000 in 1976 currently pays a combined marginal tax rate of about 36 percent on any extra earnings. This is equivalent to paying an extra \$56 in taxes for an extra \$100 in after-tax consumption. A 10 percent increase in the Social Security tax would raise the marginal tax rate to about 46 percent, implying an extra \$85 in taxes for each extra \$100 in

after-tax consumption. Such high tax rates would undoubtedly have substantial distorting effects on work effort, job choice, etc.<sup>21</sup>

The sharp increase in tax rates implied by the HEW proposal is undesirable and is in fact unnecessary. There are two alternative policies that eliminate the need for such a future increase: developing a Social Security fund and modifying the method of inflation adjustment to make benefits depend on real wages rather than relative wages. Both are good ideas and both might be done together. The next section will discuss some of the alternative ways of developing a Social Security fund. The current section will now conclude by describing the method of price indexing recently proposed by the Consultant Panel on Social Security (1976) in its report for the U.S. Senate Committee on Finance and the U.S. House Committee on Ways and Means.

The essential feature of their proposal is to make future benefits and replacement ratios depend on the previous real income rather than the relative income of the retirees. This is done by using earnings that are indexed by the price level during the earnings period for the purpose of computing benefits. The mechanics of this method are less important for the current discussion than the reason for and the effect of relating benefits to real earnings. It has always been a principle of Social Security that individuals with higher lifetime average earnings and contributions should receive higher benefits. It has also been a principle that the replacement ratio (i.e., the ratio of benefits to preretirement earnings) should decline with income. For example, a new retiree in 1976 who has always had median earnings (now \$8,500) and who has a dependent wife will get benefits that replace 69 percent of his previous gross wage. In contrast, someone who has always had maximum earnings (now \$15,300) will get a lower replacement, about 45 percent including the dependent's benefit. Thirty years from now, a man who has had median earnings all his life will be earning about \$15,500 (measured in the prices of 1976). With this increased income it would not be appropriate to continue the 69 percent replacement rate currently given to the median worker with a dependent.<sup>22</sup> This would produce a benefit of nearly \$11,000. It would be more appropriate to recognize that a lower replacement rate is appropriate at that higher real income. With the 45 percent replacement currently paid to someone with that real income level, tax-free benefits would be \$7,000 a year.

<sup>21</sup>The effect depends not merely on the tax but on the perceived link between taxes and benefits. A greater perceived redistribution and a lower perceived rate of return increase the adverse incentive effects of the high Social Security payroll tax; see Feldstein (1977e).

<sup>22</sup>Continuing the current replacement rates at each level of *relative* income is a characteristic of the HEW proposal. The choice between the two proposals can be regarded as essentially a choice between making *replacement ratios* depend on *relative income* versus *real income*.

Using the price indexing method to relate benefits to real income would make aggregate benefits rise much more slowly in the future than they would with the relative income method of wage indexing. The estimated tax rates required to finance the concurrent year's benefits are shown in column 2 of Table 1. They rise to a maximum of only slightly more than 12 percent in comparison to the 19 percent required for the wage indexing method.<sup>23</sup> These lower tax rates obviously entail lower benefit levels and therefore arouse political opposition from those who oppose any reductions in benefits. A comparison of columns 1 and 2 suggests that someone who is now 40 will save relatively little in taxes during the next 25 working years if price indexing (column 2) is adopted instead of wage indexing (column 1) but would receive substantially lower benefits during the retirement years that follow. For those already retired in 1976, the lower tax rates permit no personal saving while the lower benefits are seen as a personal cost. The political outcome may therefore force us to think about financing the wage-indexed benefits associated with column 1 or, at best, some compromise between columns 1 and 2.

Even if column 2 type pure price indexing did become the rule, there would still be the need for rates to increase by about one-fourth of the current 9.9 percent to compensate for the increased ratio of retirees to workers. Moreover, Table 1 is based on the optimistic assumption that productivity and real wages will contrive to rise at 2 percent a year. If that increase is limited to 1.75 percent,<sup>24</sup> the tax required with price indexing would rise to 13.1 percent instead of 12.2 percent and with wage indexing to 19.9 percent instead of 19 percent. A continued reliance on pure pay-as-you-go financing inevitably entails a substantial increase in the tax rate at some time in the future.

### 3. *Accumulating a Social Security Fund*

To eliminate our dependence on a large tax increase self-imposed by future voters, we should begin now to accumulate a fund in anticipation of the demographic bulge ahead. We can do this by raising taxes ourselves during the next decade by more than is required to finance the concurrent benefits. This would yield a surplus that could be invested to develop a Social Security fund.

Although there are many possible ways of developing a Social Security fund, the basic principle in all of them would be quite simple: the fund would invest the Social Security tax receipts in excess of benefits in

<sup>23</sup>I believe that this price indexing method also has other valuable features that are not relevant for the issue at hand; these are discussed in Consultant Panel (1976) and Feldstein (1977d).

<sup>24</sup>Average real weekly earnings before tax have grown during the past 25 years at an annual rate of 1.3 percent; if we disregard the recession of 1974 and 1975, the 23-year growth rate was 1.7 percent.

*previously outstanding* government debt by purchasing government bonds from private investors. The net interest received by the Social Security fund would also be reinvested by purchasing such existing privately held government debt. When the demographic bulge finally arrives, the fund could be run down by paying benefits in excess of tax receipts.

A crucial feature of the fund proposal is that the annual surplus (i.e., the excess of taxes and fund income over benefits paid) should be invested in existing government debt held by the public and not merely used as a method of allowing the government to increase its deficit and issue new debt. By investing only in previously outstanding debt, the Social Security fund induces portfolio investors to substitute new private securities for the government debt that they have sold. In this way, the accumulation of government debt by the Social Security fund can lead to the accumulation of an equal amount of real capital owned by private investors. The Social Security fund therefore not only mitigates the long-term financial problem but also offsets the adverse effect of Social Security on private capital accumulation.<sup>25</sup>

Recognizing this role of a Social Security fund in offsetting the fall in private saving suggests that the appropriate size of the Social Security fund might be more ambitious than is required merely to get through the demographic bulge without an extra increase in the tax rate. The next section examines three alternative goals for a Social Security fund, ranging from just financing the demographic bulge to accumulating a significant permanent capital fund and finally to accumulating a fund that is large enough to endow the future financing of Social Security benefits. Any of these fund plans would be desirable as an offset to the low rate of capital accumulation and as a way of avoiding the dependence on a sharp future increase in taxes.<sup>26</sup> The next section analyzes the financial and capital accumulation implications of all three alternatives.

I have already stressed the fact that although the Social Security fund is invested in government debt, it has the indirect effect of adding to the Nation's real capital investment. The return that society earns on this additional saving is substantially higher than the real interest rate paid on government debt. Long-term government bonds now pay a nominal interest rate of 7 percent. An optimistic inflation forecast of 4 percent for the same horizon implies a real financial yield on government debt of only 3 percent. By contrast, additional investment in the corporate sector capital

<sup>25</sup>In this discussion and everywhere else in the current paper, I assume that full employment is maintained. In particular, I assume that investment will rise to absorb extra savings, perhaps with the help of more favorable tax policies for investment income. I recognize that a large sudden increase or decrease in saving would have unsettling short-run effects and that any major change in the saving rate should therefore be accompanied by an appropriate mix of monetary and tax policy during the period of transition.

<sup>26</sup>I do not want to discuss here the explicit welfare economics of why a Social Security fund would be desirable or, equivalently, why it would be desirable to increase capital accumulation by a government surplus. See however, my comments in Feldstein (1977c, part II).

stock yields a pretax return to the Nation of about 12 percent.<sup>27</sup> The Social Security fund might be operated to reflect this high national yield by a direct subsidy from general tax revenue to the fund in proportion to the interest that the fund receives on its portfolio of government bonds. The next section examines three of the many possible rules for imputing the national benefits of extra investment to the Social Security fund and of adjusting the tax rules accordingly.

Before looking at these return-reinvestment rules and their implications in detail, I would like to consider briefly the objections that I have heard in response to the general idea of any Social Security fund. I will discuss the five arguments that I have heard most frequently:

1. It is often alleged that accumulating a Social Security fund would not add to real capital accumulation. Nancy Teeters, now a senior Congressional Budget analyst, provides a very clear statement of this view:

A private pension plan can transfer resources over time for the individual by currently investing in productive capital that produces real income in the future, whereas the social security surpluses are invested in government securities. The interest on those government securities is a government expenditure that must be financed from current revenues. Creating near-term surpluses to build up large trust funds that will generate large interest payments in the future does not reduce the burden of supporting the dependent population in the year that it occurs. The existence of large trust funds only determines whether the cash-benefits program is going to be financed out of payroll taxes or out of general revenues used to pay the interest on the securities held by the trust fund.

There are two common and crucial errors in this paragraph. Consider what actually happens when the Social Security program has a surplus with which it buys outstanding government securities on the open market. First, the future interest payments on that debt are paid to the Social Security program instead of to the private individuals who previously owned the government bonds. Therefore, contrary to the implication of Dr. Teeters' statement, there is no need for additional taxation to make extra interest payments. And the Social Security program has interest income that permits it to lower the payroll tax and yet still provide the same level of benefits. The burden on the future generation of taxpayers is thus lighter. Second, the private individuals who originally sold their government bonds to the Social Security fund will invest the proceeds in private bonds and stocks. This additional demand for private securities will increase the

<sup>27</sup>See Feldstein and Summers (1977) for an analysis of the evidence on the rate of return in the postwar period. Unlike Nordhaus (1974), we find no indication of a secular decline in the rate of return. See also the summary in Feldstein (1977a).

funds available for private investment, and extra private investment increases the real capital stock and raises future income. In this very real sense, a Social Security trust fund can transfer resources over time and reduce the tax burden on future generations.<sup>28</sup>

2. There is still a vestige of the early Keynesian fears that a Social Security surplus would produce excess savings and serious recession.<sup>29</sup> These concerns have inappropriately been carried from the Great Depression into the present decade. Now our capital market would have no difficulty in adjusting to an increasing rate of savings. With more capital available for investment, the cost of capital would fall; firms would introduce more capital-intensive techniques of production, and would provide more good jobs in capital-intensive industries. There is no reason why the United States cannot absorb savings at the same high rates that other developed countries can.

3. Some who would otherwise favor an increase in capital accumulation fear the excessive interference of a Social Security fund with the private economy. There would be grounds for such concern if the accumulation of a Social Security fund required ownership of physical capital or equity shares in private companies; however, such investments are not necessary. There is currently more than \$500 billion of privately held government debt (including the debt of state and local governments) and more than \$200 billion of additional bonds issued or guaranteed by government agencies. Private mortgages and corporate bonds might provide further means for channeling funds to the private capital market without becoming involved in management or equity ownership.

4. Accumulating a surplus in the near term requires raising the Social Security tax rate. This is seen by some as unfair or excessively burdensome. It must be remembered, however, that the Social Security tax is already scheduled to increase substantially in the future in order to deal with the changing demographic structure of the population. By raising the tax rate now, the eventual total increase can be reduced, since the interest income of the Social Security fund will be available to pay part of the cost of future benefits. If we do not raise the tax rate now, we will be placing an unfair burden on the next generation — asking them to pay a much higher tax rate to support us than the rate we charged ourselves. And if they refuse to shoulder this burden, and to tax themselves more heavily than we are now taxing ourselves, the benefits that we receive will be very much smaller than we now expect.

<sup>28</sup>If some portion of these extra private funds is invested abroad or replaces foreign investment in the United States, the social rate of return on them may be lower than otherwise. This occurs when a foreign government collects part of the return in its business income tax, or when the United States loses corporate tax receipts on displaced foreign investment. But the additional investment still transfers resources over time in a productive way and thus alleviates the burden on future generations.

<sup>29</sup>In 1941, Seymour Harris, one of the pioneer Keynesians in America, praised the ability of the Social Security program to reduce total saving.

5. Finally, there are some critics who object to lodging such a fund in the Social Security agency rather than in the Treasury or in some other government department. I recognize that there is no compelling economic logic for assigning this responsibility to Social Security. But historically and politically, the Social Security System has been viewed as a substitute for private savings and private pensions. The Social Security agency is therefore the natural place in the government structure in which to locate a public savings or pension fund. Adding to the already existing Social Security fund should raise none of the ideological or political objections that might be aroused by the creation of a new government investment agency. It is not just coincidence that in other countries the ownership of a large public capital fund has been specifically vested in the Social Security agency.

#### 4. *Simulating the Development of Alternative Social Security Funds*

When I first started writing about this subject, I thought of a substantial Social Security fund as an economically wise but politically unlikely goal. In contrast, I now believe that some such Social Security fund will become a reality because of the financial pressures on the Social Security program and that its political support will probably be quite unrelated to its economic wisdom. A fund will permit dealing with the demographic bulge without a sudden shift in the tax rate. Our sense of fairness requires that the next generation not be asked to pay a higher tax to support us than we have been prepared to pay to finance the same replacement rates. Our sense of prudence should reinforce this decision not to depend on the willingness of others to raise their own taxes. If these considerations lead to a level tax rate, they will in turn entail the development of a Social Security fund.<sup>30</sup>

This section presents summary descriptions of simulations of the development of alternative Social Security funds. The simulations indicate the level tax rates required to achieve each of the three alternative fund goals that I mentioned above. In discussing the simulation results, I shall emphasize the contribution of the fund to the capital stock and to national saving. It is useful to begin by describing the features that are common to all of the simulations; the nature of the differences among the simulations will then be outlined.

<sup>30</sup>The Consultant Panel suggests coupling its price indexing proposal with a constant level tax rate of 10.3 percent. Although this involves a deficit in the short run, there is a surplus starting in the year 1996 which causes the Social Security fund to grow until the decade beginning 2010. The fund is then depleted by the demographic bulge and is actually exhausted before the year 2030. The HEW proposal calls for a level 10.5 percent tax rate until the year 2010 followed by a level 12.5 percent rate; such financing is at best hypothetical since the fund would in fact be exhausted before 1990.

All of the simulations are based on forecasts of benefits and of taxable payroll prepared by the actuaries of the Social Security Administration.<sup>31</sup> These forecasts entail a whole range of specific assumptions about the size of the future population, the rise in real wages, the rates of future labor force participation and retirement, etc. Projecting such variables for 75 years into the future provides ample scope for error. Perhaps the most that can be said is that these figures provide a convenient framework and are regarded by the Federal Government as the best that can be done with available information. Because the proposals that are examined here adjust for changes in the price level (or nominal wage level), the results are not affected by errors in the forecast of future inflation rates; only the growth of real wages really matters. The simulations assumed that real wages rise at 2 percent.<sup>32</sup> The age specific fertility rates are projected to rise rather rapidly to a total fertility rate of 2.1, the rate required for zero population growth; the detailed forecasts of population growth of course reflect the existing demographic structure. Separate analyses are presented for the "wage indexed benefits" proposal of HEW and the "price indexed benefits" proposal of the Consultant Panel. The same taxable wages are projected for both proposals on the assumption that the maximum taxable wage will increase through time to maintain the current standard that 85 percent of workers earn less than the maximum.

The growth of a Social Security fund and its effect on national savings depend on the rate of return earned by the fund and on the tax policy pursued in achieving the development of the fund. As I indicated above, there is a wide range of alternative possibilities and the three that are examined here should be regarded as illustrative of this wide range. In each of the examples I assume that the real return to society on additional capital accumulation is 12 percent. I also assume that government bonds pay a nominal interest rate of 7 percent and that there is a constant 4 percent rate of inflation. The three examples differ in the rules that determine how much of the 12 percent real national return accrues to the fund and therefore in how much of the 12 percent return is reinvested in additional net capital accumulation.

Consider first what I will refer to as the "Low Return-Reinvestment Rule." This rule has two basic features: (1) the fund gets only the 3 percent real return on government debt and (2) the remainder of the extra national return is used to finance private and public consumption. The second "reinvestment" part of the rule is really a separate assumption and does not follow from the first. In principle, the reinvestment could be greater if some of the remainder were also invested. I shall assume, as a

<sup>31</sup>These forecasts were used by the Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds and by the Consultant Panel in its report.

<sup>32</sup>The actual calculations are based on money wage increases of 6 percent and price level increases of 4 percent.

reasonable but conservative approximation, that reinvestment is limited to the return paid to the fund. It may be helpful to explain how the low return-reinvestment rule might work in practice. This is important primarily as a basis for comparison with other rules.

It begins when a \$1 excess of Social Security tax receipts over benefits is received by the Social Security fund and invested in previously outstanding government debt. The \$1 that the private investor receives for his government bond is then invested in new private securities and finances an extra \$1 of private investment.<sup>33</sup> The national return on this additional investment at 12 percent is equivalent to 12 cents a year. If all extra private investment income is consumed and all extra income tax receipts are used to finance either public consumption or tax cuts that yield equal private consumption, only 3 cents of the 9 cents will be reinvested as required by the "low reinvestment rule." This result will obviously be independent of the division between taxes and net private investor income. For example, if the relevant marginal personal and corporate income tax rates are 30 percent and 48 percent and if half of net corporate profits are retained and escape all further tax, an additional 12 cents of corporate income pays 6.7 cents of additional tax. Transferring the government bond with its 7 percent nominal yield from the private investor to the fund reduces tax revenue by 30 percent of 7 cents or 2.1 cents. Net tax collections therefore rise by 4.6 cents. The private investor now has 12 cents of corporate income before tax or 5.3 cents after tax in place of the 0.9 cent real net income that he previously received on his dollar of government debt. His net income is higher by 4.4 cents.<sup>34</sup> The total net receipts of the tax collector and the investor have therefore increased 9.0 cents and by assumption are used to finance consumption. Only the remaining 3 percent that the fund receives is reinvested by an additional purchase of debt by the fund.

The development of the Social Security fund with the low return and reinvestment rule is given by:

$$(4-1) F_s = F_{s-1} - B_s + T_s + 0.03[F_{s-1} + 0.5(T_s - B_s)]$$

In words, the value of the fund at the end of period  $s$  ( $F_s$ ) is equal to its value at the end of the previous year ( $F_{s-1}$ ) minus the benefits paid during the year ( $B_s$ ) plus the taxes collected during the year ( $T_s$ ) and the 3 percent "interest" received on the sum of the previous fund and the average surplus accumulated during the year.

<sup>33</sup>The analysis would require little modification if the government invested directly in private bonds or mortgages.

<sup>34</sup>Note that this is an increase in real income as conventionally measured but not necessarily in well-being because the investor now owns an asset with greater perceived riskiness.

This laborious description of the simple "low rule" case should make it easier to understand the "high return-reinvestment rule" case. The basic principle of this rule is that the fund should get the full national return on the extra investment that it generates. This is again combined with the assumption that all incremental private and public funds are used to finance consumption. The result is that the fund earns 12 percent on its investments and all of this represents reinvestment. To achieve this the government matches the real interest earned by the fund in a ratio of 3 to 1 with the matching dollars coming from general revenue. In the previous "low return and reinvestment rule" case, private investors receive an additional 4.4 cents of real income when the fund accumulates \$1. If the government taxes this away and adds it to the 4.6 cents of extra revenue that it receives with fixed tax rates, it has the 9 cents of general revenue required for the three-to-one matching ratio. By such a proportional matching method of subsidy, the fund gets the entire 12 percent national return. The fund therefore evolves according to (4-2)

$$(4-2) \quad F_s = F_{s-1} - B_s + T_s + 0.12[F_{s-1} + 0.5(T_s - B_s)] .$$

The low and high rules represent possible extremes. Both are difficult to defend in practice. The high rule is unfair to private investors who voluntarily exchange government bonds for higher yielding but riskier corporate securities and then have all of the "risk premium" taxed away. Similarly, the low rule is unfair to Social Security taxpayers because all of the extra income taxes generated because of the Social Security fund accrue as general tax relief or general public consumption. One compromise suggested by these considerations is to leave private investors with the extra yield that they receive as compensation for substituting private assets for government debt while using all of the automatic extra tax revenue to subsidize the fund interest. This would add 4.4 cents to make the fund's total real yield 7.4 percent. This is only one of several possible ways of compromising between the extreme of the low and high options. The third set of simulations assumes instead a 6 percent real rate of return (half of the national real return on investment) and an equal reinvestment rate.

Each simulation considers the consequences of a particular Social Security payroll tax rate on the development of the Social Security fund and on the annual rates of national saving. Tax receipts ( $T_s$ ) are the product of the assumed level tax rate ( $t$ ) and the taxable wage base ( $W_s$ ) projected by the Social Security actuaries. The benefits are all taken to be the values projected by the Social Security actuaries for the HEW<sub>1</sub> wage indexing plan ( $B'_s$ ) or the Consultant Panel price indexing plan ( $B_s$ ). Although an immediate change to a new permanent and higher rate is less likely than a gradual adjustment over several years, the level tax rate assumption captures the essential feature of the change without requiring an arbitrary specification of the path of adjustment. The use of a single level rate in the simulation also serves to emphasize the notion of a common tax rate imposed on successive generations of taxpayers.

As I noted in section 3, a Social Security fund can be developed to make a permanent contribution to capital accumulation or merely to develop enough capital temporarily to permit the financing of the demographic bulge without a future increase in the tax rate. Table 2 presents results for the second rather modest goal, defined here as accumulating enough reserves so that their depletion by the population bulge still leaves a fund approximately equal to one year's benefits in 2050, the terminal year of the simulation. This is referred to in the title of the table as a "terminal fund for transactions only." Table 2 presents the relevant analysis for the HEW wage indexing proposal and Table 3 for the corresponding price indexing proposal.

A detailed examination of the 6 percent "medium reinvestment and return rule" of Table 2 is interesting in itself and will indicate how this and subsequent tables are to be interpreted. Recall first that with this "wage indexing" proposal the tax rate would have to rise to 19 percent if projected benefits are to be financed on a pay-as-you-go basis. In contrast, the current simulation shows that a level tax rate of 12.7 starting in 1977 is sufficient to finance future benefits if the fund earns a moderate 6 percent real yield. Column 1 shows that the fund in the final simulation year (2050) is 84 percent of benefits in that year. The fund starts at its current value of about half of annual benefits and grows to 3.14 times benefits by 1990 and to 6.15 times benefits in 2020 before being reduced to its terminal value. Column 2 shows that in 2020 the fund is equivalent to 44 percent of the currently projected value of gross national product;<sup>35</sup> the Social Security fund would therefore increase the capital stock by about 15 percent.

The implications for the flow of net national saving are shown in columns 3 and 4. Column 3 compares the annual current surplus of Social Security taxes minus benefits to the projected GNP.<sup>36</sup> In 1990, tax receipts would exceed benefits by 0.4 percent of GNP. Column 4 adds the savings out of the "interest" that the Social Security fund earns to the "current account" surplus of column 3; the total addition to national saving in 1990 is a very significant 1.3 percent.<sup>37</sup> By the year 2020, taxes are substantially less than benefits; the current account deficit is 1.6 percent of GNP (column 3). But the earnings of the fund are so large that the overall contribution to national saving is still positive and nearly 1 percent of GNP. Only in the final decades of the program is the fund being depleted and national saving being depressed; the net dissaving rate is 2.2 percent of GNP in 2050.

<sup>35</sup>The comparison is to the GNP that could be expected without the extra capital provided by the fund itself. The ratio to actual GNP would therefore be somewhat smaller.

<sup>36</sup>See the previous footnote.

<sup>37</sup>The corresponding net saving rate has averaged less than 8 percent during the postwar period.

Table 2

LEVEL TAX RATE WITH TERMINAL FUND FOR TRANSACTIONS ONLY:  
WAGE INDEXING PLAN

Reinvestment and Return Rule	Tax Rate	Year	Social Security Fund		Effects on Net Saving	
			Benefits	Ratio to GNP	Current Surplus Only (3)	Rates* Total Increase in Savings (4)
			(1)	(2)	(3)	(4)
Low 0.03	14.4	1990	4.49	0.23	1.1	1.8
		2020	6.86	0.49	-0.9	0.5
		2050	0.94	0.08	-1.9	-1.6
Medium 0.06	12.7	1990	3.14	0.16	0.4	1.3
		2020	6.15	0.44	-1.6	0.9
		2050	0.84	0.07	-2.6	-2.2
High 0.12	11.1	1990	1.67	0.09	-0.3	0.6
		2020	4.26	0.30	-2.3	1.1
		2050	1.41	0.11	-3.3	-1.9

\*Savings rates are expressed as *percentages* of currently anticipated GNP. Effects on net savings are defined as follows:

Current Surplus: tax receipts minus benefits  
Total Increase  
in Savings: current surplus plus "return" on fund.

Table 3

## LEVEL TAX RATE WITH TERMINAL FUND FOR TRANSACTIONS ONLY:

## PRICE INDEXING PLAN

Reinvestment and Return Rule	Tax Rate	Year	Social Security Fund		Effects on Net Saving Rates*	
			Benefits Ratio to	GNP	Current Surplus Only (3)	Total Increase in Savings (4)
Low 0.03	10.87		(1)	(2)		
		1990	0.91	0.04	0.2	0.3
		2020	3.00	0.15	-0.3	0.2
		2050	1.03	0.50	-0.2	-0.03
Medium 0.06	10.45					
		1990	0.52	0.02	-0.03	0.1
		2020	2.59	0.13	-0.5	0.3
		2050	1.04	0.05	-0.4	-0.1
High 0.12	10.09					
		1990	0.26	0.01	-0.2	-0.05
		2020	1.82	0.09	-0.6	0.4
		2050	2.86	0.14	-0.5	1.0

\*Savings rates are expressed as *percentages* of currently anticipated GNP. Effects on net savings are defined as follows:

Current Surplus: tax receipts minus benefits

Total Increase

in Savings: current surplus plus "return" on fund.

Note that even with a low yield of only 3 percent it is still possible to finance the next 75 years' benefits with a level tax rate of 14.4 percent. If instead the Social Security fund can capture the entire 12 percent real national yield, the level tax rate need only be 11.1 percent. In any case, the very high tax rates of 18 and 19 percent that would be required with pay-as-you-go financing can be avoided during the next 75 years with a Social Security fund accumulated with a relatively modest level rate of tax.

Table 3 presents a parallel analysis for the price indexing proposal of the Consultant Panel instead of the HEW wage indexing proposal. Because real future benefits rise more slowly with price indexing, the level tax rate required to finance future benefits is smaller. For example, simulations of the "medium reinvestment and return rule" with a 6 percent yield indicate that a level tax rate of only 10.45 percent is sufficient with price indexing while 12.7 percent was required for the wage indexing proposal. The transitional fund is also smaller, less than three times benefits in 2020 in comparison to 6.15 times benefits with the wage indexing plan. It also follows that the contribution to net savings is relatively small.

The simulations of Tables 2 and 3 involve the modest goal of financing the next 75 years' benefits with a level tax rate and ending the period with a fund equal to about one year's benefits. In general, this means that the fund is being depleted rapidly in its terminal year, implying that a tax increase will be required sometime after 2020.<sup>38</sup> Moreover, the "transactions level" terminal fund makes a rather limited temporary contribution to offsetting the adverse effect of Social Security on capital formation. Tables 4 and 5 analyze the more ambitious proposal to develop a growing Social Security capital fund that, by 2050, will be equal in size to the GNP currently projected for that year.<sup>39</sup> The choice of a "fund equal to GNP" goal is clearly an arbitrary standard for a capital fund but it is both "large enough to matter" without being so large that it would pose serious problems of implementation.<sup>40</sup> A capital fund of this size by the year 2050 would also have the substantial virtue that the tax rate could be maintained at a constant level indefinitely.

<sup>38</sup>For example, the "medium rule" in Table 3 shows dissaving equal to 0.1 percent of GNP in 2050. Since the fund is 5 percent of GNP, the rate of depletion is proceeding slowly. This rate accelerates because as the fund is reduced its own earnings make a smaller contribution to offsetting the current year "tax minus benefits" deficit. In contrast, the "medium rule" simulation in Table 2 shows dissaving of 2.2 percent of GNP in 2050 and a fund of 7 percent of GNP, implying almost immediate exhaustion of the fund after 2050.

<sup>39</sup>This would increase the capital stock by about 30 percent and would therefore raise GNP by about 10 percent above its currently projected value. To avoid circularity in definition, I will compare the fund and saving to the smaller currently projected value. For 2050 this is \$7,975 billion at 1975 prices.

<sup>40</sup>Note also that the "Social Security wealth" that provides a potential offset to private wealth accumulation is now more than twice GNP.

Consider first the more costly HEW "wage indexing" proposal analyzed in Table 4. With the "medium reinvestment and return rule," a level tax rate of 13.15 percent is sufficient to yield a fund that is equal to GNP in 2050. Note that benefits in 2050 are substantially greater than the tax receipts; the "current surplus" is actually a deficit equal to 2.4 percent of GNP. But the earnings on the fund are sufficient to cover this deficit and provide an overall surplus equal to 3.3 percent of GNP. The fund therefore grows in year 2050 by 3.3 percent. The figures in column 4 show that a capital fund financed by a level tax rate of 13 percent can make a very substantial contribution to the Nation's net saving rate.

A capital fund equal to GNP in 2050 could be achieved with a lower tax rate under the price indexing plan. Table 5 shows that a rate of 10.90 is sufficient with a 6 percent return and reinvestment (in comparison to the corresponding 13.5 percent with wage indexing). The capital fund is large enough to finance the small gap between benefits and taxes and to provide a surplus for saving equal to 5.4 percent of GNP. Since the fund in 2050 equals GNP, this implies that the fund would be growing at 5.4 percent, faster than the rate of growth of real GNP. Eventually it would be necessary to reduce this rate of fund growth, either by limiting the share of the total return that the fund receives (i.e., changing the matching rule) or by reducing the rate of Social Security tax.

Table 6 considers a particular plan for reducing the rate of Social Security tax. In these simulations, a fund is accumulated by the year 2010 that is large enough to "endow" all future Social Security benefits.<sup>41</sup> More specifically, the Social Security tax is eliminated for all years after 2010 and the benefits are financed with the income of the fund. The fund must be large enough in 2010 so that its income can not only finance benefits but also can provide for reinvestment so that the fund grows enough to permit continued financing of benefits in the future. With a 6 percent medium return and reinvestment rule, such an endowment fund can be achieved with a tax rate of 14.3 percent. The fund is then equal to 1.3 times GNP in 2020 and remains at approximately that relative level even though benefits are equivalent to about 5 percent of GNP.

##### 5. *Summary and Conclusion*

I began this paper by reviewing the adverse effect of Social Security on national saving and the substantial long-run financial problem that the Social Security program now faces. Both problems can be alleviated if a Social Security fund is accumulated by raising the tax rate in the near future to provide more revenue than is needed to pay concurrent benefits. Although the resulting fund would be invested in government bonds, it

<sup>41</sup>The welfare economics of such an endowment fund is discussed in Feldstein (1974b).

Table 4

## LEVEL TAX RATE WITH TERMINAL CAPITAL FUND:

## WAGE INDEXING PLAN

Reinvestment and Return Rule	Tax Rate	Year	Social Security Fund		Effects on Net Saving	
			Benefits Ratio to	GNP	Current Surplus Only (3)	Total Increase in Savings (4)
Low 0.03	16.15	1990	(1)	0.34	1.9	2.8
		2020	6.6	0.91	-0.1	2.5
		2050	12.8	1.00	-1.1	1.8
Medium 0.06	13.15	1990	(1)	0.19	0.6	1.7
		2020	3.8	0.66	-1.4	2.4
		2050	9.3	1.00	-2.4	3.3
High 0.12	11.12	1990	(1)	0.09	-0.3	0.7
		2020	1.7	0.36	-2.3	1.6
		2050	5.0	1.15	-3.3	9.2

\*Savings rates are expressed as *percentages* of currently anticipated GNP. Effects on net savings are defined as follows:

Current Surplus: tax receipts minus benefits  
 Total Increase  
 in Savings: current surplus plus "return" on fund.

Table 5

LEVEL TAX RATE WITH TERMINAL CAPITAL FUND:  
PRICE INDEXING PLAN

Reinvestment and Return Rule	Tax Rate	Year	Social Security Fund Ratio to		Effects on Net Saving Rates*		
			Benefits (1)	GNP (2)	Current Surplus Only (3)	Total Increase in Savings (4)	
Low 0.03	12.70	1990	3.4	0.16	0.9	1.4	
		2020	11.8	0.59	0.5	2.2	
		2050	20.9	1.02	0.6	3.6	
Medium 0.06	10.90	1990	1.3	0.06	0.2	0.5	
		2020	7.1	0.35	-0.3	1.7	
		2050	20.1	0.98	-0.2	5.4	
High 0.12	10.11	1990	0.3	0.01	-0.2	-0.02	
		2020	2.9	0.14	-0.6	1.0	
		2050	24.1	1.17	-0.5	12.1	

\*Savings rates are expressed as *percentages* of currently anticipated GNP. Effects on net savings are defined as follows:

Current Surplus: tax receipts minus benefits  
Total Increase  
in Savings: current surplus plus "return" on fund.

Table 6

LEVEL TAX RATE WITH ENDOWMENT FUND IN 2010:  
PRICE INDEXING PLAN

Reinvestment and Return Rule	Tax Rate	Year	Social Security Fund Ratio to		Effects on Net Saving Rates*	
			Benefits (1)	GNP (2)	Current Surplus Only (3)	Total Increase in Savings (4)
Medium 0.06	14.30	1990	7.0	0.32	1.6	3.4
		2020	25.3	1.30	-5.0	2.3
		2050	28.2	1.40	-4.9	3.0
High 0.12	10.55	1990	1.4	0.07	0.01	0.7
		2020	11.0	0.55	-5.0	1.2
		2050	15.8	0.77	-4.9	3.6

\*Savings rates are expressed as *percentages* of currently anticipated GNP. Effects on net savings are defined as follows:

Current Surplus: tax receipts minus benefits  
Total Increase  
in Savings: current surplus plus "return" on fund.

No simulation is shown for the low reinvestment and return rule because the required tax rate would have to be unreasonably high.

would provide an indirect way of increasing real national capital accumulation. Achieving a reasonable rate of return on the fund itself may require a subsidy to the Social Security fund from general revenue in the form of matching the fund's interest income. The general revenue used to provide such matching funds would actually be extra income tax receipts arising from the real net income on the additional capital accumulation. A Social Security fund that earns such a reasonable rate of return would make it unnecessary to depend on a substantial jump in the future tax rate. This avoids both the distortions that such a high rate could bring and the risk that benefits expectations would instead be frustrated because future taxpayers refuse to raise the tax rates to very much above the level of today.

This paper presented for the first time the results of simulations of alternative Social Security fund developments. Each simulation is characterized by a different level tax rate that achieves a fund with a particular desired terminal goal. In general, relatively modest increases in the tax rate can make important contributions to capital accumulation if the tax rate is raised soon and if a matching-subsidy is used to provide the Social Security fund with a real rate of return of 6 percent or more.

It is important to bear in mind the limitations of the current analysis. The simulations are based on a whole series of assumptions that may be far from correct. There has been no attempt to test the sensitivity of these results to changes in the assumptions. Moreover, there is a range of important policy choices about the future development of Social Security that have not been examined: the appropriate evolution of Social Security benefits relative to preretirement income, the progressivity of the tax structure, the treatment of two-earner families, etc. Each of these issues is important in itself and as a factor influencing both the financial future of Social Security and its impact on capital accumulation. If this paper were concerned with determining the optimal Social Security fund, it would be necessary to consider all of these other policy choices as well. But my aim for the current paper has been much more modest: to stimulate discussion about the desirability of developing a substantial Social Security fund. I hope that the important financial and economic effects of the Social Security funds that would result from even relatively small tax rate increases do indeed arouse the interest of my readers as they have my own.

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## *Discussion*

### Joseph A. Pechman\*

I shall confine my discussion to the major aim of Martin Feldstein's paper as he puts it: "to stimulate discussion about the desirability of developing a substantial social security trust fund." As always, Feldstein has given us some new and imaginative data to digest, this time a series of arithmetic calculations demonstrating the obvious point that there are constant payroll tax rates that would generate a sizable Social Security trust fund in the years 2,020 - 2,050. But, as he himself admits, the desirability of accumulating such a fund does not hinge on these calculations. It hinges on whether it would be good public policy to increase national saving, and with it the size of the private capital stock, by substantial magnitudes. Moreover, even if the answer to this question is "yes," there is no reason why the saving should be done through the payroll tax for Social Security, other than the possibility that Feldstein believes he can more easily persuade politicians to raise Federal Government saving if the saving is called "Social Security" rather than a "budget surplus." This subterfuge would be innocent if the payroll tax happened to be a good tax and if a build-up of such huge surpluses in the Federal budget were a good idea. But the fact is that the payroll tax is the most regressive tax in the Federal tax system, and it is virtually certain that the huge surpluses contemplated by Feldstein would have serious adverse consequences for the growth and stability of the economy.

I will organize my comments around the following points which are essential to Feldstein's arguments: the evidence on the effect of Social Security on the saving rate; the rate of return on a higher stock of private capital; the use of Social Security as a vehicle for accumulating large governmental surpluses; and the problems of economic management that would be generated by the large surpluses.

1. Feldstein repeats his previous finding, which has been seriously challenged by others, that Social Security has reduced private saving by 50 percent. Munnell has examined similar data and has concluded that, while the "benefit" effect of Social Security reduces private saving, earlier

\*Director of Economic Studies, The Brookings Institution. In preparing these remarks, I have benefited from comments by Henry J. Aaron, Alicia Munnell's manuscript, "The Future of Social Security," and the discussion of this manuscript at a Brookings conference held in June 1976. Dr. Munnell's study along with her summary of the conference discussion is being prepared as a Brookings book, which will appear in the spring of 1977.

retirement of workers tends to increase saving. Furthermore, she has examined the survey data for OASDI beneficiaries collected for the past 35 years by the Social Security Administration and has found that today's retirees have saved about the same proportion of their income as those retiring 30 years ago, indicating that so far at least Social Security has not reduced saving a great deal.

In any event, it seems to me that Feldstein's finding cannot be anywhere near the right ball park. If Feldstein is right, the private saving rate before Social Security was adopted should have been much higher than what it appears to have been. In fact, everybody who has looked at the data, has concluded that the private saving rate has exhibited an unusual degree of stability over very long periods of time.<sup>1</sup>

I am persuaded by Alicia Munnell's more moderate conclusion that the retirement effect has more or less offset the effect of Social Security benefits so far. Since the retirement effect has just about run its course (because the tendency toward earlier retirement has slowed down greatly), it may be that the "benefit" effect of Social Security will predominate in the future. But all this is beside the point. The real issues are whether the Nation should save more and, if so, whether surpluses generated by higher payroll taxes are the way to do it.

2. Feldstein continues to urge higher saving on the ground that the rate of return on this saving, if invested in private capital, will be about 12 percent a year. At this rate of return, higher saving through Social Security would be a "good deal" for the worker. Feldstein promises us some new data on the return to private saving, but I should like to caution him that use of data for the return on corporate investment alone is by no means indicative of the yield on all private capital. Corporate capital accounts for less than 50 percent of the private capital stock (the remainder consists of dwelling units and farm and nonfarm capital of the non-corporate sector). The rate of return on the entire private capital stock has averaged substantially less than 12 percent in recent years, even if recession years are omitted.

Furthermore, in emphasizing the 12 percent rate of return, Feldstein ignores the elementary economic point that a large increase in the private capital stock is likely to encounter diminishing returns before too long. The careful estimates by Bosworth and his colleagues suggest that the shortfall of saving below private capital needs in the next several years is likely to be of the order of .5 to 1 percent of the GNP,<sup>2</sup> or 3-5 percent of gross private saving. Even the most pessimistic estimates indicate that the

<sup>1</sup>See, in particular, Edward F. Dennison, "A Note on Private Saving," *Survey of Current Business*, August 1958, pp. 261-267; and Paul David and John Scadding, "Private Saving: Ultrarationality, Aggregation, and Denison's Law," *Journal of Political Economy*, March/April 1974, pp. 225-249. The behavior of private savings cannot be inferred directly from figures on net capital formation, as Feldstein suggests.

<sup>2</sup>Barry Bosworth, James S. Duesenberry, and Andres S. Carron, *Capital Needs in the Seventies* (Washington, D.C.: The Brookings Institution, 1975).

shortfall will not be any higher than 2 or 3 percent of the GNP, or of the order of 10-15 percent of gross private saving. Under the circumstances, it would be unwise to assume that new investment can continue to earn a 12 percent return regardless of how much saving is pushed into the corporate sector.

3. Feldstein acknowledges that "there is no compelling economic logic for assigning this (the saving) responsibility to Social Security," but justifies such action on pragmatic grounds. It seems that we can't fool the people or its elected representatives to support large government surpluses unless they are to be associated with Social Security. Whether or not this political judgment is correct, Feldstein should tell us whether *he* thinks that such increased reliance on payroll taxes is desirable from an economic and social point of view.

Henry Aaron has shown that the poor do not get a good deal out of Social Security as the benefit formula suggests, because their life expectancy is lower than average, they enter the labor force earlier than average, their earnings peak is earlier in the life cycle, and their discount rate is much higher than average.<sup>3</sup> Others have explored possibilities for making the payroll tax progressive, or for using general revenues to finance the Social Security System. Feldstein is careful to say that the progressivity of the tax structure is an important policy issue that needs to be examined in connection with the future development of Social Security, but I find no evidence in anything he has written on this subject — and it is a great deal — that the regressivity of the payroll tax worries him. An across-the-board increase in individual income tax rates of about 1.1 percentage points would raise as much revenue as a percentage point of the payroll tax. I am puzzled that Feldstein refers to the payroll tax as a method of financing when this progressive alternative is available.

4. Feldstein is most cavalier in his assumption that a vast increase in the supply of saving can easily be absorbed without unhappy economic repercussions. He dismisses that possibility by assuming that the demand-depressing effect of the higher saving can be offset by a reduction in the rate of interest. I am not so certain, and I doubt that he can persuade many economists, let alone the public and its political leaders.

The record since the end of World War II is by no means reassuring. The economy operated at or near full employment for only brief periods when the Nation was not at war (I can recollect 1947-48, 1955-57, 1965 and 1973). The rest of the time there was a shortage of demand, not a shortage of saving; in present and immediately foreseeable circumstances, we are having the same problem. A precipitate increase in the full employment budget surplus is likely to plunge the Nation into a real depression.

<sup>3</sup>Henry J. Aaron, "Demographic Effects on the Equity of Social Security Benefits," *The Economics of Public Service*, edited by M.S. Feldstein and R.P. Inman (Halsted, 1976); and Statement by John A. Brittain, *Financing the Social Security System*, Hearings before the House Committee on Ways and Means, May-June, 1975, p. 136.

Consequently, we need a detailed explanation of how the transition to higher saving can be managed, a subject that Feldstein also has ignored. He would be a lot more persuasive if he dealt with the questions of full employment and distribution of tax burdens with the same diligence he devotes to the inefficiencies generated by an allegedly inadequate capital stock starving for lack of saving in an economy that is, more often than not, plagued by oversaving.

# Response to Pechman

Martin Feldstein\*

I am sorry that Joe Pechman decided not to comment on the central focus of my paper. The current conference was organized to discuss how the funding of private and public pensions will affect national capital accumulation and the financial markets. I presented detailed estimates of the additional national savings that would result from alternative Social Security tax rates and reinvestment rules. Unfortunately, Pechman has chosen to ignore all of this. Instead, he uses this occasion to reiterate his aversion to the Social Security payroll tax and to restate his pessimistic and totally unsupported position that the United States cannot significantly increase its rate of capital accumulation.

When I began studying the capital accumulation effects of Social Security, I thought that the development of a Social Security fund was economically desirable but politically unlikely. I have come to believe the opposite, that we will in fact have a sizable Social Security fund but for political rather than economic reasons. The long-run financial problems of the Social Security program and the public's desire to protect its Social Security benefits will combine to provide political support for a Social Security fund. With the current pressures to change the financing of Social Security, it is important to consider the likely effects that different Social Security funding arrangements would have on the flow of funds into financial markets. I hope that other readers will regard this prospect more openly and seriously than Pechman has.

It would take too long to reply adequately to the points that Pechman does raise. I will comment primarily on the issue of the effect of Social Security on national saving and more briefly on four other points.

Pechman disagrees with the finding of my previous research that Social Security depresses private saving but he does not comment on any of the evidence that has been presented (studies of U.S. aggregate data since 1929, international comparisons of savings rates, and the analysis of household survey data). Instead he refers to a conclusion that he attributes to Munnell that the retirement effect has, in his words, "more or less offset the effect of Social Security benefits." In fact, Munnell summarizes her own most recent scientific research with the final sentence, "These results indicate that Social Security does have a significant negative impact on saving which confirms the findings of two earlier studies of aggregate saving and Social Security by Munnell and Feldstein."<sup>1</sup>

\*Because the program provided little time for rebuttals, Professor Feldstein spoke only briefly. After the conclusion of the conference, he therefore rewrote and expanded his comments, which are published here.

Pechman mistakes my estimate of the likely magnitude of the savings reduction and then disputes it with two fallacious arguments. The evidence in my 1974 paper implied that Social Security halved *personal* saving and therefore reduced *private* saving by 38 percent, not the 50 percent referred to by Pechman. Pechman reasons that Social Security cannot have depressed the private saving rate because, as he sees it, that rate has not declined since the time before Social Security began. The inference would be false even if the premise were correct. What matters is not the comparison of the current saving rate with its historical value but with the rate that would have prevailed today in the absence of Social Security. The greater affluence of the American people and the much greater fraction which retires by age 65 would, without Social Security, have produced a much higher saving rate than has actually prevailed.

Moreover, the premise is false. It is not true that "everybody who has looked at the data has concluded that the private saving rate has exhibited an unusual degree of stability over very long periods of time." As I pointed out in section 1, Simon Kuznets, who received the Nobel prize in part for his studies of the long-run trends in capital accumulation, reported a substantial decline in the net rate of capital accumulation. The net national capital formation rate fell from 11.9 percent in 1868-1928 to 7.7 percent in the postwar period; since the government deficit in the postwar period only reduced the national saving rate by less than 1 percentage point, the private saving rate has clearly fallen substantially.<sup>2</sup>

Finally, it is incorrect to reason as Pechman does that all of the positive impact on saving of earlier retirement should be regarded as an effect of Social Security. Much of the increased retirement in the past 50 years would no doubt have occurred simply because of higher incomes, urbanization, decline of self-employment, the depression, etc.; a simple extrapolation of the geometric rate of decline in labor force participation from 1900 to 1929 can account for nearly 75 percent of the increase in retirement since 1929.

In short, there is nothing in Pechman's comment that would make me reconsider the implication of my econometric research that Social Security has a substantial depressing effect on the private saving rate. Let me conclude my reply to Pechman with four very brief remarks on other issues that he has raised:

<sup>1</sup>A. Munnell, "Private Pensions and Saving: New Evidence," *Journal of Political Economy*, October 1976, p. 1031.

<sup>2</sup>Pechman tries to dismiss this evidence by commenting that the behavior of private savings cannot be inferred directly from figures on net capital formation. Since private saving minus the government deficit equals capital formation, it is easy enough to make the correct comparison. All of this is explained in my "National Saving in the United States" (Feldstein, 1977c) referred to in the paper.

(1) I am certainly aware that a large increase in the private capital stock would reduce the national return on capital. But the widely accepted approximation of a Cobb-Douglas technology implies that increasing the national capital stock by 20 percent (approximately \$1 trillion dollars) would only reduce the rate of return from 12 percent to 10.6 percent.

(2) Pechman's statement that "careful estimates by Bosworth and his colleagues suggest that the shortfall of saving below private capital *needs* is likely to be of the order of one-half to one percent of GNP..." is meaningless. What are those "capital *needs*?" The economy can benefit from greater capital accumulation just as it can survive with less.

(3) Although Pechman does not like the payroll tax, it still has a very wide political support and is likely to remain the source of finance for Social Security. The issue of whether or not to accumulate a fund is, in this regard, a question of when the payroll tax should be paid and the extent to which earlier payments can reduce substantially the tax revenues required later. As I have argued elsewhere,<sup>3</sup> the progressivity of the Social Security tax should not be regarded as a separate issue but as part of the overall progressivity of the tax system. In setting income tax rates (including the refundable earned income credit), Congress can and presumably does offset any undesired lack of progressivity in the payroll tax.

(4) I am amazed that Pechman concludes his comments with the old-fashioned Keynesian warning that our economy is "plagued by over-saving." I cannot understand why Pechman believes that the U.S. saving rate must remain lower than the rate in almost every other industrial nation. While I have not presented a detailed simulation of the monetary and tax policies that would be needed to accommodate a higher rate of capital accumulation, I have no doubt that such accommodation is possible. Whatever the problems were in the 1930s, there should be no difficulty now in reducing the relative cost of capital to firms by enough to induce them to absorb an extra few percent of GNP in additional capital accumulation.<sup>4</sup>

<sup>3</sup>See Feldstein (1975 and 1976f). These are based on testimony to the Ways and Means Committee (May 1975) and the Joint Economic Committee (May 1976).

<sup>4</sup>When this question was discussed at the conference, none of the economists disputed this conclusion.