

## **Saving Social Security**

Peter A. Diamond and Peter R. Orszag

**F**or almost 70 years, Social Security has provided retirees with a basic level of income that is protected against inflation, financial market fluctuations and the risk of outliving one's assets. It protects against other risks as well, such as disability or the death of a family wage earner. In addition, through its progressive structure, Social Security provides some protection against one's career not turning out well. Social Security plays a critical role in providing financial security during retirement: It provides the majority of income for two-thirds of elderly beneficiaries, and all income for 20 percent of elderly beneficiaries.

Over the next 75 years, Social Security costs are projected to rise by about 2.5 percent of Gross Domestic Product (GDP), while revenues are projected to decline slightly as a share of GDP. Social Security's long-term financial health can be restored through either minor adjustments or major surgery. In our view, major surgery is neither warranted nor desirable—sustainable solvency and improved social insurance can be accomplished by a progressive reform that combines modest benefit reductions and revenue increases (as presented in more detail in Diamond and Orszag, 2004).

We begin by describing some benefit improvements for vulnerable groups for which there appears to be wide support, including from the President's Commission to Strengthen Social Security (2001) appointed by President Bush. We then discuss our proposed benefit and tax changes to close the underlying Social Security deficit and finance these important social insurance improvements. We also examine plans that replace part of Social Security with individual accounts, explaining why, in our view, such a course would not represent sound policy.

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## Improving Social Insurance

We begin by focusing on a small number of particularly vulnerable beneficiary types, following the lead of President Bush's Commission to Strengthen Social Security (2001) and others.<sup>1</sup>

First, workers with low lifetime earnings often live in poverty during retirement despite Social Security's progressive benefit formula. In 1993, taking into account all sources of income, 9 percent of retired worker beneficiaries lived in poverty. Of these poor retired worker beneficiaries, 10 percent had worked for 41 or more years in employment covered by Social Security, and more than 40 percent had worked between 20 and 40 years. In other words, many workers who have had substantial connections to the work force throughout their careers nonetheless face poverty in retirement. Our plan includes a benefit enhancement for low earners that applies to workers with at least 20 years of covered earnings at retirement, along the general lines of Sandell, Iams and Fanaras (1999).

Second, Social Security should strengthen its protection of widows and widowers. A widow typically suffers a 30 percent drop in living standards around the time she loses her husband (Holden and Zick, 1998). This decline is a challenge for many widows, pushing some into poverty. Indeed, while the poverty rate for elderly married couples is only about 5 percent, the poverty rate for elderly widows is more than three times as high (Favreault, Sammartino and Steuerle, 2002). To address this problem, we raise the survivor benefit under Social Security so that it equals at least three-quarters of the couple's previous combined benefits.<sup>2</sup>

Third, despite Social Security's protections, disabled workers and their families have higher poverty rates and are more financially vulnerable than the general population. For example, in 1999, 22 percent of disability insurance beneficiaries lived in poverty (Martin and Davies, 2003–2004). It is unclear whether the rules governing eligibility for disability insurance are optimal, given the tradeoff between inappropriately awarding benefits and inappropriately denying them. But redesigning the entire disability program, to the extent changes are warranted, would represent a massive and complex task beyond the scope of our immediate attention.

<sup>1</sup> The Commission to Strengthen Social Security (2001) included protections for lifetime low earners and widows and widowers. The Commission also ended its report by calling for a disability insurance commission and stating that the benefit cuts for the disabled in the report "should not be taken as a Commission recommendation" (p. 149).

<sup>2</sup> For survivors whose benefit would be higher than that of the average worker, the increase would be financed by reducing the couple's own combined benefits while both are alive, with no effect on the couple's combined expected lifetime benefits. For lower-benefit survivors, we finance the increase from the program as a whole. The shift from the system applying to above-average benefits to the one applying to below-average benefits could be gradual, with a phase-in range in between. Increasing survivor benefits under Social Security could disqualify some people from Medicaid, since low retirement income is part of eligibility for that program (and the Supplemental Security Income program). Most states would therefore need to adjust Medicaid rules for the elderly if an increased Social Security benefit is not to eliminate Medicaid eligibility.

Although we do not explore a wider reform of the disability program, we are concerned about the elevated rates of poverty among disabled workers. We therefore propose that, in the aggregate over the next 75 years, disabled workers be held harmless from the benefit reductions that would otherwise apply under our plan. Instead of merely maintaining the current disability benefit formula, however, our approach reduces initial benefits upon disability but then increases annual benefits in force faster than inflation. The result raises lifetime benefit levels for workers who become disabled earlier in their careers and reduces them for workers who become disabled later in their careers—redistribution that seems advantageous, since workers who begin receiving disability benefits at younger ages seem more needy and are locked into lower real benefits than workers who become disabled at older ages. We apply the same system to benefits for young survivors.

## **Restoring Actuarial Balance**

In the 2004 trustees' report, Social Security's 75-year actuarial imbalance was estimated at 1.9 percent of taxable payroll, or 0.7 percent of GDP. One of the primary goals of a Social Security reform plan should be to eliminate this 75-year actuarial deficit, since failing to address this long-term deficit would result in large, sudden changes to the program and/or to the federal budget. A reform that begins sooner can spread the costs over a longer period of time, avoiding the possibility of having to make substantial changes to benefits for people already receiving benefits or soon to start.

Social Security reform plans should go beyond eliminating the 75-year deficit, however, because of the "terminal year" problem. Merely restoring 75-year actuarial balance while preserving the current structure of benefits and revenue could result in the rapid reappearance of a 75-year imbalance. For example, the 1983 reform of Social Security made the program solvent for 75 years at that time. But by 2004, when the terminal year for 75-year projections had moved two decades later, more than 60 percent of the actuarial deficit in the program was because of the added years. Thus, reforms should not only close the 75-year deficit, but also ensure a stable or rising trust fund relative to expenditures at the end of the 75-year projection period. This result—of eliminating the 75-year deficit and ensuring a rising trust fund compared to expenditures at the end of the period—is referred to as "sustainable solvency."

Sustainable solvency can be achieved through different combinations of specific policy changes. Some proposals would close the entire actuarial shortfall through benefit reductions. In our view, however, this approach would result in replacement rates—that is, benefits as a share of previous earnings—that would be too low from a social insurance perspective. Replacement rates for an average earner at age 62 (the most common age for claiming benefits) are scheduled to fall from 33 percent to 29 percent between now and 2030 as changes enacted as part of the 1983 reforms come into effect. Furthermore, Medicare Part B premiums are

automatically deducted from Social Security benefit payments; as those premiums rise faster than income over time, the net replacement rate will decline further (Munnell, 2003). Looking back on the 1983 legislative process (Light, 1985), a balanced approach combining benefit reductions and revenue increases seems a helpful starting place for obtaining a political compromise.

In restoring long-term balance, our reform plan focuses on three areas, all of which contribute to the actuarial imbalance: improvements in life expectancy, increases in earnings inequality, and the burden of the legacy debt resulting from Social Security's early history.

### **Increasing Life Expectancy**

Life expectancy at age 65 has increased by four years for men and five years for women since 1940 and is expected to continue rising. Since Social Security retirement benefits are paid as an annuity, any increase in life expectancy at retirement age increases the cost of Social Security. To examine how Social Security should react to the costs associated with longer life expectancy, consider how a worker would sensibly react to learning that he or she will live longer than previously expected. The worker can adjust by consuming less before retirement (that is, saving more), consuming less during retirement or working longer. A sensible approach would likely involve all three. The Social Security system already increases benefits for retirees who start benefits later. The other two elements of individual adjustment correspond to an increase in the payroll tax rate (consuming less before retirement) and a reduction in benefits for any given age at retirement (consuming less during retirement). Our approach includes both of these.

To offset the projected cost from further increases in life expectancy, we propose a balanced combination of benefit and tax adjustments, which would be phased in starting in 2012. Specifically, in each year the Office of the Chief Actuary would calculate the net cost to Social Security from the improvement in life expectancy observed in the past year for a typical worker at the full benefit age. Half of this cost would be offset by a reduction in benefits, which would apply to all workers age 59 and younger. The other half would be financed by an increase in the payroll tax rate. This life expectancy adjustment reduces the 75-year actuarial deficit by 0.55 percent of taxable payroll, slightly less than a third of the currently projected deficit.

Another way of indexing the system to life expectancy involves raising the age for receipt of full retirement benefits (the so-called "normal retirement age"). This approach, however, is merely an alternative method of reducing benefits, one that affects workers retiring at different ages in somewhat different ways. Since we favor adjusting to longer life expectancies through a combination of lower benefits and higher revenue (rather than exclusively through lower benefits), since the pattern of benefit reductions associated with increases in the full benefit age does not seem inherently desirable, and since changes to the full benefit age are a less transparent mechanism for reducing benefits than a direct reduction, our approach to life expectancy indexing seems preferable.

**Increasing Earnings Inequality**

Social Security's financing is also affected by the increase in the share of earnings above the maximum taxable earnings base (\$90,000 in 2005), and therefore untaxed, and by the widening difference in life expectancy between lower earners and higher earners.

Over the past two decades, the fraction of aggregate earnings above the maximum taxable earnings base has risen from 10 percent to 15 percent. One impact of this shift is a widening of the Social Security deficit: The loss in revenue more than offsets the reduction in benefits to be paid on high earnings. In our view, Social Security should offset some of the shift that has occurred in this area since 1983 for two reasons. First, in our view, a tax system should respond to such an increase in pre-tax income inequality by becoming more progressive. Second, it could be argued that policymakers implicitly accepted the 1983 share of untaxed earnings by not making changes to the maximum taxable earnings base when a major reform was implemented then, especially since changes had been made in 1977 and could presumably have been made again in 1983.

Our plan raises the maximum taxable earnings base so that the percentage of aggregate earnings above the taxable maximum returns about halfway to its 1983 level—that is, to 13 percent. We phase in this reform smoothly through 2063 to allow workers time to adjust. Increasing the maximum taxable earnings base would raise the payroll tax only for the 6 percent of workers in each year with highest earnings, and marginal tax rates for even fewer (for example, if the change were fully in effect today, under three million workers would experience an increase in their marginal tax rate). An increase in taxable earnings raises subsequent benefits as well—albeit by less, in present value, than the additional revenue. The net effect reduces the 75-year actuarial imbalance by 0.25 percent of payroll.

A second piece of our earnings inequality adjustment addresses differential trends in life expectancy. People with higher earnings and more education tend to live longer than those with lower earnings and less education, and these mortality differences by earnings and education have been expanding significantly over time (Elo and Smith, 2003). This increasing gap in mortality rates by level of education has two implications for Social Security. First, to the extent that projected improvements in average life expectancy reflect disproportionate improvements for higher earners, the adverse effect on Social Security's financing is larger than if the projected improvement occurred equally across the earnings distribution. Second, the changing pattern of mortality tends to make Social Security less progressive on a lifetime basis than it would be without such a change, since higher earners will collect benefits for an increasingly larger number of years, relative to lower earners.

To offset the growing gap in life expectancy and so offset the decline in lifetime progressivity that has occurred from this trend, our plan increases the progressivity of the monthly Social Security benefit formula. In particular, we gradually lower the marginal benefit in the top tier of the benefit formula, affecting approximately the highest-earning 15 percent of workers: an extra dollar of career-average monthly earnings increases monthly benefits by 10 cents rather than

15 cents by 2031. This benefit reduction lowers the 75-year deficit by 0.18 percent of payroll.

### **The Burden of the Legacy Debt**

Benefits paid to almost all current and past cohorts of beneficiaries exceeded what could have been financed with the revenue they contributed (Leimer, 1994). That is, if earlier cohorts had received only the benefits that could be financed by their contributions plus interest, the trust fund's assets today would be much greater. Those assets would earn interest, which could be used to finance benefits. This history imposes an ongoing burden on the Social Security system, which we refer to as a "legacy debt" and see as providing another lens through which to view Social Security's financing challenges. The legacy debt reflects the absence of those assets and thus directly relates to Social Security's funding level.

The decisions, made early in the history of Social Security and continued until legislation enacted in 1977—to provide the early generations of beneficiaries benefits disproportionate to their contributions—was a humane response to a history that included World War I, the Great Depression and World War II, and it helped to reduce unacceptably high rates of poverty in old age. Moreover, the higher benefits not only helped the recipients themselves but also relieved part of the burden on their families and friends and on the cost of the Old Age Assistance program.

Today, we cannot take back the benefits that were given to Social Security's early beneficiaries, and most Americans seem unwilling to reduce benefits for those now receiving them or soon to receive them. Those two facts largely determine the size of the legacy debt. Assuming that benefits will not be reduced for anyone age 55 or over in 2004, the legacy debt—the net amounts already transferred plus those projected to be transferred to all of these cohorts—amounts to approximately \$11.6 trillion.

The key issue is how to finance this legacy debt across different generations, and across different people within generations.<sup>3</sup> We propose three changes that alter how the program's legacy debt is financed: universal coverage under Social Security; a legacy tax on earnings above the maximum taxable earnings base; and a universal legacy charge that applies to workers and beneficiaries in the future.

First, about six million state and local government employees were not covered by Social Security in 2002 (25 percent of total state and local employees). It is unfair to workers who are covered by Social Security (including the great majority of state and local government workers) that many other state and local government work-

<sup>3</sup> To be sure, the legacy debt does not ever have to be fully paid off, just as there is no need ever to pay off the entire public debt. But ongoing legacy debt, like other outstanding public debt, does impose a cost for financing it. And just as a continuously rising public debt-to-GDP ratio would eventually become unsustainable (as doubts arise over repayment), so, too, the legacy debt cannot grow faster than taxable payroll indefinitely without disrupting the functioning of Social Security or the federal budget as a whole.

ers, by virtue of being outside the program, do not bear any of the legacy debt. More precisely, the benefit from not bearing the legacy debt is shared between some state and local governments and their employees, neither of whom deserve to be excluded from bearing part of the burden. Our plan therefore brings all newly hired state and local workers into the Social Security system.

Second, in an actuarially balanced system, roughly 3 to 4 percentage points of the 12.4 percent payroll tax would be devoted to financing the program's legacy debt (Geanakoplos, Mitchell and Zeldes, 1998). Those with earnings above the maximum taxable earnings base do not bear a share of this legacy cost proportional to their total earnings. Thus, we propose a tax on all earnings above the taxable maximum; the tax rate begins at 3 percent (1.5 percent each on employer and employee) and gradually increases over time, along with the universal charge to be described next, reaching 4 percent in 2080.

Third, future workers and beneficiaries must contribute toward financing the legacy debt, so we propose a universal legacy charge on both benefits and tax rates that applies to all workers from 2023 forward. The benefit adjustment reduces initial benefits by 0.31 percent a year for newly eligible beneficiaries in 2023 and later.<sup>4</sup> The revenue adjustment raises the payroll tax rate to balance the benefit reductions from this component of our plan. The result is that the tax rate increases by 0.26 percent of itself each year starting in 2023 (that is, if there were no other changes, the current rate of 12.4 percent would become 12.43 in 2023).

Taken together, this approach to financing the legacy debt represents a balance between burdening near-term generations and burdening distant generations, between burdening workers and burdening future retirees, and between burdening lower-income workers and burdening higher-income workers. The phased-in nature of the universal legacy cost adjustment also helps the Social Security system to adjust to the reduced fertility rates that have occurred since the 1960s and further eases the terminal year problem.

### Summary

Our three-part proposal restores 75-year actuarial balance to Social Security, as summarized in Table 1. These proposals were designed to achieve actuarial balance while also ensuring a stable ratio of the trust fund balance to annual expenditures the following year (called the "trust fund ratio") at the end of the projection period, thereby addressing the terminal-year problem.<sup>5</sup>

<sup>4</sup> We select this starting date because under current law, the increases in the full benefit age continue until 2022. After 2023, we smoothly increase the legacy charge, since the growth rate in taxable payroll declines thereafter, requiring an increasing offset to the legacy cost. The benefit reduction would increase for newly eligible beneficiaries in 2024 to 0.62 percent relative to current law, and so on. The benefit reduction would be calculated as  $1 - 0.9969^{t-2022}$ , where  $t$  is the year in which the worker turns 62.

<sup>5</sup> This proposal stays within the tradition of using the payroll tax (and the income taxation of benefits) as the only sources of tax revenue for Social Security. One could consider dedicating an additional tax in place of some of the tax increases described here. For example, dedicating the estate tax to Social

*Table 1*  
**Summary of Effects of Proposed Reforms**

<i>Proposed reform</i>	<i>Effect on actuarial balance</i>	
	<i>As percentage of taxable payroll</i>	<i>As percentage of actuarial deficit</i>
Adjustments for increasing life expectancy		
Adjust benefits	0.26	13
Adjust revenue	0.29	15
Subtotal	0.55	29
Adjustments for increased earnings inequality		
Increase taxable earnings base	0.25	13
Reduce benefits for higher earners	0.18	9
Subtotal	0.43	22
Adjustments for fairer sharing of legacy cost		
Make Social Security coverage universal	0.19	10
Impose legacy tax on earnings over taxable maximum	0.55	29
Impose legacy charge on benefits	0.45	24
Impose legacy tax below taxable maximum	0.52	27
Subtotal	1.71	89
Reforms to strengthen social insurance functions		
Enhanced benefits for lifetime low earners	-0.14	-7
Increased benefits for widows	-0.08	-4
Hold-harmless provisions for disabled workers and young survivors	-0.21	-11
Subtotal	-0.43	-22
Interactions of above reforms	-0.26	-14
Total effect	2.00	104
Alternative: reform existing estate tax <sup>a</sup>	0.60	31

*Source:* Authors' calculations based on analysis from the Office of the Chief Actuary.

<sup>a</sup>This reform could be enacted in place of one of the other proposed reforms that affect primarily higher earners.

Under our plan, the trust fund ratio peaks somewhat higher and somewhat later than under current law and then begins a steady decline. This decline is relatively rapid at first, as the continued financing of benefits to baby-boomer retirees draws the trust fund down. Over time, however, as the baby-boomers die and our changes to both taxes and benefits are slowly phased in, the decline in the

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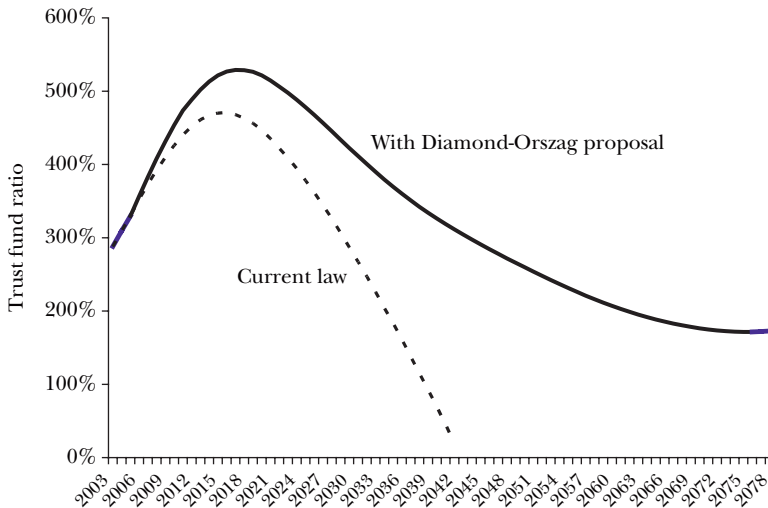
Security could change the politics of whether that tax should be eliminated. Moreover, since the yield on the estate tax depends strongly on returns to capital, substituting a capital-income based tax for a wage-based tax would further diversify the bearing of capital risk in the economy, offering a partial substitute for trust fund investment in equities.



Figure 1

**Trust Fund Ratio**

(ratio of the value of assets in the fund to the value of expenditures in the following year)



ratio slows. By the end of the projection period, as shown in Figure 1, the trust fund ratio is again beginning to rise.<sup>6</sup>

What do these various changes imply for the benefits that individual workers will receive and for the taxes they will pay? Workers who are 55 years old or older in 2004 experience no change in their benefits from those scheduled under current law. For younger workers with average earnings, our proposal involves a gradual reduction in benefits from those scheduled under current law for successive cohorts. For example, a 45-year-old average earner experiences less than a 1 percent reduction in benefits; a 35-year-old, less than a 5 percent reduction; and a 25-year-old, less than a 9 percent reduction. Reductions are smaller for lower earners and larger for higher ones.

These modest reductions in benefits for average earners are in line with the tradition set in the 1983 Social Security reforms, which reduced benefits by about 10 percent for those 25 years old at the time, slightly more than under our plan for average earners age 25 in 2004. It is also worth noting that even with the modest

<sup>6</sup> A number of observers have claimed that the buildup of the trust fund is irrelevant when the time comes to cash in the bonds held by the trust fund. In one uninteresting sense, the argument is factually accurate: unless it simply prints money, the government finances all of its activities through increasing taxes, cutting spending for other purposes, or borrowing. But this insight is not helpful. To the extent the Social Security surpluses contributed to reducing overall budget deficits, they have reduced interest costs and increased the government's ability to borrow, and so made it easier for the government to operate. To the extent that building up the trust fund has added to national saving, it has made more resources available in the future.

benefit reductions in our plan, average inflation-adjusted benefits rise from one generation to the next.

Our plan combines its gradual benefit reductions with a gradual increase in the payroll tax rate. The combined employer-employee payroll tax rate rises from 12.4 percent today to 12.5 percent in 2015, 13.2 percent in 2035, 14.2 percent in 2055 and 15.4 percent in 2078; it would continue to rise slowly over time thereafter. This gradual increase in the payroll tax rate slows the decline in replacement rates for any given retirement age.

The provisions that affect average earners are closely balanced between benefit reductions and revenue increases. Analyzing the balance between benefit and revenue changes for the overall plan, however, is more complicated. Expanded coverages (for state and local workers and those above the maximum covered earnings) both bring in new revenue and create new benefit obligations for Social Security. We think the best approach is to divide the accounting into three categories: revenue changes, benefits changes and changes in coverage. In achieving both actuarial balance and financing of our social insurance improvements, 33 percent of the deficit is eliminated by benefit reductions, 51 percent by revenue increases and 16 percent by coverage expansions.<sup>7</sup>

A final dimension along which our plan can be examined is the degree to which it places the burden of closing the deficit on higher earners. Three of our changes apply specifically to higher earners: the increase in the maximum taxable earnings base, the reduction in benefits that applies only to the top tier of the benefit formula and the tax applied above the maximum taxable earnings base. These three provisions account for 36 percent of the total deficit reduction provisions in our plan—that is, 0.98 percent of payroll out of 2.69 percent of payroll. To be sure, higher earners will also share in the more universal changes that we propose. But someone must bear the burden of closing the deficit, and having slightly more than one-third of the deficit reduction coming from provisions specifically aimed at higher earners does not strike us as grossly unfair. We also note that just as our benefit increases for vulnerable beneficiaries parallel those of the President's Commission to Strengthen Social Security (2001), so too, two of our three changes for high earners were included in the earlier Commission's report.<sup>8</sup>

<sup>7</sup> The total deficit-reducing steps in our plan amount to 2.69 percent of payroll. Of this, 1.36 percent is revenue increases, 0.89 percent is benefit reductions and 0.44 percent is coverage expansions. We do not attempt to divide the 0.26 percent of payroll in interactions among these three categories.

<sup>8</sup> The increase in the maximum taxable earnings base was mentioned in a footnote to Model 3 in the Commission to Strengthen Social Security (2001), but not formally included in that plan. The footnote reads: "Some members of the Commission believed that a substantial portion of this 0.63% should come from an increase in the payroll tax base, while leaving the payroll tax rate the same. They suggested that the payroll tax base should be stabilized as a percentage of the total U.S. wage bill closer to its level during the last two decades. However, this suggestion was deemed inconsistent with the principles in the executive order establishing the Commission and was therefore not included in the final version of this plan."

## Individual Accounts

The main lesson from our plan is that Social Security can be put on a solid financial footing for the long term without dramatically changing its current form. Instead, many recent reform plans would replace part of Social Security with individual accounts. Individual accounts, such as 401(k)s and Keoghs, already provide an extremely useful supplement to Social Security and can be improved (Munnell and Sunden, 2004; Gale and Orszag, 2003). In our view, however, individual accounts are not a desirable component of Social Security itself, especially in light of the trend in private pensions from defined benefit to defined contribution plans, which increases the correlation between the risks already being borne by workers and the risks in individual accounts.

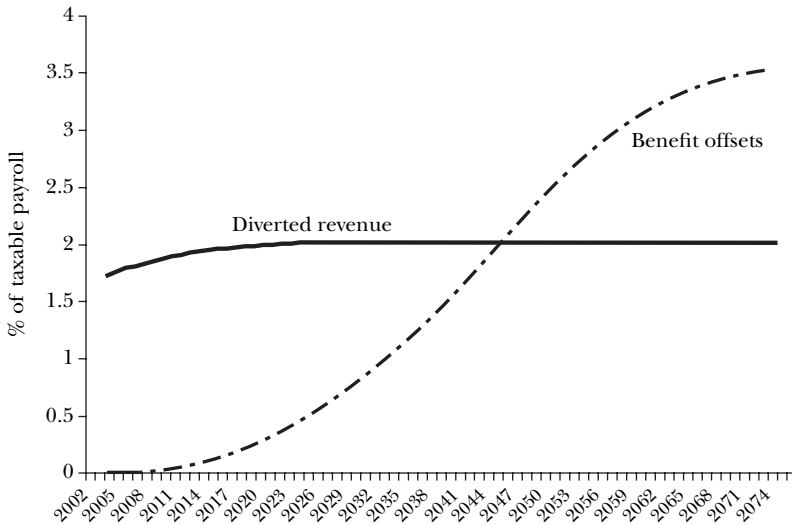
By themselves, individual accounts do not reduce the actuarial deficit in Social Security. If financing such accounts includes diverting payroll tax revenue into individual accounts, then the immediate effect is to *increase* the deficit within Social Security. Individual accounts only improve the ability of Social Security to finance its traditional benefits if they are linked to reductions in traditional benefits (or increased revenues) in some way, either explicitly or implicitly. In that case, individual accounts can help reduce the projected deficit if they more than compensate for the diverted revenue. The interaction between diverted revenues and reduced benefits has two dimensions—a present value dimension and a cash-flow dimension.

To fix ideas, it is useful to consider an individual account plan that also reduces traditional benefits for accountholders so that traditional Social Security finances are unaffected in expected present value over the accountholder's lifetime. That is, a worker with an individual account is considered to owe a "debt" to the Social Security trust fund equal to the amounts diverted from the Social Security trust fund, plus the interest the trust fund would have earned on the diverted funds. Upon retirement, the debt is repaid by reducing the worker's traditional Social Security benefits. The result is no redistribution across cohorts in expectation as well as no impact on the infinite-horizon present-value of trust fund balances.<sup>9</sup>

Such accounts hold the Social Security trust fund harmless from the diversion of revenue over the lifetime of the average worker. But the timing of the cash flows out of Social Security is very different than that of the return flows. For each cohort, the flow of revenue into the individual accounts precedes by many years the

<sup>9</sup> This approach is modeled on a design put forth by the General Accounting Office (1990) in response to a request from Representative Porter and used by the Commission to Strengthen Social Security. It is also the approach proposed by the Bush administration in early 2005. We ignore the complications arising from workers who die before starting retirement benefits. The Commission proposed a system that would have *subsidized* the individual accounts by charging an interest rate on the amounts diverted from the trust fund) that is lower than the return the trust fund earns on its reserves. Thus, these proposals would worsen Social Security's financial status even on an infinite horizon basis. We see no reason why such a subsidy is warranted. For a further analysis of the Commission proposals, see Diamond and Orszag (2002).

Figure 2

**Cash Flow from Generic Individual Account Plan**

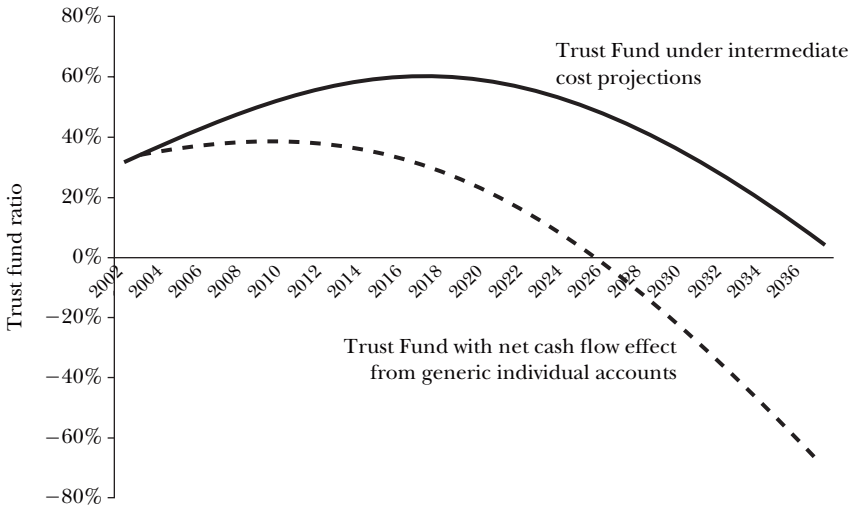
offsetting reductions in traditional benefits. For example, Figure 2 shows the trust fund cash-flow effects of a plan with 2 percent of payroll diverted to individual accounts for those under age 55, with an offsetting reduction in traditional benefits upon retirement. The cash flow is negative over a period of more than 40 years.

If revenue were diverted into individual accounts, the reduced cash flow would drive the trust fund balance to exhaustion more than a decade sooner than currently projected, as shown in Figure 3. Such a diversion would require either some source of additional revenue to continue paying benefits or a reduction in concurrent benefits to offset the reduced revenue flow. Over an infinite horizon, the individual accounts have no effect on the trust fund in present value terms—the trust fund is eventually paid back in full for the diverted revenue. But the impact on the trust fund stays negative at each point in time since the trust fund has outstanding loans to individual workers.

**Transition Financing**

The challenge for plans with individual accounts financed out of the current payroll tax is how to restore solvency over the next 75 years given the adverse effects highlighted in Figure 3. One possibility is to front-load benefit reductions significantly more than would be needed otherwise. That is, the benefit cuts in the near term would be larger, and the cuts further in the future smaller, than a pattern that restores actuarial balance without the accounts. The redistribution from older generations to younger ones inherent in such an approach may be politically difficult, however. Other approaches include raising the payroll tax or debt finance

Figure 3

**Trust Fund Ratio Under Generic Individual Account Plan**

(which could result from relying on general revenues or allowing Social Security to borrow). Proposals differ in their mix of these approaches to deal with the additional financing problem triggered by the accounts.

To avoid debt financing and politically implausible benefit reductions, the payroll tax rate could be raised to finance individual accounts.<sup>10</sup> Politically, it may be easier to legislate an implicit tax linked to individual accounts than an explicit payroll tax increase of the same size (Gramlich, 1998), although it is difficult to know since strong backing is not currently in evidence for either approach. Our view is that the political system can provide adequate revenue increases without individual accounts and that given the shortcomings of accounts detailed below, it is worthwhile to seek a reform without them. Given a reluctance either to reduce benefits or raise taxes in time to address the financing problem highlighted above, some individual account proposals have simply assumed that the rest of the federal budget will transfer sufficient general revenue to Social Security to fill any remaining financing gap. Given the substantial deficits projected for the federal budget,

<sup>10</sup> Another mechanism for generating additional funds is by a matching program encouraging voluntary contributions (Feldstein and Samwick, 2002; Commission to Strengthen Social Security, 2001). Such proposals use existing tax revenues for the matching funds. Analytically, it is helpful to use a mandatory tax increase as a baseline for comparison with a matching program of the same total size. Surprisingly, to a rough approximation, a tax increase that is half the size, but available only if matched, is equivalent to the full tax in terms of its labor market effects. To be sure, the two approaches are not identical. But for the workers who do make the matching contribution, the impact on present and future consumption from an additional dollar of earnings is the same whether the program has mandated savings or a matching plan of the same aggregate size. A difference arises only for those not taking up the match, who will perceive a tax of half the size, but not an offsetting benefit increase.

any proposal for transfers that does not identify a specific funding source seems fiscally reckless. Many recent proposals are particularly problematic in this regard, since they rely on massive assumed general revenue transfers. (Some assert that the transfers will be financed by reduced government expenditures, but provide no specific mechanism for achieving the necessary reductions and thus lack credibility.) It seems most appropriate to think of such proposals as involving debt finance; to the extent of debt finance, the accounts are unlikely to raise national saving and may well reduce it.<sup>11</sup>

### **National Saving**

One of several objectives in enacting Social Security reform is to raise national saving, which would increase future national income and thereby reduce the relative burden of paying future Social Security benefits. An argument often made for accumulating assets in individual accounts is that such an accumulation would represent a larger increase in national savings than would occur with the same funding channeled through the trust fund. This argument raises two questions. One is whether the argument itself is correct: whether the form in which the accumulation occurs has a substantial effect on the degree to which it increases national savings. The second question is the role that raising national saving should be given in designing Social Security policy.

Evaluating the effect of a reform plan on national saving involves the direct impact on saving from changes to benefits and revenue (assuming benefits and revenue affect only consumption), and the indirect impact of offsets to other saving within the private sector and the public sector. As with our plan, the nonaccount portion of a plan with accounts directly raises national saving by increasing revenue and/or reducing benefits compared to paying currently scheduled benefits. In contrast, individual account deposits do not directly raise national saving unless they are financed by additional front-loaded benefit reductions or revenue increases. Thus, identifying the source of the funds going into the accounts is critical for assessing the impact on national saving.

The indirect effects of reform plans on national saving are more difficult to assess. For example, individuals may increase or reduce their private saving in response to a reform. The similarity of individual accounts to private savings suggests more of a negative offset under a plan that includes such accounts.

<sup>11</sup> Although debt-financed deposits do not contribute to national savings, some have argued that converting the debt implicit in the current actuarial imbalance into explicit debt is of little consequence. Especially given the projected actuarial imbalance, such a conversion does have meaning in our view: implicit debt differs from explicit debt. For example, no one has proposed renegotiating the public debt, but proposals that would decrease the implicit debt through future benefit reductions are common. Purchasers of U.S. Treasury debt, aware of this distinction, are likely to require an interest rate increase from such a conversion of implicit to explicit debt. Moreover, the level of explicit debt being regularly rolled over affects the degree of exposure to movements in bond demand, for example, from the willingness of foreign governments to purchase U.S. bonds.

Furthermore, if individual account balances were not required to be paid out as annuities after retirement, the result may also be less saving, since the assets in the accounts may be spent more rapidly on average than if they had been annuitized. Similarly, if preretirement access to individual accounts were allowed, saving may be reduced if some funds were consumed before retirement. Although we know of no evidence on the size of these effects, we speculate that the private-sector offset to individual accounts is plausibly larger than the same amount of funding undertaken through the trust fund.

A central issue involves potential offsets within the federal budget. Indeed, those who favor individual accounts argue that policymakers seek to hit a deficit target defined solely in terms of the unified budget balance (that is, the budget including both the Social Security and non-Social Security components). If that were so, larger surpluses in the Social Security component of the budget would only trigger larger deficits in the non-Social Security component, with no net effect on the overall budget balance. Transfers to individual accounts would then increase the unified deficit and so national savings. Unfortunately, the underlying assumption about congressional behavior behind this view is not easily tested. The mere fact of deficits in the unified budget, for example, does not address the issue: The key question is whether the deficit outside Social Security is larger *because of* the increased Social Security surpluses, not whether the budget outside Social Security is in deficit or not.

Our interpretation of the relevant political economy is that increased Social Security surpluses (and reduced deficits) have had and will have a significant positive effect on national savings. The bottom line is that we see no reason to believe that the differential public-sector offset between a plan like ours and a plan with similar direct benefit and revenue changes that also contains individual accounts is likely to be substantial. This view is bolstered by the experience in Hungary, Poland and Sweden, where the deposits into individual accounts are treated as government revenue for budget reporting purposes. If Congress instructed the Congressional Budget Office to score deposits into individual accounts as loans rather than outlays, the effect would be that the deposits had little or no impact on the reported unified budget deficit. In addition, focus may shift back to the non-Social Security budget once Social Security is in deficit instead of surplus.

A distinct question is how much the opportunity to increase national savings should influence Social Security policy. On one hand, a wide consensus exists that current net national savings (less than 2 percent of national income in 2003) is too low. On the other hand, the federal government can increase national saving in many ways. Trading the quality of social insurance for additional savings, to the extent such a tradeoff does exist, does not seem attractive given the availability of other policy changes that can raise national savings. For example, repealing a permanent version of the 2001 and 2003 tax cuts would have a more substantial effect on the nation's fiscal imbalance than eliminating the actuarial deficit in Social Security (Auerbach, Gale and Orszag, 2004).

### **Rates of Return**

Another argument made by some proponents of individual accounts is that the accounts would facilitate higher rates of return. This argument can be analyzed by breaking the difference between the expected rate of return on Social Security contributions and on stocks into two pieces: the expected return on Social Security contributions versus bonds, plus the expected return on bonds versus stocks (Diamond, 1999; Geanakoplos, Mitchell and Zeldes, 1998; Murphy and Welch, 1998).

The difference between the expected returns on Social Security contributions and bonds reflects the burden of the legacy debt discussed above: Social Security returns are now lower than the bond return precisely because they were higher in the past. The return on Social Security for some future generations could be raised to the bond return only by having other cohorts pay the legacy debt, which would further depress returns for the other cohorts. It is unfortunately all too common for this basic point to be obscured in analyses that simply contrast the rate of return on Social Security taxes with the rate of return on assets, which is equivalent to considering two steady-state outcomes (that is, the current system versus a system in which the legacy debt has already been fully paid off).<sup>12</sup> Such comparisons are sometimes followed, many pages later, with a comment or footnote about the transition cost implicit in moving from one steady state to the other and sometimes left without further explanation.

This approach provides little insight into the relevant tradeoffs. A more informative analysis would explore the implication of lower returns on taxes today (through increasing taxes or decreasing benefits) in order to have higher returns on taxes (some combination of lower taxes or higher benefits) in the future. This way of posing the question correctly focuses on the intergenerational redistributions inherent in paying off the legacy debt, rather than effectively assuming away that debt.

The second piece of the difference in returns reflects the expected return on bonds relative to stocks, which raises a broader question about how to assess the benefits of equity investments through individual accounts. The optimal portfolio for individuals fully financing their own retirement from accumulated assets is likely to include equities. For many workers, individual accounts would exist alongside investments outside Social Security. A worker who already invests in stocks and bonds outside of Social Security, perhaps through a 401(k) or IRA, will gain little or nothing from being able to invest a Social Security-linked individual

<sup>12</sup> Although the presence of taxation of capital income must be taken into account in a comprehensive analysis of the welfare implications of different reform plans, merely comparing the marginal product of capital with the implicit rate of return on taxes in a pay-as-you-go system is insufficient for reaching a normative conclusion. Even asymptotically, the social welfare optimum in an optimal taxation overlapping generations model can have a higher marginal product of capital than the growth of wages (Diamond, 1973; Erosa and Gervais, 2002). These models have no technical progress. The growth of wages from technical progress introduces an additional basis for possible deviation between these two rates in an optimum.



retirement account in stocks, too. That is, the existing ability to adjust the overall portfolio makes the opportunity to trade bonds for stocks within Social Security of lesser value—and for some workers of no value at all. This opportunity to invest an individual account in stocks is presumably of more value to workers with little in the way of assets outside Social Security.

Furthermore, whatever the magnitude of the economic advantage of portfolio diversification, reporting the impact on a worker's lifetime utility requires at least some risk adjustment. The simplest way of doing a risk adjustment is to assume a bond rate of return on stocks, as the Congressional Budget Office has done, even though this understates the value of diversification to those with no outside assets. In the absence of a widely accepted normative calculation, this simple calculation seems more likely to be informative than the unadjusted expected value calculation that ignores the impact of portfolio risk on expected utility.<sup>13</sup>

The cost of financing the legacy debt and the simple risk adjustment explain the entire differential in expected rates of return between Social Security and stocks. To be sure, the simple risk adjustment is not adequate for some workers, and the legacy debt can be borne more by some generations than others. But the unadorned comparison of rates of return is fundamentally misleading and does not provide a justification for replacing part of Social Security with individual accounts.

A common rebuttal to a call to risk-adjust stock returns is that defined benefit systems are also subject to risk, as they are. But the relevant political risk for comparing alternative reform proposals is not that of the current (actuarially imbalanced) system, but rather that of a reformed system, such as the one we have proposed. It is true that even if the Social Security system achieved sustainable solvency, demographic and economic uncertainties would continue to imply a possible need to change future benefits or taxes. But plans that mix individual accounts with a large residual pay-as-you-go system would reduce this risk only marginally, while adding a substantial element of market risk. Furthermore, relying on general revenues from an unspecified source, as is commonly done in proposals for individual accounts, seems to us to result in far more political risk than is inherent in our plan.

### **Political Pressures and the Form of Retirement Income**

Social Security's defined benefits are paid as joint-and-survivor real annuities. Thus, a worker and spouse are protected against the risks of outliving their assets

<sup>13</sup> A similar concern arises with regard to how to report the impact, if any, of diversification on Social Security's finances. For example, some proposals create individual accounts but then share some of the return on stocks with the traditional Social Security system, through a so-called "clawback" mechanism. Under this mechanism, withdrawals from individual accounts upon retirement trigger reductions in Social Security benefits or other transfers back to Social Security. With such a clawback, realized returns affect not only the individual investor, but also the financial position of Social Security. Failing to risk-adjust the returns generates a political free lunch; that is, a policy of borrowing at the Treasury rate in order to invest in stocks (through individual accounts) becomes unduly attractive, even though the aggregate economic effects are small.

or seeing them eroded by inflation during retirement. A system of individual accounts could mandate that account-holders purchase such annuities.<sup>14</sup> Mandatory annuitization, however, may be politically difficult to sustain over time. Indeed, one of the arguments put forth by some proponents of individual accounts is that the accounts can be bequeathed. With full annuitization, the pension dies with the annuitant; but in its absence, some individuals would likely make choices that are inconsistent with social insurance goals. Many individuals do not adequately appreciate the insurance value inherent in annuities, do not adequately value the importance of protecting a survivor and do not adequately recognize the importance of protection from inflation. In short, introducing the opportunity to avoid annuitization would undercut one of the basic principles of Social Security—to provide benefits that are protected against inflation and last as long as the beneficiary is alive. It is therefore noteworthy that the Bush administration's proposal from early 2005, like those of the President's Commission from 2001, required only partial annuitization, not full annuitization.

Another major issue involves whether workers would have preretirement access to account balances. Although many individual account plans do not allow workers any access before retirement, earlier access to the funds in individual accounts could be legislated, either at the time of their enactment or later, just as many workers today may borrow from their 401(k) accounts and penalty-free preretirement withdrawals from Individual Retirement Accounts have been expanded over time. Indeed, because of their similarity to 401(k) and other existing accounts, the political pressure to allow preretirement withdrawals from individual accounts is likely to be much greater than the pressure to allow preretirement withdrawals by reducing Social Security defined benefits. If earlier access were allowed, it would undercut another basic principle of Social Security—to preserve retirement funds until retirement.

Third, the pattern of benefits from individual accounts would likely differ from that under Social Security both within and across generations. For example, whereas the trust fund can be used to spread the risks associated with fluctuations in financial market returns across many generations, individual workers would bear these risks in a system of individual accounts. The inevitable variation in returns on portfolios means that some cohorts of workers will retire at a time when financial markets are depressed and asset values far less than they anticipated (Burtless, 2001). Although traditional Social Security benefits must eventually adjust to the rates of return earned by assets in the trust fund, that adaptation can be spread out over time.

Fourth, the organization and regulation of individual accounts can affect both

<sup>14</sup> Despite the plethora of individual account proposals over the past few years, many of the details associated with how a system of individual accounts might operate in practice have not yet been resolved. A recent panel formed by the National Academy of Social Insurance (2005) has examined the practical issues associated with the pay-out stage from a system of individual accounts. The panel includes Peter Orszag.

the quality of investment decisions and the administrative costs. Many existing investors are insufficiently diversified and trade excessively. While rules about individual account investments might prevent such behavior, without such restrictions, adding more inexperienced investors will add to the extent of this problem, and attempts to educate such workers would add greatly to administrative costs. Currently, the average charge on equity-based mutual funds is over 1 percent of assets per year. While a less costly individual account system can be designed, the question is not what might be accomplished by a good design, but rather what is likely to emerge from the political process. Individual Social Security accounts of the size generally discussed in U.S. reform proposals are small. For example, 2 percent of earnings for a worker with median Social Security earnings of about \$25,000 would lead to an annual contribution in an individual account of just \$500, which suggests that fixed costs per account may be substantial. In considering the impact of such annual charges, it is worth remembering that over a 40-year career, deposits are in accounts on average roughly 20 years, so the total percentage loss in accumulation by retirement is roughly 20 times the annual charges (Diamond, 1999, 2000).

More generally, any radical change in Social Security's structure would reopen largely settled questions about the broad approach through which the political process will meet a range of social insurance goals (Hecl, 1998). In short, drastic changes in Social Security would alter the political environment from one of basic agreement to one of substantial flux and uncertainty, which should concern anyone who benefits from the current structure or who is concerned about those who rely on the current structure. Indeed, the variety of rules proposed across the various individual accounts plans offered to date shows how it is hard to predict what will emerge from such proposals if and when they are enacted, much less over time as political forces evolve.

### **Feldstein-Samwick Proposals and Analyses**

Far more individual account plans exist than we have room to discuss here. As one example, we consider the plan most recently put forth by Feldstein and Samwick (2002). Their goal is to provide expected benefits at least equal to those under current law while achieving sustainable solvency: "This paper presents several alternative social security reform options in which the projected level of benefits for every future cohort of retirees is as high as or higher than the benefits projected in current law. These future benefits can be achieved without any increase in the payroll tax or in other tax rates." We emphasize two aspects of the Feldstein-Samwick proposals: the funding mechanisms to address the combination of the existing imbalance and the financing problems caused by individual accounts, and the implicit normative analysis.

The basic Feldstein and Samwick (2002) plan diverts a matching contribution of 1.5 percent of payroll from existing payroll taxes for workers who also make a voluntary contribution of 1.5 percent of payroll to individual accounts. As we noted above (in footnote 10), the labor supply effects of such an induced voluntary

contribution are similar to a 1.5 percent payroll tax increase. The benefit calculation in the plan includes the annuities financed by the voluntary portion as well as those financed by the diverted revenue.

In the Feldstein and Samwick (2002) calculations, each dollar flowing into the individual accounts is credited with a 5.5 percent real annual return, rather than the 3.0 percent real Treasury interest rate assumed by the Social Security trustees. At retirement, traditional benefits are reduced for each year of participation in the individual accounts. Since Feldstein and Samwick examine whether the expected variable annuity from individual accounts plus reduced traditional benefits are sufficient to match projected benefits under current law for each cohort, implicit in the analysis is a 100 percent “clawback” for as long as needed—that is, the calculations imply a reduction of \$1 in expenditures from the trust fund for each \$1 in expected benefits financed by the accounts. The plan is deemed to accomplish its goal as long as the sum of expected benefits exceeds that in current law.

Feldstein and Samwick (2002) do not adjust the account returns for risk; expected benefits, not risk-adjusted benefits, are maintained. Therefore, since the accounts are assumed to be earning 5.5 percent per year, whereas the diverted revenue costs Social Security only 3 percent per year, they effectively use the equity premium to meet their goal of financing current-law benefits. As we discussed above, a failure to risk adjust benefits for workers is an inaccurate guide to expected utilities.

Under the Feldstein and Samwick (2002) plan, payroll taxes are diverted from existing Social Security right away, while the benefit reductions occur at retirement, which leads to a significant cash-flow problem as in our example above. To cover the net cash shortfall, their basic plan transfers 1 percent of the aggregate balances in individual accounts from the rest of the budget to the Social Security trust fund. This general revenue transfer is defended on the grounds that the reform plan will raise national savings, which in turn will raise GDP and corporate profits, and so will raise corporate tax revenues.<sup>15</sup> That is, the plan transfers the extra corporate tax revenue that the authors believe will be associated with an increased capital stock.

We are skeptical of such “dynamic scoring,” especially since it is not clear that national saving would be any higher under their plan than under alternative plans that restore actuarial balance without accounts. For policy comparisons, the same type of scoring should be done for all plans. Furthermore, the scale of the assumed transfers is noteworthy. Over 75 years, the net present value of these proposed transfers amounts to \$2.4 trillion, a substantial share of the \$4 trillion actuarial deficit over the same period. Another perspective on the same point is that the assumed increase in corporate taxes amounts to about 1 percent of projected GDP

<sup>15</sup> The 1 percent factor is derived by Feldstein and Samwick (2002) as 80 percent (the fraction of incremental savings in corporate capital) multiplied by a 29 percent corporate tax rate multiplied by an 8.5 percent marginal return on capital, divided by half. They offer a rationale for the final division (by half): that the payroll diversion would not increase national saving, whereas all of the voluntary contribution would—or at least the deviations from these assumptions are roughly balanced.

in 2075. Yet corporate income tax revenue in 2004 amounted to 1.6 percent of GDP, and the Congressional Budget Office projects that it will reach 1.8 percent of GDP in 2015. We are highly skeptical that either the individual account portion of the Feldstein-Samwick plan or the entire plan would lead to an increase in corporate tax revenue relative to GDP of more than half its current level.

The Feldstein and Samwick (2002) conclusion that they can raise benefits without raising taxes thus involves three critical steps. First, they undertake no risk adjustment for the effect of stock yields on benefits. Second, they ignore how induced contributions to individual accounts will function like a tax. And third, they assume a form of dynamic scoring related to higher national saving and higher corporate taxes that is implausible.

## Conclusion

Social Security reform is controversial, as it should be. After all, Social Security plays a critical role in the lives of millions of Americans and in the federal budget. Moreover, reform will involve pain for some voters. Reforms to such an important program should generate political interest and debate. Yet, our plan demonstrates that Social Security can be mended without resorting to the most controversial and problematic elements like individual accounts, without accounting gimmicks, and without simply assuming the availability of funds from the rest of the budget that are not likely to be there. Moreover, rather than replacing part of Social Security with individual accounts, existing tax-preferred retirement accounts could be reformed and improved.

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