Cato Institute Social Security Choice Paper No. 9: Social Security Privatization: One Proposal

May 29, 1997

David Altig, Jagadeesh Gokhale

David Altig is vice president and economist and Jagadeesh Gokhale is an economic adviser at the Federal Reserve Bank of Cleveland. The views contained herein do not necessarily represent those of the Federal Reserve Bank of Cleveland or the Federal Reserve System.

Executive Summary

As Social Security's problems become more apparent, there is growing support for privatizing the retirement program. As the debate intensifies, it becomes more important to move beyond generalizations and provide detailed proposals for accomplishing privatization. Without endorsing any specific proposal, the Cato Project on Social Security Privatization will present a number of possible privatization scenarios.

In this study, David Altig and Jagadeesh Gokhale offer a proposal based on the following key elements:

- Workers under age 32 would be allowed to divert up to 46 percent of their payroll taxes to individually owned, privately invested accounts, similar to individual retirement accounts or 401(k) pension plans. The remainder of the payroll tax would be used to continue to provide benefits for the currently retired and those who will retire soon.

- Assuming private investment returns below historic averages, individuals in the privatized system would receive retirement benefits equal to or greater than those currently promised by Social Security. However, individuals would receive no recognition of or benefits based on past payroll taxes paid.

- During the early years of the transition, the government would issue new debt to supplement revenues from the continuing portion of the payroll tax. Once benefits to current and soon-to-be retirees had been paid, the continuing portion of the payroll tax would be used to service and retire the debt.

- No new taxes are required to finance the transition.

The authors make the important point that the window of opportunity for such a privatized system is narrow. For example, if the system were implemented immediately, workers under the age of 32 could shift to the privatized system, diverting 46 percent of their payroll taxes to individual accounts. However, if privatization were delayed until 2011, only individuals under the age of 20 could move to the new system, and those individuals could divert only 22.1 percent of their payroll taxes. Therefore, moving to a privatized Social Security system takes on a new urgency.

Introduction

The U.S. Social Security system, now more than 60 years old, has grown from a small program designed to provide retirement security to a massive and complex system that transfers resources between different demographic groups. Concern about how to reform Social Security to meet future needs is likely to intensify as the oldest members of the baby-boom generations (those born from the mid-1940s through the mid-1960s) begin to retire and collect their Social Security benefits in the year 2008--just 11 years from now. The strain of maintaining the existing system in the face of changing demographics has the potential to provoke significant conflict between the interests of the young and those of the old. Indeed, maintaining the current system will inevitably require either substantial increases in the tax burden on younger workers or reductions in the benefit levels of retirees.

Under current contribution and benefit rules, the program is expected to provide today's workers with rates of return that are much lower than the average returns obtainable by investing in private capital markets. Even worse, projections of Social Security finances under those rules suggest that the system will enter financial insolvency by the year 2012 (instead of by 2029 as officially recognized by the Social Security Administration). The strategy of restoring the current system's long-range solvency by reducing benefits or by increasing worker contributions has several drawbacks, not the least of which is a further deterioration in the returns for young workers.

Our position is that, under reasonable economic and demographic assumptions, it may be possible to reform Social Security in a manner that avoids the stark choice of abrogating promised benefits or escalating tax burdens, while at the same time placing the retirement of current and future generations on a sound economic foundation. Like other advocates of reform, we propose moving toward a mandatory privatized retirement system. Unlike many others, however, our proposal follows the "no harm, no foul," principle: the benefits of older generations are preserved while the young obtain the same or better benefits (on average) by investing a major part of their current payroll contributions in private capital markets.

At its core, our proposal hinges on the fact that returns to private capital exceed the growth rate of the wage-income tax base, which has been diminished by both slow growth of labor productivity and unfavorable demographic developments. In essence, we ask the following question: taking current rates of payroll contributions as given, is it feasible to (a) shift those below some specific age to a privatized system, (b) finance the benefits promised to those over that age under the current system, and (c) provide retirement resources to participants under the new system that are no smaller than what they could reasonably expect under the status quo? Using a straightforward generational accounting exercise based on official population projections and reasonable assumptions about rates of return, we conclude that the answer to that question is yes. [1]

The approach we outline contains several desirable elements. First, it establishes a defined contribution system for young generations, thus tightening the link between contributions and benefits and thereby improving work incentives. In addition, the plan gradually eliminates the ongoing intergenerational redistribution of resources, a major cause of the sustained decline in U.S. saving. Furthermore, economic theory suggests that the economic distortions of financing the transition to a privatized system can be minimized if, after adjusting for rising incomes due to growth, the burden of benefit obligations to older generations is spread across all future generations via a proportional (flat) tax. [2] Our plan incorporates that feature, thus reinforcing incentives for work, saving, and investment.

Second, unlike other plans that may require additional nonpayroll taxation to pay off or service debt created during the transition to a private system, our plan has as its foundation the current payroll tax structure and existing payroll tax rates. Hence, it will not introduce ancillary saving disincentives for individuals--due to, for instance, additional income taxation--that can mitigate the beneficial macroeconomic effects of privatization. In the broader context of fiscal reform more generally, this feature may be particularly important: recent research by economists Alberto Alesina and Roberto Perotti indicates that higher payroll taxes (or personal income taxes more generally) are typically associated with unsuccessful reform efforts. [3]

Finally, and perhaps most important, our plan meets the requirements that any reform proposal be economically sustainable and politically feasible. It is economically sustainable because it provides for the retirement security of all future generations. It is politically feasible because it preserves the benefits to older generations while offering the promise of the same or better retirement security for younger generations.

After a general discussion of the trends and issues that motivate our proposal, we present the basic plan, but first a preview: under our baseline assumptions we calculate that immediate implementation of a "no harm, no foul" privatization scheme would involve shifting all workers below age 32 to a defined contribution private pension plan with the following provisions: (a) workers shifted to the privatized system forfeit all claims to accrued Social Security benefits; (b) mandated total Ã¬contributionsÃ® remain at existing levels; and (c) roughly 46 percent of the contributions in the privatized system are allocated to approved private saving vehicles, and the balance is dedicated to financing the acquired benefits of all those aged 32 and older (who remain in the existing system).

An important aspect of the calculations reported in this paper is that a reform of the nature we propose has a limited window of opportunity. Specifically, as the retirement date of the last of the baby boomers grows nearer, the tax burden on current and future workers required to finance the benefits of retired cohorts at current levels increases, and the net return to those shifted to the privatized system is diminished. In fact, given our assumptions, the type of privatization we envision would not be technically feasible beyond the year 2011.

The practical consequence of the limited window of opportunity is that the cutoff age becomes lower, and the necessary tax portion of total contributions becomes larger, as the date of the plan's implementation is pushed further into the future.

A final note before proceeding: we focus our attention solely on the implied liabilities of the current system and a plan to honor those obligations while shifting to a mandatory privatized pension scheme. Our proposal intentionally omits fiscal strategies for supporting current and prospective non-Social Security government expenditures that are financed from surplus Social Security contributions.

The Current Status of the U.S. Social Security System

The U.S. Social Security program was created in 1935 during the aftermath of the Great Depression. Although motivated by the desire to provide assistance to the needy elderly of the time, it was not established as a short-term welfare program. Rather, its founders' objective was to create a long-lasting system for ensuring economic security during retirement. The program was expanded in 1939 to provide survivors' benefits to the spouses and children of covered workers and yet again in 1956 to provide disability insurance. Hence, the program is known as Old-Age and Survivors and Disability Insurance (OASDI).

People become eligible for various benefits by paying money into the system when they are working. Frequent rate hikes since the 1940s have increased the fraction of wages that workers pay into the system. [4] Social Security benefits have also increased rapidly as a result of far-reaching changes in both the scope and the generosity of the system. At its inception, Social Security was essentially a funded system. Only workers *under* age 65 in commerce and industry (except railroad employees and agricultural and domestic workers) were covered. However, persistent poverty among the elderly forced an abandonment of any pretense of full funding. In 1939 Congress extended coverage to those *over* age 65, regardless of their previous contributions to the system, thus firmly anchoring the system in a pay-as-you-go (PAYGO) framework involving intergenerational transfers. Additional extensions progressively brought an ever larger fraction of the population under compulsory Social Security coverage. Moreover, the benefit formulas were amended on several occasions to increase benefit payments. [5]

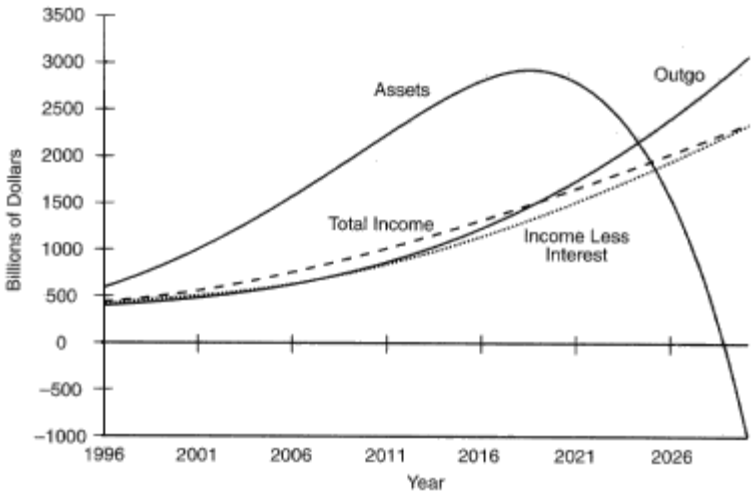
The broadening of Social Security's coverage across additional demographic groups has brought about a sizable (and ongoing) *intra*generational transfer of resources: in addition to old age insurance, the system provides protection against financial destitution as a result of widowhood, child and spousal dependency, divorce, and disability. For that reason, Social Security treats married couples and women more favorably than single individuals and men. Although that redistribution is motivated by social considerations, from an economic standpoint it breaks the link between the amount that different groups pay into the system and the benefits that they receive from it. Because of that, many workers may be viewing Social Security payments as taxes rather than pension contributions meant to secure their own retirement. The Social Security payroll "tax" thus adds to marginal income tax rates and worsens individual incentives to work.

Further, the expansion of PAYGO Social Security benefits (along with the growth in health benefits via Medicare and Medicaid) occasions an ongoing transfer of resources across generations--from young and unborn generations to older

retirees. Because older individuals consume a much larger fraction of their available lifetime resources than do young and unborn generations (the latter of whom have zero current consumption), some observers have identified such *inter*generational resource transfers as the chief cause of the dramatic and sustained decline in U.S. national saving since the mid-1970s. [6]

Judging the long-term financial prospects of Social Security is tricky business. Taken at face value, official projections of the Social Security Administration suggest that the system will remain financially solvent for another 33 years. Through 2018 the system is expected to generate annual surpluses of income (including interest) over expenditures. Thereafter, the excess of projected outgo over income will require the redemption of the trust fund's government bonds. Trust fund holdings of those bonds will decline rapidly after 2018 and are expected to be exhausted by the year 2029 (Figure 1). However, those numbers tell only part of the story. The trust fund's finances are intimately related to those of the rest of the government, and analyzing them independently can create an unwarranted illusion of security.

Figure 1
Projected Income, Outgo, and End-of-Period Assets under Intermediate Assumptions



Source: *1996 Annual Report of the Board of Trustees of the Old Age, Survivors, and Disability Trust Funds* (Washington: Government Printing Office, 1996), Table III.B3. Detailed data provided by the Social Security Administration.

Note: Income includes income from payroll contributions, taxation of benefits, payments from the general fund of the Treasury, and interest earnings. Outgo includes benefit payments, administrative expenses, and payments to the Railroad Retirement system. These are the Social Security Administration's calendar year projections based on intermediate economic and demographic assumptions.

The key feature that irrevocably links the Social Security trust fund to the government's general budget is the statutory requirement that any surplus be invested in Treasury securities. The requirement that trust fund surpluses be invested in government bonds makes those funds available for current government expenditure. Hence, almost all current contributions are consumed, either by retirees or by the government. [7] Indeed, that implies that most worker contributions *to date* have been consumed rather than invested in real assets (real capital in the form of plants, equipment, and structures). [8] Therefore, almost all contributions represent an investment, not in tangible income-generating assets, but in the willingness and ability of future workers to contribute to the system. In other words, the

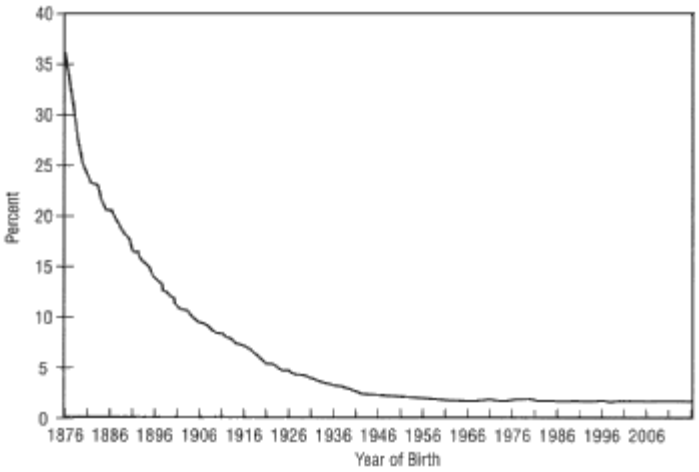
Social Security trust fund is merely an accounting device that creates the illusion of a Ã¬fundedÃ® system, whereas in reality it is completely Ã¬unfunded.Ã® As a consequence, judgment about the long-term solvency of the system should be based on when income from payroll contributions plus taxation of benefits begins to exceed outgo, not on the reported magnitude of accumulated trust fund surpluses.

According to the official projections, outgo will exceed the sum of payroll contributions and revenue from benefit taxation in the year 2012. Therefore, the cost of honoring benefit obligations will spill over to other tax revenue sources. Because the first wave of baby boomers will begin to retire in 2008, the inevitable conclusion is that the current system is incapable of meeting its benefit obligations to those workers and future generations.

Related to the solvency issue is the fact that, given the anticipated decline in the number of working-age individuals relative to retirees--and recognizing that the effects of that decline are not likely to be offset by an acceleration in wage growth--the return that future retirees can expect to realize from Social Security is significantly lower than what could be earned from private pension contributions.

As can be seen in Figure 2, the inflation-adjusted rate of return for future beneficiaries of the system is projected to fall well below 2 percent, which is much lower than, say, the rate of return on long-term government securities. In fact, the outlook is even worse than that implied by Figure 2, which calculates expected returns on the basis of gross benefits. As discussed in the previous section, the need to reduce benefits or increase contributions will drive the net return to Social Security even lower, possibly even negative. Simply put, the existing public PAYGO pension system is a bad deal for both current and future workers.

Figure 2
Real Internal Rates of Return for OASDI



Source: Dean Leimer, "Cohort-Specific Measures of Lifetime Net Social Security Transfers," Working paper 59, Office of Research and Statistics, Social Security Administration, pp. 84-89.

Options for the Future

In the future, a policy of imposing sizable benefit cuts is likely to come up against several hurdles. First, benefit reductions will become increasingly difficult as the number and political power of retirees and near-retirees grow progressively greater relative to the rest of the population. Second, although Congress has the authority to change Social Security's tax and benefit rules, the system has so far encouraged the sentiment that retirees have *earned* the right to benefits by virtue of their past contributions. Hence, although small benefit reductions may be feasible, *significant* benefit reductions will be perceived as an unfair abrogation of that right. In the worst case, the effects of major benefit reductions could be similar to those of repudiating (explicit) government debt--a loss of confidence in

public policies and a reduction of the government's ability to engage in future borrowing. Third, substantial benefit cuts may jeopardize the living standards of a sizable fraction of those already retired or close to retirement--those with little time or ability left for amassing adequate retirement savings on their own.

Other proposals for reducing benefits include accelerating and extending the scheduled increase in normal retirement ages after the year 2000 and altering the inflation-indexing formula for benefit payments. We perceive those Ã¬solutionsÃ® as no less problematic than explicit reductions. Postponing retirement may involve economic hardship for some individuals if an extended life span does not coincide with an extended ability to work or to find gainful employment at an older age. Changing cost-of-living adjustments represents a marginal fix that will push the date of financial insolvency forward by only a few years. In either case, those proposals are thinly disguised benefit cuts at best and subject to all of the criticisms of explicit cuts noted above.

The option of increasing contribution rates to meet benefit obligations also poses problems: According to the official projections, a 2.19 percent increase in the contribution rate will restore Social Security's long-term solvency. [9] Such an increase, however, will further exacerbate the ongoing inter- and intragenerational redistribution of resources that produces bad saving outcomes and creates disincentives to work. In addition, that approach preserves the system's structural deficiencies that cause most current contributions to be consumed rather than invested in tangible physical capital assets.

A Simple Proposal for Privatizing Social Security

The basic point of the foregoing discussion is that the current structure of Social Security has several shortcomings: it detracts from incentives to work, contributes to declining national saving, and represents a bad deal for young workers. The current system is not sustainable, and the usual remedies of cutting benefits or increasing payroll taxes will only worsen the economic position of all generations--current retirees and soon-to-be retirees, as well as young and future generations.

The question, therefore, is whether there exists an economically and politically viable solution that avoids the shortcomings of the current system. Economic viability requires that the program be sustainable. Political viability implies that the system is acceptable to current (and future) participants. Any reform that would leave all participants at least as well off under the new program as under the current one would satisfy those conditions.

Does such an alternative exist? Our analysis suggests that it does. In the rest of this paper, we outline a reform proposal for privatizing the system by shifting future and some current young generations into a defined contribution plan for retirement saving. This is simply the outline of a privatization plan. It does not attempt to answer all the questions surrounding the regulation, design, and implementation of a privatized Social Security system. Rather, it provides a simple framework for calculating a strategy for financing the transition.

Under our proposal, workers below a specified cutoff age would be allowed to divert a portion of their Social Security payroll tax to an individually owned, privately invested account, similar to an individual retirement account or 401(k) pension plan. The remainder of the payroll tax would continue to be paid into the current system to finance benefits to current beneficiaries and those above the cutoff age. Workers in the new system would receive no recognition or accrued benefits for past taxes paid into the Social Security system. In addition, individuals in the privatized system would be responsible for using a portion of their returns to purchase private life and disability insurance, replacing Social Security's survivors' and disability benefits.

The reform we suggest applies only to future generations and current generations below a specified cutoff age. All current participants above the cutoff age remain under the existing system. Their benefits are financed by the payroll contributions of all current and future workers who are shifted to the privatized system. Despite the diversion of a part of their payroll contributions to meeting benefit obligations to older generations, the enhanced returns available from investments in private capital markets allow the retirement resources of young and future generations to be preserved or increased, on average. This plan satisfies both the economic viability and political feasibility conditions by adhering to the Ã¬no harm, no foulÃ® principle: Because it preserves or improves the retirement resources of young and future generations, it is economically sustainable. Because it guarantees the retirement benefits of current retirees and those close to retirement, it is politically feasible.

Why would privatization be viewed as an attractive alternative for at least some current participants? Many of the benefits of privatization that we have discussed are primarily macroeconomic in nature. Although it may be clear how the economy as a whole might benefit, political support for privatization will emerge only if young workers can be shown that privatization is likely to provide them better retirement resources than can be provided under the existing regime, even after accounting for the taxation required to honor the benefit obligations to older workers and retirees. As suggested above, the case is supported by a comparison of the rates of return obtainable in PAYGO systems and those obtainable in defined contribution or Ã¬fundedÃ® systems. In the former, because each period's benefits are directly paid out of that period's contributions, the rate of return on contributions is ultimately tied to the growth rate of labor compensation. Real compensation approximately equals the sum of the rates of growth of labor productivity and the size of the working population. The growth rate of labor productivity averaged about 2.8 percent during 1950-69 but only 1.5 percent in the following 25 years. [10] Unfortunately, perhaps because of lower saving and investment in the 1970s and 1980s, growth in real compensation fell even more sharply, averaging only 0.67 percent during 1970-94 compared to 3.0 percent in the 1950-69 period.

In contrast to the feasible rate of return in a PAYGO system, we estimate that the after-tax rate of return on private-sector (for-profit) capital assets has averaged 8.2 percent since 1970. [11] Exploiting the disparity in the rates of return available from a PAYGO retirement scheme and one based on investment in private capital is the basis of most reform proposals, including those contained in the recently released report of the 1994-96 Advisory Council on Social Security (henceforth referred to as the ACSS report). [12] The novel insight provided by our calculations is that high private rates of return provide sufficient scope for a privatization plan that leaves all parties at least as well off as they would be under the status quo.

Before proceeding, we emphasize that by privatization we mean mandated contributions to approved private saving plans. Examples of such plans are the standard 401(k) plans. The essential element of such plans is that they are of the defined contribution type. Returns are not fixed but are tied to claims on private capital. It should be noted that our proposal does not permit the government to directly participate in private asset markets on behalf of participants. In particular, our proposal does not involve (nor do we recommend) the trust fund's Treasury securities being replaced by a portfolio of private stocks to be managed by the government, as is contemplated, for instance, under option 1 of the ACSS report. Such a swap of government obligations for private stocks would, in our opinion, perversely affect the incentives facing the government and private agents. In particular, it might provide the government with the incentive and the leverage to pursue industrial policy or otherwise try to influence private resource allocations. [13] Such ancillary agendas would probably undermine confidence in the plan and inhibit acceptance of a transition to a privatized system even in light of the superior returns that it can deliver relative to the current PAYGO scheme.

The Ã¬no harm, no foulÃ® principle prescribes two conditions that must be satisfied in going to a private system. First, as noted, our rule requires that benefit obligations to retirees and those close to retirement who stay under the current system (those above the cutoff age) be met under the new plan. A portion of those obligations can be financed from the contributions of preretirees themselves. The remainder must be met out of the contributions of younger workers who participate in the new privatized system.

However, the second condition of the Ã¬no harm, no foulÃ® principle is that the present value of returns in the privatized plan (net of the amount devoted to paying older generations' benefits) must at least equal the present value of benefits young workers would receive under the current Social Security system. The central issue to be resolved in our proposal is how to determine an appropriate cutoff age below which workers are shifted to the privatized plan and above which all participants who remain in the existing unfunded system receive the same benefits they could anticipate without the reform.

One key to the feasibility of our reform proposal is the fact that the rate of return in the privatized system will exceed that under the current PAYGO system. However, if the chosen cutoff age is too high, some workers will not have enough remaining years to exploit the increased private returns, leaving them worse off than before. A lower cutoff age provides younger generations with more time to accumulate plan contributions at the higher private rate of return. However, that must be traded off against the fact that the liabilities to those remaining under the current system (which increase as the cutoff age is lowered) must be partly financed out of the contributions of those who are shifted to the

new plan (whose numbers decrease as the cutoff age is lowered). Choosing the appropriate cutoff age and the fraction of young workers' contributions to be devoted to paying off the liabilities to older generations requires balancing those concerns.

Calculations using the current distributions of Social Security benefits by age and sex suggest that 32 is the appropriate cutoff age. [14] If age 32 was the dividing line, about 54 percent of young workers' contributions would be adequate to provide older generations with benefits at least equal to those received under the current system. Furthermore, given our assumptions, future retirement resources for workers younger than 32 would be *greater* than those offered by the current system because those workers' contributions would reap the higher private rate of return for a longer period of time.

Our estimated cutoff age and share of contributions dedicated to financing existing benefits do, of course, depend on our specific assumptions. Those assumptions include the appropriate discount rate applied to Social Security benefits and the return to private capital. Tables 1 and 2 provide information on how those estimates change given different choices for the values. In particular, the tables show that assuming lower average rates of return on private capital does not alter the results substantially. For example, with a 6 percent rate of return on private capital and the same rate of discount on benefit payments, the cutoff age falls to 26 and the fraction of young workers' contributions that must be devoted to paying older generations' benefits becomes 51 percent. [15] We emphasize that our essential message at this point is not so much that a particular cutoff age or Ã¬contribution taxÃ® is the right one but that, given sensible parameters, the type of reform that we propose is feasible.

Table 1
Sensitivity Analysis of
Cutoff Age for Shift to Privatized System

	Benefit Discount Rate			
Private Capital Rate of Return	5%	6%	7%	8%
6%	26	26	26	27
7%	30	29	29	30
8%	33	**32**	32	32
9%	35	34	34	34
10%	37	36	36	36

Note: The **bold** figure represents the benchmark case. Calculations assume an 8 percent annual return to private capital and a 6 percent rate of discount applied to Social Security benefits.

Table 2
Percentage of Contribution Dedicated to Financing Current Benefit Obligations

	Benefit Discount Rate			
Private Capital Rate of Return	5%	6%	7%	8%
6%	49.1	50.7	50.1	49.8
7%	49.9	52.5	53.3	54.0
8%	49.8	**53.5**	55.4	56.0
9%	49.5	53.8	56.2	57.4
10%	48.8	53.6	56.5	58.3

Note: The **bold** figure represents the benchmark case. Calculations assume an 8 percent annual return to private capital and a 6 percent rate of discount applied to Social Security benefits.

Debt, Taxes, and the Transition to a Private System

When discussing privatization of Social Security, some economists have expressed concern about the costs of transition from the current to a new, privatized system. [16] Under some proposals such a transition involves sizable increases in fiscal deficits and debt for financing the benefit payments to older generations, which means that the economic impact of privatization depends crucially on how the additional debt is serviced. For example, using higher income taxes to service the debt may harm saving incentives. The lower saving and investment may, at least temporarily, lead to slower economic growth. In contrast, the proposal outlined in this paper does not involve any taxation over and above payroll contributions at the current rate. Because our plan calls for paying full benefits under current law to older generations, but devoting only a part of current young workers' contributions to that end, the gap between benefit payouts and revenue earmarked for that purpose must be met by the creation of additional public debt. Debt creation on this account is temporary. Thereafter, the share of future generations' payroll contributions that is devoted to Ã¬paying offÃ® benefit liabilities would be devoted to servicing the debt created along the transition path to the fully privatized system.

It is important to emphasize that debt creation associated with privatization imposes no additional liability on current and future generations. The role of debt in the plan is to implement an equal (growth-adjusted) distribution of the burden of benefit payments to current older generations that remain in the existing system. Diverting an equal (flat) proportion of young and future generations' wages to pay current retirees' benefits or to service the debt created by doing so makes possible an intergenerational sharing of costs for honoring promises to those who remain under the current Social Security program.

Truth in Advertising: Some Caveats and Complications

The calculations used to support our proposal are partial equilibrium in nature. That is, they do not take into account feedback from changes in the macroeconomy that would result from implementation of the privatization scheme that we advocate. For example, the fact that today the rate of return on capital is greater than the growth rate of the economy suggests that the U.S. economy is undercapitalized. Over time, privatization may be expected to increase saving and investment, thereby increasing the capital-labor ratio. That would reduce the rate of return on capital and increase the rate of labor compensation. All else being equal, a decline in the return to capital will tend to offset some of the higher returns to the privatized system. But all else will not be equal. The closer linkage between contributions and benefits inherent in a defined contribution plan is likely to improve incentives to work, increase labor-force participation, and dampen the increase in the capital-labor ratio. Moreover, the better work incentives and added saving and investment will probably mean that the fraction of young and future workers' contributions required for financing older generations' benefits will be lower than 54 percent.

A fully satisfactory examination of the proposal would require formal analysis in a general equilibrium context. We note, however, that the results reported in Tables 1 and 2 can be used to provide some sense of whether general equilibrium effects would overturn the feasibility of our privatization scheme. For example, in his recent work on Social Security privatization, Laurence Kotlikoff employs a model that implies a prereform annual posttax rate of return to capital of about 8 percent, identical to the assumed rate of return in our benchmark calculations. [17] In his analysis, a Ã¬cold-turkeyÃ® privatization that maintains some Ã¬no harm, no foulÃ® provisions would cause the return to fall by about 16 percent. As seen in Tables 1 and 2, a change of such magnitude--which is quite large--would still leave us within the feasibility range for our proposal.

We have adopted the position that, at its core, Social Security is a pension system. That is an admittedly restrictive view, as the system in the United States also plays a role in redistributing income within given age groups and providing public insurance against macroeconomic shocks across generations. [18] We treat those goals as separate from the central purpose of Social Security and assume that, to the extent they are desirable, they can be met through alternative fiscal programs. Doing so may, of course, entail additional taxation and expenditure policies, with

corresponding effects that we have not factored into this analysis. It is our position, however, that those should be treated as distinct from the pension issue, which is at the center of the Social Security system, as both an intellectual and a practical matter. [19]

One potential drawback to the type of privatized plan we describe is that a defined contribution scheme shifts market risk to contributors, thus mitigating its attractiveness. We respond to that argument in three ways: First, the issue of increased risk will arise to some degree in any reform scheme that has a defined contribution element, which is to say, most of them. Second, given the history of Social Security legislation and the questionable viability of the current system, benefits under the status quo are far from certain. Third, the magnitude of the spread between implied returns for current workers under Social Security and those available from investments in private capital over long horizons is sufficiently large to compensate for the greater uncertainty of the latter, even for people who are quite risk averse. [20]

Because our plan redirects all future contributions into private investments via private individually managed defined contribution plans, there remains the issue of how the government will finance that part of current spending paid for by the trust fund's annual surpluses. In this context, it is important to remember that the so-called trust fund--if its obligations are honored--amounts to nothing more than government bonds and the promise to increase taxes in the future. We view that spending as independent of the public pension system per se and believe that the nonpension aspects of fiscal policy should, in practice, be separated from the Social Security program, be it public or private in nature. Our preference would be to respond to the elimination of temporary Social Security surpluses by reductions in spending; we believe that there is value in an approach to reform that directly and exclusively addresses the need to provide retirement security without commingling the system designed for that purpose with other fiscal programs.

Nevertheless, the reality of the current situation forces consideration of how public spending currently being financed by Social Security's annual surpluses would be paid for under our proposal. We evaluate the impact of adding that spending to the liabilities to old generations in the privatized system proposed here. Doing so reduces the cutoff age to 30 and increases the fraction of payroll revenues devoted to paying off liabilities to 60 percent under our benchmark assumptions. Tables 3 and 4 show the results based on other discount rate combinations. [21] Thus, factoring into our calculations the cost of government spending that is now being financed by annual Social Security surpluses does not eliminate the economic and political feasibility of our plan.

Some concern has been raised about the potential administrative costs of a privatized system, which by most accounts would exceed those of the current public system. That skepticism has been fueled in particular by the relatively high costs realized under the privatized plan implemented by Chile, which is often held out as a possible model for U.S. reform. [22] Because administrative costs will reduce the effective rate of return on private investment portfolios, the issue is important.

Ultimately, the administrative costs of a privatized system will depend on the exact nature of the plan, including whether benefits are annuitized or paid out in lump sums, the number and types of assets to which individual savers have access, and how much flexibility investors have in choosing among the available options. However, a sense of the probable magnitude of the administrative costs of the type of system we have described can be gleaned from a recent comprehensive study by Olivia Mitchell, who examined the typical costs of a variety of managed retirement saving vehicles. [23]

At one extreme, Mitchell finds that representative 401(k) plans--which have significant flexibility in payout and contribution options, among other features--have expenses that range from 0.84 to 1.88 percent of total assets. [24] At the other end of the spectrum, the costs of administering a simple stock index fund are in the area of only about 0.3 percent of assets. The College Retirement Equity Fund, an existing plan that has a large asset base and falls in between the other two alternatives with respect to flexibility and number of investment options, has expense ratios in the neighborhood of those of the simple index funds.

In fact, we think of the CREF structure as a reasonable model for the type of privatized plan we are espousing. Nonetheless, as the calculations in Tables 1-4 indicate, our plan would remain viable even at the relatively high expense ratios associated with existing 401(k) plans.

Table 3
Sensitivity Analysis of Cutoff Age for Shift to Privatized System with Replacement of Surplus-Financed Government Expenditures

	Benefit Discount Rate			
Private Capital Rate of Return	5%	6%	7%	8%
6%	23	23	33	24
7%	28	27	27	27
8%	31	**30**	30	29
9%	34	33	32	32
10%	36	35	34	34

Source: *1996 Annual Report of the Board of Trustees of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds* (Washington: Government Printing Office, 1996), Table III.B3. Detailed data provided by the Social Security Administration.

Note: The **bold** figure represents the benchmark case.

Table 4
Percentage of Contribution Dedicated to Financing Current Benefit Obligations

	Benefit Discount Rate			
Private Capital Rate of Return	5%	6%	7%	8%
6%	54.4	56.9	57.0	57.1
7%	55.2	58.8	60.5	60.8
8%	55.0	**59.6**	62.1	62.7
9%	54.3	59.6	62.7	64.5
10%	53.5	59.3	62.9	65.2

Source: *1996 Annual Report of the Board of Trustees of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds* (Washington: Government Printing Office, 1996), Table III.B3. Detailed data provided by the Social Security Administration.

Note: The **bold** figure represents the benchmark case.

Conclusion

The plan described here suggests that it is indeed possible to restructure Social Security in a way that is economically viable and politically feasible, to place it on a secure and sustainable economic foundation for the long term while simultaneously honoring benefit obligations to current retirees and preretirees. The calculations we provide suggest that the most ambitious of privatized schemes, such as option 3 of the ACSS report, can be implemented without reducing benefits or increasing payroll taxes. Our specific numbers may, of course, be susceptible to additional refinement. However, the basic argument provides a sensible framework for addressing one of the most important fiscal challenges facing the nation in the next few decades.

Privatizing Social Security will, in addition to rendering the system sustainable, confer other benefits. Current tax and benefit rules generate a redistribution of resources both within and across generations, weakening the link between contributions and benefits. Further, the current system results in consumption of worker contributions rather than their investment in real capital assets. Hence, the current system harms work incentives and reduces national saving. A transition to a privatized system would restore the link between contributions and benefits and would gradually reduce the ongoing redistribution of resources from young and unborn generations to older ones. It would thereby improve work effort, saving, and ultimately national output.

As a final point, we emphasize again that the window of opportunity for exploiting the benefits of a plan like the one we have proposed is relatively narrow. Table 5 gives, for different years of implementation, the cutoff ages and share of contributions that would have to be used to finance the benefits of those who are not shifted to the private plan. Deferring implementation reduces the former and increases the latter. Our plan would be economically infeasible if not implemented in or before 2011.

Given the rapid rise in the Ã¬contribution taxÃ® necessary to honor the obligations to those who remain under the current system, political infeasibility may result well before that date. The type of Social Security privatization described here has several favorable features in comparison with other plans and is likely to hold up under a variety of alternative assumptions about the economic environment. Given that the window of opportunity is in fact narrow, we believe that our framework deserves careful consideration in current debates on Social Security reform.

Table 5
The Ã¬Window of OpportunityÃ®

Year of Reform Implementation	Cutoff Age	Ã¬Contribution TaxÃ® Rate
1995	32	54.0
2000	30	57.4
2005	27	63.5
2010	22	74.3
2011	20	77.9
2012	Not Feasible	Not Feasible

Notes

The authors wish to thank Stuart Dorsey, Larry Kotlikoff, Randy Mariger, Bill Niskanen, Kent Smetters, and Carolyn Weaver for helpful comments. We are especially indebted to Michael Tanner for detailed discussions and input. All errors remain our own.

[1] For a description of the general methodology of generational accounting, see Alan Auerbach, Jagadeesh Gokhale, and Laurence Kotlikoff, "Generational Accounting: A Meaningful Way to Evaluate Fiscal Policy," *Journal of Economic Perspectives* 8, no. 1 (Winter 1994): 73-94.

[2]. We make the usual assumption that nondistortionary lump-sum taxation is precluded.

[3]. Alberto Alesina and Roberto Perotti, "Fiscal Adjustment in OECD Countries: Composition and Macroeconomic Effects," IMF Working Paper WP/96/70, 1996.

[4]. Initially, the contribution rate was 2 percent applicable to wages up to $3,000, and the contribution per worker was limited to $60. Today the contribution rate exceeds 10.5 percent and is applicable to wages below $62,700. As a result, the *average* contribution per worker stood at $2,500 in 1994. The last figure is obtained by multiplying the average wage for 1994 ($23,753) by the contribution rate applicable in that year (10.52 percent).

[5]. Coverage was extended to seamen and bank and loan-association employees in 1939; to farm workers, domestic workers, and public workers not already covered under a government program in 1950; to the self-employed in 1954; and to employees of the uniformed services in 1956. Benefits were increased in 1950 and again in 1972. In 1975 they were indexed to the Consumer Price Index to keep pace with inflation.

[6]. See Jagadeesh Gokhale, Laurence Kotlikoff, and John Sabelhaus, "Understanding the Postwar Decline in US National Saving: A Cohort Analysis," *Brookings Papers on Economic Activity* 1 (1996). In addition, payment of Social Security benefits in the form of regular monthly checks until death (rather than in the form of a lump-sum distribution at retirement) provides insurance against life-span uncertainty. Although access to annuitized resources improves retirees' welfare by enabling them to consume their resources at a faster rate, annuitization may also constitute a reason for the decline in U.S. saving. Recent research suggests that the growth of entitlement and pension programs increased the annuitized share of the resources of the elderly from under 20 percent in the early 1960s to just under 50 percent in the late 1980s. See Alan Auerbach et al., "The Annuitization of Americans' Resources: A Cohort Analysis," National Bureau of Economic Research Working Paper no. 5089, 1995.

[7]. Most current payroll tax revenue is directly handed over to retirees and is consumed. In 1995, for example, of total revenue of $400 billion, $333 billion (83 percent) was paid out as OASDI benefits.

[8]. It is difficult to estimate precisely the fraction of trust fund assets that may be viewed as having been invested via government spending. At one extreme, all government spending may be called investment since government operations enable the private economy to function efficiently. At the other extreme, all government spending may be called consumption because it does not result in income-generating assets for the government. In any event, the essential issue is whether, at the margin, the return to government spending in terms of expanding the wage-tax base is higher or lower than the return to investment in private capital. The evidence appears to be ambiguous, but some recent studies suggest that, with the possible exception of spending on education, government investment expenditures do not add to private productivity. See Paul Evans and Georgios Karras, "Are Government Activities Productive? Evidence from a Panel of U.S. States," *Review of Economics and Statistics* 76, no. 1 (February 1994): 1-11; Douglas Holtz-Eakin, "Public Sector Capital and the Productivity Puzzle," *Review of Economics and Statistics* 76, no. 1 (February 1994): 12-21; and Kevin Lansing, "Is Public Capital Productive? A Review of the Evidence," Federal Reserve Bank of Cleveland Economic Commentary, March 1, 1995.

[9]. See *1995 Annual Report of the Board of Trustees of the Old-Age Survivors Insurance and Disability Trust Funds* (Washington: Government Printing Office, 1995), p. 133.

[10]. These figures are based on the *Economic Report of the President,* 1995 and 1997, Table B-47. The average labor productivity growth rates are based on the index of output per hour of all persons, and the average real compensation growth rates are based on the index of real compensation per hour.

[11]. The geometric mean rate of return was 8.1 percent. For each of the years 1970-93, we calculate the after-tax rate of return on private-sector (for-profit) capital by solving for r in the economywide asset accumulation equation, $A_t = A_{t-1}(1+r) + Y_t - C_t - T_t$. Here, A_t stands for the capital stock in period t (excluding nonprofit organizations); Y_t includes aggregate labor income, private and government employee pension benefits, veterans' benefits, workers' compensation, and government purchases; C_t represents aggregate personal consumption expenditures; and T_t stands for aggregate tax payments net of transfers. The data for A_t were taken from Federal Reserve System, *Balance Sheets for the U.S. Economy--1945-94,* and data for the rest of the variables are those reported in Bureau of Labor Statistics, "National Income and Product Accounts," *Survey of Current Business,* various issues.

[12]. The report is available at http://www.ssa.gov/policy/adcouncil/toc.htm.

[13]. See Krzystof Ostaszewski, "Privatizing the Social Security Trust Fund? Don't Let the Government Invest," Cato Institute Social Security Paper no. 6, January 14, 1997.

[14]. Those calculations assume a 1.2 percent rate of growth in future benefits per capita, a 6 percent discount rate for calculating the present value of future benefits, and an 8 percent return on private capital. Future Social Security benefits are discounted at a 6 percent rate to capture the uncertainty associated with future taxes and transfers.

[15]. Note that the relationship between cutoff ages and the fraction of privatized contributions required to finance existing obligations in Tables 1 and 2 is not monotonic in assumed rates of return. The lack of a simple relationship appears to be a general property of the generational accounting exercise that involves present values of earning, tax, and benefit flows, which in turn depend on demographics, age-earning profiles, and so forth.

[16]. See, for example, Laurence Kotlikoff, "Simulating the Privatization of Social Security in General Equilibrium," National Bureau of Economic Research Working Paper no. 5776, September 1996; or Olivia Mitchell and Stephen Zeldes, "Social Security Privatization: A Structure for Analysis," *American Economic Review* 86, no. 2 (May 1996): 363-67.

[17]. Kotlikoff.

[18]. Because benefit payments do not rise proportionately with contributions, the system implicitly contains an element of progressive taxation. In addition, benefits for wealthier recipients are taxed explicitly.

[19]. We use OASDI taxes and benefits to calculate our results. Hence, under our proposal, disability and survivors' benefits would be paid to older generations as under the existing system. Young generations shifted to the new plan would be required to finance those payments out of their privatized OASDI portfolios.

[20]. Technically, for a standard type of Ã¬utility functionÃ® and the empirical distribution of rates of return to capital averaged over periods of, say, 10 years, the expected utility of $1 of investment in private capital exceeds the utility of a certain 2 percent return from Social Security, even for utility parameterizations that imply significant risk aversion.

[21]. The value of government spending financed by annual Social Security surpluses was calculated by subtracting projected annual benefit payments plus administrative costs from the sum of payroll tax contributions and revenue from taxation of benefits. This calculation produces positive numbers through the year 2012. The numbers were taken from *1996 Annual Report of the Board of Trustees of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds* (Washington: Government Printing Office, 1996), Table III.B3. Detailed data provided by the Social Security Administration.

[22]. See, for example, Peter Diamond, "Privatization of Social Security: Lessons from Chile," National Bureau of Economic Research Working Paper no. 4510, October 1993.

[23]. Olivia Mitchell, "Administrative Costs in Public and Private Retirement Systems," National Bureau of Economic Research Working Paper no. 5734, August 1996.

[24]. The expense ratios reported by Mitchell do not include commissions, or Ã¬loads.Ã®