Reengineering Social Security in the New Economy

by Thomas F. Siems

Executive Summary

The United States is currently undergoing profound social, demographic, and economic changes, shifting from an industrial base to a new information economy, at the same time that life expectancies are increasing and the baby-boom generation is nearing retirement. Given these changes, it is more important than ever to reengineer Social Security, adapting it to this new reality.

Specifically, the current pay-as-you-go (PAYGO) Social Security system is structurally flawed and produces a declining rate of return that is far lower than the return that workers could earn through investing their taxes in private capital markets. Indeed, young workers can expect future returns from Social Security of from only 0.58 percent (for high-wage earners) to 2.93 percent (for low-wage workers) even if the system somehow manages to pay all future benefits without an increase in taxes. The tax increases or benefit cuts necessary to keep the system solvent would reduce those rates of return still further. In contrast, workers who privately invested their payroll taxes could expect rates of return, and retirement benefits, between four and ten times greater.

If Social Security is to provide the same retirement security in the new economy as it did in the old, we must transform it from a PAYGO system, which essentially transfers wealth from one generation to another, to a system based on savings and investment in private capital markets. Given the dangers of allowing the government to control the investment of Social Security funds, the only viable alternative is to move to a system of individually owned, privately invested accounts.

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Introduction

One of our nation's most challenging public policy debates concerns Social Security reform. The program is in crisis and in need of reform as a result of maturation of the current pay-as-you-go (PAYGO) Social Security system coupled with an aging American population and technological improvements that have ushered in a new economy.

People who have participated in Social Security since its inception have received much higher average annual real rates of return on their contributions than have later participants. This is due, in part, to the basic design of the PAYGO program, under which earlier participants received windfall gains as the necessary result of moving from the start-up phase to a mature phase, while later participants receive below-market returns. In contrast, real financial market returns increased over this time frame, widening the gap between market returns and Social Security returns.

With demographic changes, including the retirement of the baby-boom generation and increased life expectancy, looming on the horizon, action must soon be taken to ensure Social Security's future. Social Security gradually expanded from its inception through the early 1980s by increasing benefits and coverage for various groups. To pay for those modifications, payroll tax rates and the maximum earnings ceiling have been steadily raised. Now the Social Security trust funds are in long-term financial imbalance, and benefit cuts and more payroll tax rate increases seem inevitable if Americans are to retain the important social protections that Social Security currently offers.

Now is the time to consider more dramatic changes, including various privatization proposals that allow for prefunding through individual accounts. Several researchers have put forth proposals that aim to (1) give individuals greater choice among retirement options, (2) provide greater incentives for Americans to work and to save to bolster their economic security, (3) restore Social Security's solvency, and (4) preserve at least some of the current program's social protections. While there will certainly be some transition cost in moving to a new system, continued delays in addressing Social Security's long-run financing needs will more than likely require even greater and costlier changes in the future. Thanks to technological improvements that may usher in a new economy characterized by higher growth and lower inflation, now is the time to take advantage of the prolonged economic expansion and a new era of federal budget surpluses to truly transform Social Security for the next generation.

The Rise of Social Security: Demographic Uncertainties

Like many industrialized countries, the United States has instituted programs to help individuals face the uncertainties brought on by disability and old age. The structure of these programs was initially shaped by important social, economic, and demographic changes that rendered traditional systems of economic security increasingly unworkable. To fully understand the reasons why the programs were structured as they were, let's review the circumstances and changes that led to their adoption.

The social insurance program in the United States, known as Social Security, was signed into law by President Franklin D. Roosevelt on August 14, 1935, and was designed primarily to pay eligible individuals aged 65 or older a continuing income after retirement. Three important social, demographic, and economic changes provided impetus for this legislation: (1) the Industrial Revolution, (2) increased life expectancies, and (3) the Great Depression.

As the American economy shifted from an agricultural to an industrial base during the last two decades of the 1800s and the early 1900s, the Industrial Revolution transformed the way people worked, where they worked, and with whom they worked. In the agricultural economy, most individuals were self-employed. People willing to work could generally provide at least a bare subsistence for themselves and their families. But, in the industrial economy, many individuals became wage earners who worked for industrial corporations. As a result of that transformation, factors outside individuals' control (e.g., recessions, business closures, and layoffs) threatened their economic security to a greater extent than before.

The Industrial Revolution also moved families from farms and small rural communities to cities that had industrial jobs. In 1890, 28 per-

cent of the American population lived in cities; by 1930 that percentage had doubled to 56 percent. That movement of labor and the resulting trend toward urbanization also contributed to another significant demographic shift: the breakup of the extended family and the rise of the nuclear family.

In the agricultural economy, the extended family was available to provide support and assistance when needed. In the industrial economy, extended families became splintered, as some family members moved to the cities and others stayed behind. As a result, individuals in need of assistance found it increasingly difficult to find support when their economic security was threatened.

Increased life expectancy also helped bring passage of the Social Security Act. Thanks to improved health care programs and facilities, from 1900 to 1930 Americans increased their average life span by 10 years, and the number of elderly Americans increased dramatically.

Furthermore, in the early 1930s America was in the midst of the worst economic crisis in its history. As the Great Depression unfolded, millions of people were unemployed, numerous

> **Now is the time to consider various privatization proposals that allow for prefunding through individual accounts.**

Table 1
Provisions of the Social Security Act of 1935

Title	Description
Title I	Grants to States for Old-Age Assistance
Title II	Federal Old-Age Benefits
Title III	Grants to States for Unemployment Compensation Administration
Title IV	Grants to States for Aid to Dependent Children
Title V	Grants to States for Maternal and Child Welfare
Title VI	Public Health Work
Title VII	Social Security Board
Title VIII	Taxes with Respect to Employment (for Old-Age Insurance)
Title IX	Tax on Employers of Eight or More (for Administration of Unemployment Compensation)
Title X	Grants to States for Aid to the Blind
Title XI	General Provisions

banks and businesses failed, and billions of dollars of wealth were lost as domestic stock markets plunged. For millions of Americans, economic security vanished.

As a result of those social, economic, and demographic changes, political pressure grew for greater government involvement to restore confidence and provide for the economic security of citizens. To address those concerns, President Roosevelt conceived a social insurance program. Philosophically, social insurance relies on government institutions to provide citizens with economic security. Social insurance began in Europe in the 19th century, and several European and Latin American nations already had some form of social insurance by the time it was adopted in America.[1] While the details of social insurance programs can vary considerably, they generally combine an insurance element and a social element. That is, they provide insurance against some defined risk in a manner shaped by broader social objectives, rather than by the participants' self-interests.

The major provisions of the original Social Security Act of 1935 included old-age assistance, unemployment insurance, aid to dependent children, and grants to the states to provide various forms of medical care (Table 1). Title II, Federal Old-Age Benefits, was the social insurance program most people think of as Social Security today. It sought to provide economic security for the elderly by requiring workers to contribute to their own future retirement benefits through taxes paid into a trust fund. As originally conceived, Title II differed from Title I (Grants to States for Old-Age Assistance) in that it was not meant to provide welfare benefits. Title I was a temporary relief program that would no longer be needed as more people obtained retirement income through the contributory system. Under the 1935 legislation, Title II benefits were to be paid only to the primary worker when he or she retired at age 65 and were to be based on lifetime payroll tax contributions. Taxes were to be collected first in 1937, with monthly benefits payable beginning in 1942. The delayed payment established a minimum participation period to qualify for benefits and allowed the trust fund to be built up.

Over time, a number of amendments have been made to the original Social Security Act. In 1939 benefit amounts were increased and the start date for the payment of monthly benefits

was accelerated by two years, to 1940. As explained below, the 1939 legislation effectively transformed the system into a PAYGO program. Two new categories of benefits were also established: dependent benefits (for spouses and minor children of retired workers) and survivors' benefits (for survivors of covered workers who died prematurely).

By 1950 there were more welfare beneficiaries receiving greater average benefit checks under Title I of the act than there were Social Security retirees (Title II beneficiaries). To remedy that, amendments to the act were passed in 1950 to substantially increase benefits for existing and future Title II beneficiaries.

In the mid-1950s amendments to the act initiated a disability insurance program to provide citizens with additional economic security. Amendments in the early 1960s lowered the eligibility age for old-age insurance to 62. In 1965 a new program—known as Medicare—was established to extend health coverage to most Americans aged 65 and older.

In the 1970s another new program, Supplemental Security Income, essentially replaced the already-established assistance programs for the aged, blind, and disabled. Automatic cost-of-living adjustments linked to the consumer price index were also provided under the 1972 amendments.

The 1983 amendments, based on recommendations made by a bipartisan commission chaired by Alan Greenspan, instituted the partial taxation of Social Security benefits for middle- and upper-income earners, made coverage compulsory for new federal civilian employees and employees of nonprofit enterprises, and provided for a gradual increase in the retirement age to 67. In 1993 new legislation increased the taxation of benefits at higher income levels.[2]

Those amendments have made Social Security the largest and most comprehensive public program in the United States. Social Security is part of nearly every American's life and an important source of income for most of today's older Americans. Social Security provides more than half of the total income of two-thirds of today's retirees. Social Security provides nearly all of the income of one-third of the elderly. The Social Security Administration estimates that, without Social Security benefits, 47 percent of individuals aged 65 and older

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would live in poverty, four times as many as are in poverty today.[3]

The Fall of Social Security: Demographic Realities

For the most part, the mandatory contributions that are paid into Social Security are paid out immediately in benefits to retirees, disabled Americans, and their dependents and survivors. That is, Social Security is not a funded plan under which contributions are accumulated and invested in financial assets and liquidated and converted into a pension at retirement. Rather, Social Security is essentially a PAYGO program, in which most Social Security taxes are used to immediately pay benefits for current retirees. However, since the 1983 reforms, contributions paid in have exceeded payments to retirees and have generated a relatively modest surplus, which is invested in government bonds. This partial advance funding has resulted in some accumulation of reserves, representing about 28 months of benefit payments, in the Social Security trust funds.

As an unfunded program, Social Security gives windfall returns to the first generations of participants, since they paid in little relative to the benefits they receive, and gives below-market returns to later generations. Paul Samuelson of the Massachusetts Institute of Technology found that an unfunded system with a constant tax rate provides a positive rate of return that, in equilibrium, is equal to the rate of growth of the payroll tax base.[4] As shown below, in a dynamically efficient economy, this rate of return is lower than the return on capital investment.[5] Now that the nation's Social Security system has matured (the tax rate has stabilized), it is inevitable that subsequent generations (including today's workers) will receive below-market rates of return on their contributions.

Even if there are many workers providing benefits for relatively few retirees and wage growth is strong, the PAYGO plan benefits the earliest generations at the expense of later generations. Consider a simple overlapping-generations model in which people are born in every time period, live for two periods (one as younger workers and the other as older retirees), and then die. As time passes, older generations are replaced by younger generations. In each period, two generations overlap, with younger workers coexisting with older retirees.[6]

A funded system is portrayed in Table 2 and a PAYGO Social Security system in Table 3. The columns represent successive periods (moving to the right) as time passes, and the rows represent successive generations (moving down). Each generation is labeled by the period of its birth, so that generation 1 is born in period 1 and so on. In each period there are two overlapping generations: the presently working

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Table 2
A Funded Social Security System

Generation	Period 1	Period 2	Period 3	Period 4
Generation 0	Retired	Dead	Dead	Dead
Generation 1	Working **contributions** ⟶	Retired **benefits**	Dead	Dead
Generation 2	Unborn	Working **contributions** ⟶	Retired **benefits**	Dead
Generation 3	Unborn	Unborn	Working **contributions** ⟶	Retired **benefits**
Generation 4	Unborn	Unborn	Unborn	Working **contributions** ⟶

Table 3
An Unfunded (pay-as-you-go) Social Security System

Generation	Period 1	Period 2	Period 3	Period 4
Generation 0	Retired **benefits**	Dead	Dead	Dead
Generation 1	Working **contributions**	Retired **benefits**	Dead	Dead
Generation 2	Unborn	Working **contributions**	Retired **benefits**	Dead
Generation 3	Unborn	Unborn	Working **contributions**	Retired **benefits**
Generation 4	Unborn	Unborn	Unborn	Working **contributions**

Below-market returns from a mature PAYGO scheme are inevitable as each generation is effectively forced to service the implicit "debt" issued to finance the windfall for earlier generations.

generation and the previously working, but now retired, generation.

In the funded system (Table 2), each working generation contributes to an investment fund that accumulates as time passes. The proceeds from the fund, including interest earnings, are then used to pay that generation's benefits when it retires in the subsequent period. As shown, under a funded system, each generation contributes to its own retirement. For generation 0 (the currently retired population), nothing has been accumulated so that generation must rely on private savings and pensions.

In contrast, the PAYGO Social Security system provides a start-up bonus to generation 0 retirees by using the contributions of generation 1 workers to pay benefits to those already retired (Table 3). This is an unfunded program because contributions never accumulate in a trust fund but are immediately paid out.[7] Contributions from each working generation are used to finance benefits from the older generation in the same period.

Notice that the two programs differ in the number of periods in which benefits are paid. While both programs show four periods of contributions, the funded program provides three periods of benefits whereas the PAYGO plan provides four. This highlights the greatest differences between the two programs: the funded

program has an accumulated fund and the PAYGO plan does not, and the PAYGO program has a start-up bonus and the funded system does not. It is interesting to note that the temptation of the start-up bonus is what led to the 1939 amendments that created today's PAYGO system.

This simple analysis demonstrates three important facts:

- First, the PAYGO program provides initial (generation 0) retirees a windfall equal to the benefits provided by generation 1 workers because generation 0 never paid taxes into the system.
- Second, subsequent generations earn a return from the PAYGO plan equal to the growth rate of aggregate wages.
- Third, generations 1 onward suffer combined losses exactly equal to the start-up bonus paid to generation 0 retirees.

In sum, below-market returns from a mature PAYGO scheme are inevitable as each generation is effectively forced to service the implicit "debt" issued to finance the windfall for earlier generations.

The effects of the maturation of the PAYGO plan are further exacerbated by the declining ratio of workers to beneficiaries due to demo-

Figure 1
Social Security Worker-to-Beneficiary Ratio
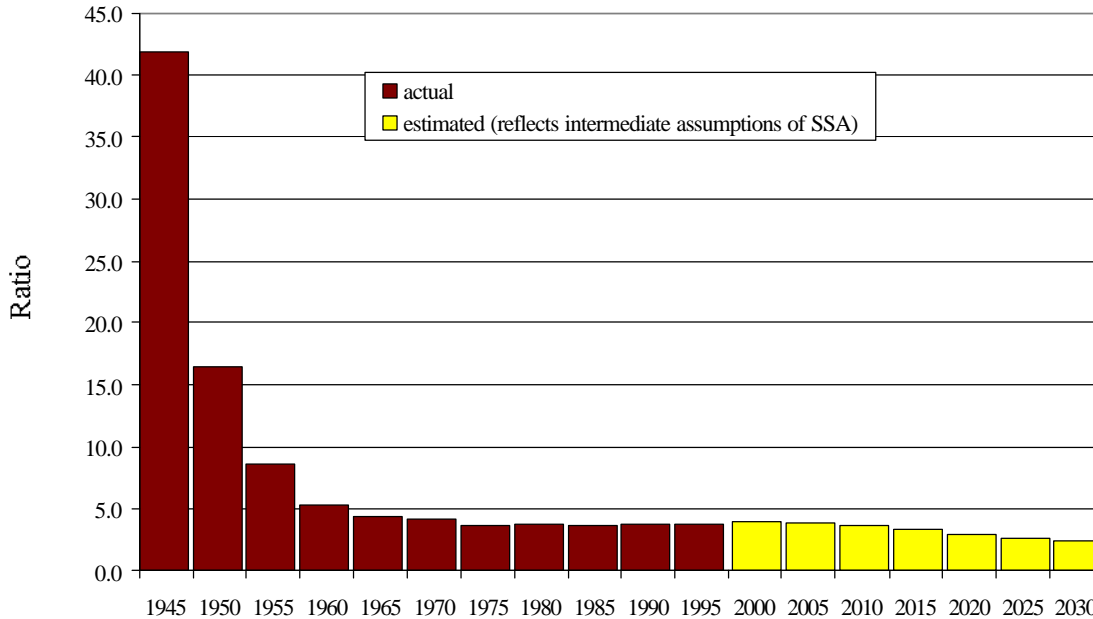
Source: Office of the Chief Actuary, Social Security Administration, June 16, 1998 (historical data), April 9, 1999 (projected data).

Note: The Social Security Administration defines workers as those receiving taxable pay during the year. Beneficiareies are individuals receiving payments as of June 10 of each year.

graphic changes, which reduces the growth rate of the payroll tax base. In 1945, a decade after Social Security was established, the ratio of workers to beneficiaries was 41.9 to 1.[8] By 1950 that ratio had fallen to 16.5 to 1. And, as shown in Figure 1, the ratio of workers to ben-eficiaries has continued to decline, dropping to 5.1 to 1 by 1960 and to 3.2 to 1 by 1975.

Although this ratio has held fairly steady since the mid-1970s and currently stands at around 3.4 workers per beneficiary, the Social Security trustees project that it will steadily decline as the baby-boom generation retires and Americans live longer.[9] In 30 years the ratio of workers to beneficiaries is expected to be approximately 2 to 1 and still falling.

The baby-boom generation consists of indi-viduals born between 1946 and 1964, a period during which the return of World War II sol-diers and postwar prosperity prompted many families to add dependents. By itself this would

not be a problem, but the baby boom was fol-lowed by a baby bust with markedly lower birth rates.[10] The inevitable result is that fewer work-ers will be available to support a growing num-ber of retirees. Aggravating this imbalance is a gradual increase in average life expectancy in the United States, even as the age for full Social Security benefits has remained unchanged from the program's inception until this year.[11]

Figure 2 shows that the number of Americans aged 65 and older increased from 10.8 million (7.6 percent of the population) in 1946 to 33.5 million (12.7 percent) in 1995. When the Social Security Act was signed into law in 1935, life expectancy at birth in the United States was 61 years, and those who reached age 65 were expected to live an additional 12 years. Today, average life expectancy at birth is 76.1 years, and those reaching age 65 are expected to live an additional 17.5 years.[12]

Consequently, the PAYGO financing struc-

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Figure 2
Number of Americans Aged 65 and Older
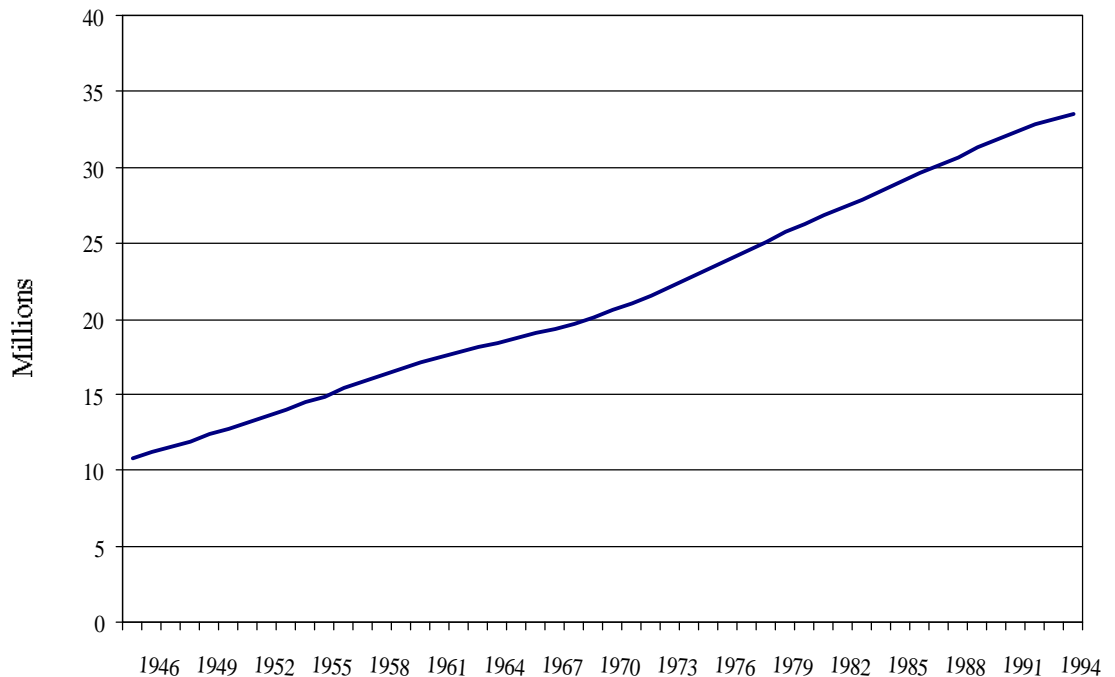
Source: DRI/McGraw-Hill Macroeconomic Database, 1996.

ture has been under further stress as the worker-to-beneficiary ratio has declined. Greenspan has noted that the dramatic change in this projected ratio, as the baby boomers retire and enjoy greater longevity, makes the current PAYGO system unsustainable.[13]

According to the Social Security trustees, Social Security tax revenues will exceed expenditures until 2015.[14] Although the interest earned on the trust fund will initially keep the fund in surplus, the fund will begin running annual deficits in 2025. By 2037 the assets in the trust fund will be fully exhausted, rendering the program insolvent. That will not mean a complete termination of benefits; roughly three-quarters of legislated benefits will still be paid from incoming taxes.

Previous attempts to shore up Social Security have focused mainly on increasing tax rates and cutting benefits.[15] As Figure 3 shows, the payroll tax rate and the maximum earnings level subject to Social Security taxes have increased nearly every year since the mid-1950s. The original Social Security tax was 2 percent (employer and employee combined rate) on the

first $3,000 of earnings. In 2000 the payroll tax for Old-Age and Survivors Insurance (OASI), which excludes the disability program and Medicare, is 10.6 percent on the first $76,200 of earnings, and the maximum earnings level is adjusted each year on the basis of national average earnings. Thus, the Social Security tax rate for OASI has increased by a factor of 5.3, and the maximum earnings level subject to the tax has increased by a factor of 2.3, after adjusting for inflation. In 1937 the maximum tax that any individual paid was $60; today it is $9,949. As noted by Martin Feldstein of Harvard University, another such increase in tax rates would be economically devastating and politically impossible.[16] The system has reached a mature phase, in which returns are limited to the growth rate of the tax base.

Social Security is in trouble because of its basic structure and maturity as a PAYGO program. However, the aging of the huge babyboom generation has come at the worst time as far as the maturity of the Social Security program is concerned. Attempting to fix this problem without considering more dramatic changes

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**Figure 3
Changes in Social Security Tax Levels**
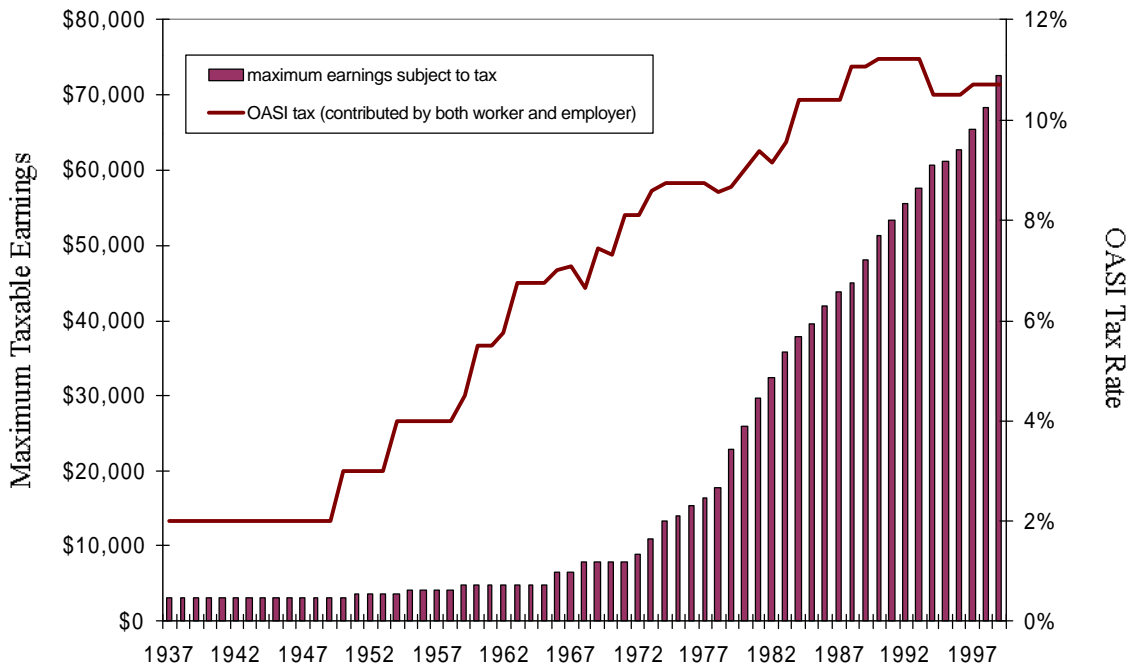
Source: *Social Security Bulletin*, Annual Statistical Supplement, 1997.

may only prolong the life of a flawed plan against the backdrop of demographic trends.

Facing the Facts: Social Security Is a Bad Investment

We can examine the return on contributions to Social Security through time and compare it with returns on several market-based portfolios, using three different earnings scenarios (low, medium, and high). In each case, workers are assumed to start their working careers at age 21, retire at the normal retirement age (age 65 prior to 2000), and then live the average life expectancy of a 65-year-old. During their careers, workers contribute a percentage of their earnings to Social Security each year.[17] At retirement, benefits are computed using the formula described in the accompanying box.

After yearly contributions to Social Security and annual retirement benefits are determined, we calculate the internal rate of return for each cohort and each earnings scenario.[18] The low-wage earnings scenario is based on eight-hour workdays at the federally mandated minimum wage (typically 2,088 hours per year). For 1996 the annual low wage was $9,171, which increased to $10,199 in 1997. The medium-wage earnings scenario is based on the average wage per worker computed by the Social Security Administration and was $24,928 in 1996. The high-wage earnings scenario is based on the maximum earnings subject to the Social Security tax and was $62,700 in 1996, $65,400 in 1997, $68,400 in 1998, and $72,600 in 1999. For this analysis, no changes were made to the structure of the current program, although projections for future real wage growth and changes to the bend points increased by 1 percent annually and life expectancy increased each year by 0.08 years.[19]

As shown in Figure 4, the average annual real (inflation-rated) rate of return has generally decreased since Social Security's inception for all three wage levels.[20] Low-wage earners born in 1919 receive a 4.96 percent average
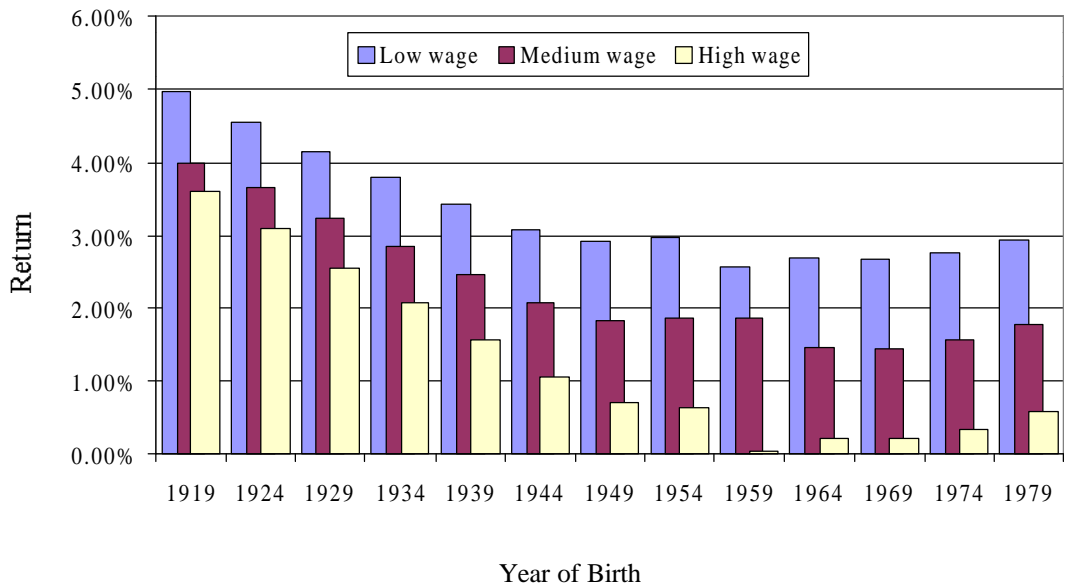
Attempting to fix this problem without considering more dramatic changes may only prolong the life of a flawed plan against the backdrop of demographic trends.

Figure 4

Internal Rates of Return for Specified Social Security Pay-in/Benefit Flows (adjusted for inflation)


Source: Author's calculations.

Market-based portfolios generally outperform the returns from Social Security contributions by a wide margin.

annual real return on their Social Security contributions. In contrast, low-wage earners born later, say in 1959, receive a 2.57 percent annual real return on their contributions. For medium- and high-wage earners, the rates of return are even lower. Medium-wage earners born in 1919 receive a 4.00 percent annual real return and high-wage earners receive 3.59 percent. Medium-wage earners born in 1959 receive a 1.85 percent annual real return, and high-wage earners receive a paltry 0.03 percent. Following the overlapping-generations model, Feldstein, in his introduction to *Privatizing Social Security*, notes that the 2.6 percent average annual rate of growth of real wages and salaries since 1960 should approximate the yield of a PAYGO program. That is confirmed by my calculations.

These results highlight three important trends. First, consistent with the economic analysis of PAYGO plans, workers who contributed to the program near its inception have received higher average annual returns than

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Figure 5
Rates of Return under Social Security and Three Investment Options for
Low-Wage Individuals
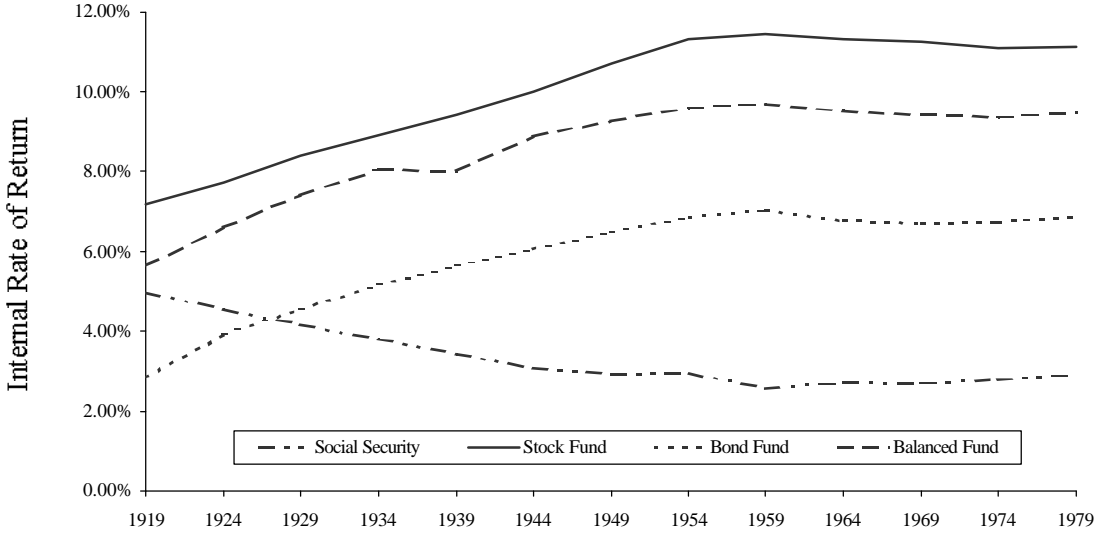
Note: Returns are adjusted for inflation. Low wages are defined by minimum wage guidelines.

Figure 6
Rates of Return under Social Security and Three Investment Options
for Medium-Wage Individuals
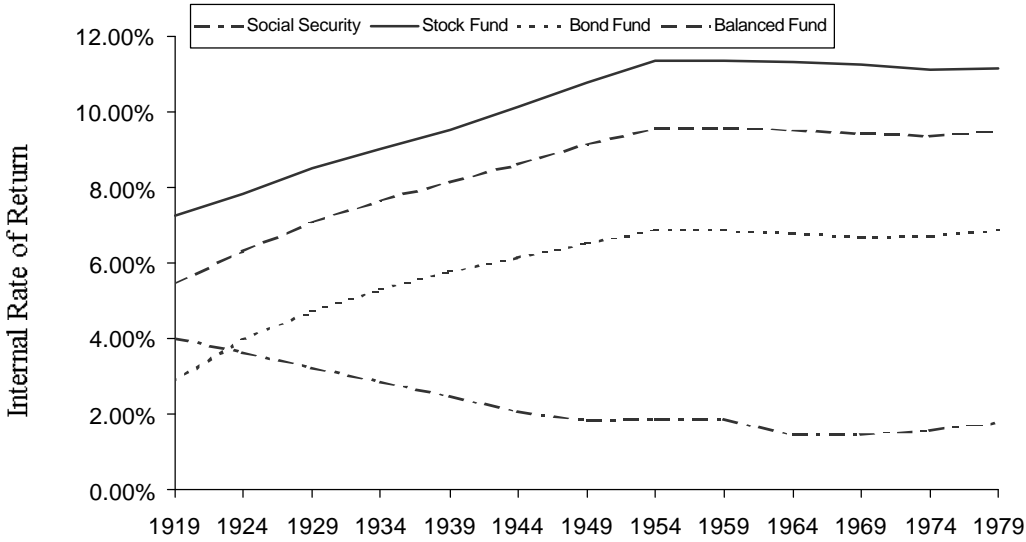
Note: Returns are adjusted for inflation. Medium wages are average total earnings per worker, taken from the 1997 Annual supplement to the *Social Security Bulletin.*

Figure 7
Rates of Return under Social Security and Three Investment Options for High-Wage Individuals
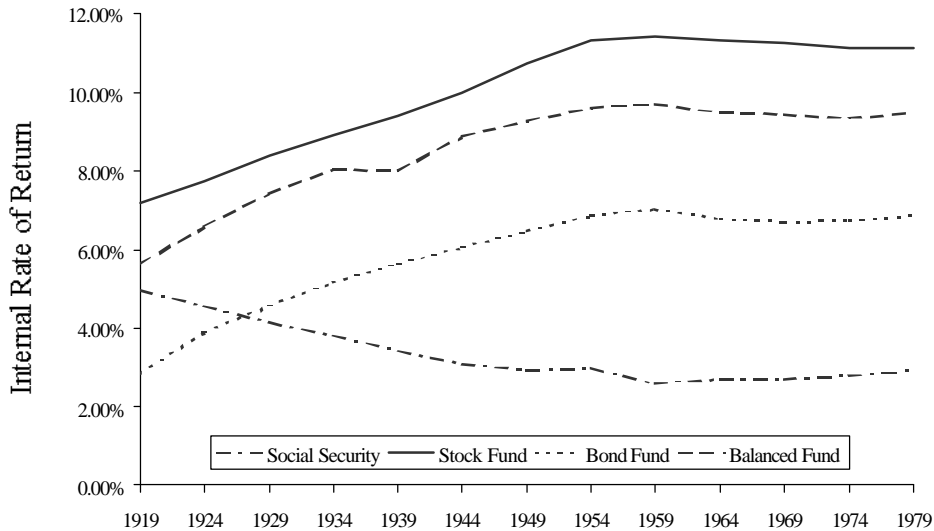

Note: Returns are adjusted for inflation. High wages are defined as the maximum taxable earnings set by the Social Security Act.

Line chart titled "Internal Rate of Return" (y-axis 0.00% to 12.00%) versus years 1919 to 1979. Four lines: Social Security, Stock Fund, Bond Fund, Balanced Fund.

The gap between the returns on Social Security contributions and those on stocks and bonds has increased as the Social Security program has matured.

workers who got started later in the program. And rates of return will probably decline further for future retirees. Second, on an annualized basis, low-wage workers consistently receive a higher average annual return than do medium-wage and high-wage workers.[21] Finally, although it appears that the average annual real rates of return on Social Security contributions have stabilized (at about 2.9 percent for low-wage workers, 1.8 percent for medium-wage workers, and 0.5 percent for high-wage workers), recall that the Social Security program will run a payroll tax deficit by 2015 under current law. As the bonds in the trust fund are redeemed to pay benefits, the federal government will have to use other income to cover the Social Security obligations, which will indirectly lead to lower returns for future retirees.

How do these average annual rates of return compare with market-based rates? To answer that question, we can construct three market-based portfolios: a stock portfolio, a bond portfolio, and a balanced portfolio. The stock portfolio contains 90 percent large capitalization stocks and 10 percent small capitalization stocks. The bond portfolio contains 50 percent government bonds and 50 percent corporate bonds.

The balanced portfolio contains 60 percent stocks and 40 percent bonds.

As shown in Figures 5–7, the market-based portfolios generally outperform the returns from Social Security contributions by a wide margin, except during the program's earliest years. Figures 5–7 show that, by investing in stocks and bonds, wage earners could have saved more for their retirement than Social Security provides. And the gap between the returns on Social Security contributions and those on stocks and bonds has increased as the Social Security program has matured.

As the overlapping-generations model indicates, returns from Social Security have been good for only those individuals who contributed to the program in its earliest stages, when tax rates were being increased. As workers' start dates for making contributions to Social Security move forward to the period when the tax rate stabilizes, the returns decline. In contrast, average annual real returns from the market-based portfolios have mostly increased and have been favorable for nearly every time period examined, generally ranging between 5 and 10 percent per year.[22]

The Social Security program was never intended to serve as a pure investment because

it contains important social insurance elements and inflation protection, but the fact remains that returns from Social Security are increasingly unattractive—a fact that hinders Social Security in its stated goal of preventing poverty. Somehow, Social Security must move away from a PAYGO system to one with greater prefunding of benefits. Prefunding would raise future output levels by building up the nation's capital stock and would provide higher rates of return. And reengineering Social Security should be pursued sooner rather than later. It is one of our nation's most pressing public policy issues, and the longer real reform is delayed, the costlier the fix will be.[23]

Reengineering Social Security: An Idea Whose Time Has Come

Reengineering Social Security must be guided by several overarching principles.[24] In keeping with the development of society and the economy, a system is needed that gives individuals greater control over and choice of their retirement options. Incentives should be established for citizens to work and save, so that returns are improved for future contributors. Moreover, the program's long-run solvency must be guaranteed. And, finally, the social protections currently provided under Social Security should be preserved.

Most Social Security reformers agree on these principles but disagree on ways to achieve them. Social Security is the federal government's largest and most popular spending program. It is viewed as an effective anti-poverty program and has provided financial protection to families of workers who die early or suffer work-related disabilities. Social Security also has been an effective hedge against inflation for the elderly. Its popularity has led to Social Security's being called the "third rail" of American politics—"touch it and you die." Proposed reforms range from minor modifications to major changes that would transform Social Security into a defined-contribution system of individually managed accounts.

Increasing Taxes

The standard method of dealing with Social Security's actuarial imbalances has been to raise taxes. Tax rates and the taxable ceiling for OASI contributions have increased steadily through the years. Further gradual increases in the tax rate and the taxable ceiling may prolong Social Security's solvency and preserve important social protections, but the cost to future generations may soon become politically intolerable.

For example, Jagadeesh Gokhale of the Federal Reserve Bank of Cleveland estimates that the OASI payroll tax rate would need to be increased by 4 percentage points (from 10.6 percent to 14.6 percent) to pay for projected benefits for the next 75 years and beyond.[25] Edward Gramlich of the Federal Reserve Board foresees a 3.3 percentage point immediate increase or a 5 to 6 percentage point future increase at a time when changes will be needed to maintain solvency.[26] Neil Howe and Richard Jackson of the Concord Coalition, however, argue that such "solutions" are seriously misleading because they count surpluses accumulated in the program's trust funds as genuine savings instead of as a stack of Treasury IOUs that will require additional taxes or borrowing from the public to redeem.[27]

Reducing Benefits

Reducing benefits to Social Security recipients by lowering the monthly amount received in retirement or by adjusting the formula used to compute average earnings and Social Security retirement benefits has not been undertaken.[28] Instead, reforms have been designed to keep workers in the workforce for longer periods by gradually increasing the "normal" retirement age at which unreduced retirement benefits are paid (as discussed above). Changes that have been considered include increasing the early retirement penalty, raising the initial entitlement age from 62, implementing a "means test" so that full Social Security benefits would be paid only when retiree incomes were below some specified threshold, and changing the indexing of benefits for inflation.

Like raising taxes, reducing benefits, by itself, may help prolong Social Security's solvency but eventually lead to lower rates of return for future retirees while failing to maintain all the protections currently provided to Social Security recipients. More important, these changes generally provide no or little prefunding; instead they prolong the PAYGO pro-

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gram without addressing the desire to increase workers' rates of return on their contributions.

New Proposals

As long as Social Security remains a PAYGO program, it is impossible to adhere to all the principles outlined earlier. Consequently, many reform proposals receiving attention today involve some form of privatization. It is important to distinguish between funding and individual accounts when discussing privatization. As defined by the National Academy of Social Insurance, funding involves building and maintaining greater total balances for Social Security, whether in individual accounts or the government's Social Security trust funds.[29] Establishing individual accounts involves replacing all or part of the current defined-benefit system with a defined-contribution system of accounts held in individual workers' names.

Proposals that increase advance funding (whether through the Social Security trust funds or individual accounts) would permit lower taxes or higher benefits, or both, in the future, since more assets would produce greater returns. However, increasing advance funding would require increased revenues in the short term. Thus, in general, improving the financial value of Social Security for future generations could come at the cost of worsening somewhat the financial value for current generations.[30]

This occurs because of the need for transition financing. The current Social Security system has, over the next 75 years, an unfunded liability the present value of which is more than $10 trillion. This is the value of benefits promised to retirees and workers for which no funds have been or will be accumulated under current tax provisions. It is tempting to suggest that government debt be issued to cover this cost. However, proposals that merely replace this unfunded liability with official debt would not change the debt burden on future generations, since they would have to service this debt just as they would have had to service the implicit debt of the PAYGO system.

Franco Modigliani, Maria Ceprini, and Arun Muralidhar of the Massachusetts Institute of Technology propose replacing the PAYGO plan with a new funded system.[31] Their proposal includes a transition plan funded with the projected federal budget surpluses.[32] Feldstein and

Andrew Samwick of Dartmouth argue that the transition has a relatively low cost. They contend that shifting to a funded system would permit the existing 12.4 percent payroll tax (which includes the disability insurance contribution) to be replaced in the long run by a payroll tax of about 2 percent.[33] This is equivalent to a 5 percent permanent increase in real income. Michael Tanner of the Cato Institute argues that, instead of "saving" Social Security, we should begin the transition to a new and better retirement system based on individually owned, privately invested accounts.[34] He advocates funding the transition through reductions in other federal programs or the sale of federal assets, neither of which would significantly harm the average worker's well-being.

If advance funding is adopted, it is necessary to decide whether the assets will be invested by the government or by individual workers. The exceptional market-based returns experienced since the early 1940s and the demographic realities discussed above have prompted reform proposals that involve investing Social Security contributions in the equity and bond markets.[35] Since market-based returns are typically superior to those under the PAYGO structure, defenders of this view argue that allowing the government to invest Social Security funds in private capital markets will make future tax cuts or benefit increases, or both, less onerous.

While allowing the government to invest Social Security contributions in the stock market through a central fund may appear attractive on the surface, opponents of such plans warn of significant risks, including the effective socialization of a large portion of the U.S. economy.[36] As the potentially largest shareholder in nearly every company, the federal government would have a controlling interest in every sector of our economy.[37] And there is a danger that political pressures could influence investment practices.[38]

Proponents of individual accounts see several advantages. First, workers would have greater control over and choice of investment options.[39] Further, workers who see that they have clear ownership of new contributions and some control over investment choice are more likely to accept the increased savings necessary to prefund the system. Having a range of choices about how contributions are invested for retirement also gives workers the freedom to decide for themselves the level of risk they are

Social Security must be modernized to take into consideration the economics and demographics of the new economy.

willing to tolerate to maximize their expected well-being.

Proponents of individual accounts also argue that privatization protects workers' retirement income from future legislative changes. This would reduce the risk that Congress and other government officials might exercise some control over future benefit payments.[40]

Conclusion

Policymakers, economists, and the public hotly debate the complex issue of Social Security reform. Because below-market returns for today's Social Security participants are the sunk cost of the windfalls paid to earlier participants, it could be difficult for any reform to raise returns for today's workers without lowering them for others. But saving the surplus contributions that today's workers are making—currently 2.3 percent of payroll—could reduce or eliminate the benefit cuts that might otherwise hurt today's workers when they retire. The time is right to seriously consider some new approaches to reforming Social Security. If we are to follow the principles outlined earlier, we need a reform that allows for prefunding with individual accounts, with any needed transition financing made available through projected on-budget surpluses or cuts in discretionary spending. Since it is likely that the federal budget surpluses will otherwise be used to cut taxes or increase spending, the most attractive way to fund the transition costs may be to use those surpluses. The transition would then effectively be borne by those who would otherwise have received tax cuts or spending increases. In any case, Social Security must be modernized to take into consideration the economics and demographics of the new economy as we enter the 21st century.

Social Security emerged because of profound social, demographic, and economic changes. Now Social Security must be reengineered because of profound social, demographic, and economic changes. It appears that major improvements to the program are necessary. As was the case in the 1930s, the traditional system of economic security has become increasingly unworkable in the new economy. But this time the traditional system is America's current Social Security program.

Notes

1. For example, Chile's PAYGO system, the first in the Western Hemisphere, was instituted in 1924. In 1981 Chile was the first country to move away from PAYGO pensions to a system of funded personal retirement accounts.

2. The 1983 amendment required that up to 50 percent of benefits be made subject to income taxation for people whose incomes exceed certain thresholds—$25,000 for singles and $32,000 for married couples. The 1993 legislation taxed up to 85 percent of those benefits when incomes exceed $34,000 for singles and $44,000 for married couples. See C. Eugene Steuerle and Jon M. Bakija, *Retooling Social Security for the 21st Century: Right and Wrong Approaches to Reform* (Washington: Urban Institute Press, 1994).

3. These estimates assume no labor-leisure response from the elderly and no savings response by workers. In most cases, elderly Americans have made retirement plans that include Social Security benefits. Without the promised benefits and without mandatory taxation to fund them, many elderly Americans would have continued working to a later date or would have saved more during their working years. Anti-poverty claims, particularly of future workers, would be much reduced if it were assumed that payroll taxes were invested at market rates instead.

4. Paul Samuelson, "An Exact Consumption Loan Model of Interest with or without the Social Contrivance of Money," *Journal of Political Economy* 66 (1958): 467-82.

5. A dynamically efficient economy is one that is producing with a capital intensity lower than the so-called golden rule level (that is, the level at which the marginal product of capital is equal to the rate of aggregate economic growth). Because the U.S. economy is dynamically efficient, the return on capital must be greater than the aggregate economic growth rate, which, in the long run, is the PAYGO rate.

6. This is the canonical textbook analysis used to understand the differences between the PAYGO plan and a funded system. This analysis follows Neil Bruce, *Public Finance and the American Economy* (New York: Addison-Wesley, 1998).

7. While a trust fund may exist in name, it is simply a temporary repository for current contributions to be paid out in benefits. Moreover, the "assets" it does hold do not reduce the impact of future benefit obligations on future taxpayers. The Clinton administration's fiscal year 2000 budget made clear that trust fund "balances are available to finance future benefit payments . . . but only in a bookkeeping sense. . . . They do not consist of real economic assets that can be drawn down in the future to fund benefits. Instead, they are claims on the Treasury that when redeemed will have to be financed by raising taxes, borrowing from the public, or reducing benefits or other expenditures. The existence of large trust fund balances, therefore, does not, by itself, have any impact on the Government's ability to pay benefits." Office of

Management and Budget, *Budget of the United States Government, Fiscal Year 2000* (Washington: Government Printing Office, 2000), Analytic Perspectives, p. 337.

8. This high ratio is not all demographics related. There was a low number of beneficiaries at first because many elderly Americans were not covered by the program.

9. Board of Trustees, Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds, *2000 Annual Report* (Washington: Government Printing Office, 2000).

10. The fertility rate in the United States fell from more than 3.5 children per woman in the 1950s to fewer than 1.9 children per woman in the 1980s, before recently rebounding to 2.0. Edward M. Gramlich, *Is It Time to Reform Social Security?* (Ann Arbor: University of Michigan Press, 1998), explains that, given normal patterns of sickness and mortality, if every woman had 2.1 children in her lifetime, the overall population of a country would stabilize. A fertility rate above 2.1 would lead to population growth; a rate less than 2.1 would result in an eventual decline in population.

11. The normal retirement age for Social Security benefits was 65 through 1999. In 2000 it is 65 years and 2 months, and it will increase by 2 months per year until it becomes 66 years in 2005. Following a 12-year hiatus, the normal retirement age advances again by 2 months per year from 2017 through 2022 and finally reaches 67 in 2022.

12. Thomas F. Cooley and Jorge Soares, *Will Social Security Survive the Baby Boom?* Carnegie-Rochester Conference Series in Public Policy 45 (December 1996): 88–121, discuss the effect of demographic changes on the survival of Social Security.

13. Alan Greenspan, Testimony before the Senate Committee on the Budget, January 28, 1999, www.federal reserve.gov/boarddocs/testimony/ 1999/19990128.htm.

14. Board of Trustees, Table II.F13.

15. The phasing in of benefit cuts raises the question of why younger workers are willing to take significant cuts in their implicit wealth while protecting the currently old. John McHale, "The Risk of Social Security Benefit Rule Changes: Some International Evidence," National Bureau of Economic Research Working Paper no. 7031, March 1999, uses a simple model to answer this question and concludes that those workers fear even larger cuts in their benefits if the tax burden on future workers rises too high.

16. Martin Feldstein, Introduction to *Privatizing Social Security,* ed. Martin Feldstein (Chicago: University of Chicago Press, 1998), pp. 1–29.

17. This percentage is equal to the combined employer and employee OASI payroll tax as shown in Figure 3.

18. Of course, it is helpful to remember that Social Security was intended to have both social (redistributive) and security (insurance) dimensions. Gramlich points out that if one agrees that such social protections have merit, then payroll taxes should be interpreted in part as a donation to the less fortunate and not only as a personal retirement investment. To separate some of the social effects, the disability and Medicare tax rates are removed from this analysis to focus only on the Old-Age and Survivors Insurance portion of the program.

19. These assumptions are slightly higher than the intermediate scenario assumptions made by the Social Security trustees. Board of Trustees, Table II.D2.

20. Rates of return computed here are consistent with those calculated by other researchers. See Steven Caldwell et al., "Social Security's Treatment of Postwar Americans," in *Tax Policy and the Economy,* ed. James Poterba, vol. 13 (Cambridge, Mass: National Bureau of Economic Research, 1998); Dean R. Leimer, "Lifetime Redistribution under the Social Security Program: A Literature Synopsis," *Social Security Bulletin* 62, no. 2 (1999): 43–51; and Dean R. Leimer, "A Guide to Social Security Money's Worth Issues," *Social Security Bulletin* 58, no. 2 (1995): 3–20 for additional studies.

21. On a lifetime basis, however, Constantijn W. A. Panis and Lee A. Lillard, "Socioeconomic Differentials in the Returns to Social Security," RAND Corporation Working Paper (1996), show a net redistribution from poor to rich because income and life expectancy are correlated and higher-income workers collect for longer. Also, most citizens do not complain about these differing rates of return because of Social Security's inherent protections for the less fortunate. The greater concern is that returns for low-wage workers have fallen, along with those for medium-wage and high-wage workers, to very low levels.

22. Some opponents of Social Security privatization have argued that such rate-of-return comparisons are misleading because they fail to take into account transition costs. See, for example, John Geanakopolis, "Generation X: Does Bush Understand His Social Security Plan?" *New Republic,* October 23, 2000. They point out that the rate of return is the ratio of how much a person pays in to how much he actually gets out. Therefore, any measure of the return must take into account not just the amount paid into private investment but also anything paid to continue providing benefits to current beneficiaries. Remember the simple overlapping-generations model described earlier. Generation 1's benefits are paid by generation 2, generation 2's by generation 3, and so forth. Imagine that generation 3 wishes to privatize. To be able to invest its own payroll taxes in the market, generation 3 must also cover generation 2's benefits. Imagine that generation 3 does so at a 5 percent rate, while investing its own money at a 7 percent rate of return. The net gain is only 2 percent—the 7 percent gain from the investment minus the 5 percent interest the generation is paying on the money it is borrowing. And, in a properly functioning market, the 2 percent differential will be purely a function of risk. Therefore, there is no real gain to generation 3. Moreover, this debt would never end. The 5 percent interest rate cited is purely for servicing the debt, not for repaying it. Thus, it is arguable that no one ever receives a higher rate of return under privatization.

That argument is correct as far as it goes. Privatization is not simple arbitrage, and all costs must be taken into account. However, the critics are mistaken in assuming that all methods of paying those costs are the same. If, for example, the costs were paid purely through an increased payroll tax, the critics would be correct. Workers would see no increase in their rate of return. But if the transition is financed by cutting government spending, that is a different story. Most economists would agree that govern-

ment makes far less productive use of capital than does the private sector. In many cases, government spending is actually harmful to the economy, producing, in a sense, a negative rate of return. Therefore, cutting government spending to fund the transition would not entail a loss in current welfare equivalent in present value terms to the gains in welfare in the future.

In short, the critics are correct to note that the transition to a privatized system ultimately requires an increase in national savings. If we wish to support a larger retiree population in the future, the only choices are to redistribute wealth to the old at the expense of the young or to increase economic output so that both groups can be made better off. Increasing savings is the most straightforward way to increase future economic output. All things being equal, therefore, the cost of the transition is simply the cost of increased savings. In order to increase savings, someone must forgo consumption today. The critics imply that that someone must be the individual worker. However, under a properly structured privatization scenario, it would be the government that forwent consumption. Hence, workers would receive a higher rate of return and be better off.

Two other points should be made. First, if the transition were paid out of taxes rather than through reductions in government spending, it would far more likely be paid for out of income taxes than out of payroll taxes. Since the income tax system is highly progressive, low-wage workers would see the full rate of return from their individual accounts, there being little or no offsetting increase in their income taxes; high-income workers would bear most of the cost and see reduced rates of return. An income-tax-funded transition would be a large transfer from today's wealthy to both today's poor and workers of the future. Finally, we should recognize that we are currently in an era of unified budget surpluses. These surpluses have been largely unforeseen and uncounted upon—a windfall. Therefore, while using the surplus to fund the transition would technically have the same economic effect as funding the transition with increased taxes, the effect on the utility of today's population would be small. Moreover, this does not consider the likelihood that, in the absence of using the surplus to pay for the transition, the money would be spent on new government programs.

23. In 1997 the Federal Reserve Bank of Boston sponsored a conference on Social Security Reform. Conference participants agreed that Social Security does face a long-term fiscal problem that should be addressed now. The difficulty is in finding widespread agreement on specific reform proposals. See Steven A. Sass and Robert K. Triest, eds., *Social Security Reform Conference Proceedings,* Federal Reserve Bank of Boston Conference Series no. 41, June 1997.

24. See Harvey Rosenblum, "Why Social Security Should Be Privatized," Federal Reserve Bank of Dallas *Southwest Economy,* no. 3 (May–June 1997): 9–11, and Gramlich for discussions of similar goals.

25. Jagadeesh Gokhale, "Social Security's Treatment of Postwar Generations," Federal Reserve Bank of Cleveland *Economic Commentary,* November 1998.

26. Gramlich.

27. Neil Howe and Richard Jackson, "The Myth of the 2.2 Percent Solution," Cato Institute Social Security Paper no. 11, June 15, 1998.

28. Benefits have been taxed, however, which has the same effect as reducing them directly.

29. National Academy of Social Insurance, "Executive Summary: Evaluating Issues in Privatizing Social Security," *Social Security Bulletin* 62, no. 1 (1999): 65–74.

30. Ibid.

31. Franco Modigliani, Maria Ceprini, and Arun Muralidhar, "An MIT Solution to the Social Security Crisis," MIT Sloan School of Management Working Paper 4051, March 1999.

32. If the projected surpluses would otherwise be used to reduce government debt, this merely replaces the unfunded liability with official debt. Modigliani, Ceprini, and Muralidhar, however, argue that the surplus would otherwise be used to cut taxes or increase current spending.

33. Martin Feldstein and Andrew Samwick, "The Transition Path in Privatizing Social Security," in *Privatizing Social Security,* pp. 215–60.

34. Michael Tanner, "'Saving' Social Security Is Not Enough," Cato Institute Social Security Paper no. 20, May 25, 2000.

35. See Barry P. Bosworth, "Fund Accumulation: How Much? How Managed?" in *Social Security: What Role for the Future?* ed. Peter A. Diamond, David C. Lindeman, and Howard Young (Washington: National Academy of Social Insurance, 1996). Many proposals along these lines incorporate initial tax increases to help restore the long-run solvency of the Social Security trust funds. Without an increase in savings, there would be no prefunding of benefits.

36. Greenspan, in his testimony of January 28, 1999, said that investing a portion of the Social Security trust fund in equities would arguably put at risk the efficiency of our capital markets and, thus, our economy. See also Krysztof Ostaszewski, "Privatizing the Social Security Trust Fund? Don't Let the Government Invest," Cato Institute Social Security Paper no. 6, January 14, 1997.

37. A force for change and innovation in the American economy is the market for corporate control. Managers who fail to produce are overtaken by those willing to change, sometimes through hostile takeovers. If corporate control is in the hands of government bureaucrats because they are the largest shareholder, this force that ultimately leads to stable economic growth and higher living standards could be severely weakened.

38. Government ownership of the means of production and management of labor resources bring a host of serious problems that threaten the innovative and productivity-focused nature of competitive markets. For evidence, one need look no further than the conditions that led to the collapse of the former Soviet Bloc command economies over the past two decades.

39. According to Daniel Shapiro, "The Moral Case for Social Security Privatization," Cato Institute Social

Security Paper no. 14, October 29, 1998, the most important arguments for a privatized Social Security system are moral, not economic. He concludes that a privatized system would give individuals more freedom to run their lives, be fairer, provide more security, and create less antagonism between generations, thus fostering a greater sense of community.

40. See Charles E. Rounds, "Property Rights: The Hidden Issue of Social Security Reform," Cato Institute Social Security Paper no. 19, April 19, 2000, who gives a legal account of the property rights issues and concludes that a privatized Social Security system, based on individual accounts, would provide workers with the benefits and the safeguards of true ownership.