

CURRENT ISSUES

IN ECONOMICS AND FINANCE

August 1997

Volume 3 Number 10

The Market to the Rescue? The Promise—and the Price—of the New Social Security Investment Proposals

Susan Miller

Three new plans for reforming Social Security financing recommend investing a portion of future payroll deductions in the financial markets. The plans aim to shore up Social Security's trust fund, improve individual returns, and enhance national saving. This analysis concludes, however, that the effectiveness of the plans would depend largely on individual saving and investment decisions, government fiscal policy, and developments in the financial markets. In addition, the proposed reforms could expose the program to unprecedented market risk.

Population aging and slowing real wage growth are threatening the future viability of the U.S. Social Security program. If these trends continue as anticipated, workers will find it increasingly hard to support the coexisting generation of retirees as required by the program's "pay-as-you-go" financing structure. Social Security has been accumulating a trust fund to pay for projected future liabilities (benefits and administrative expenses) since 1983, when legislation raised the program's annual tax revenues substantially above its annual expenditures. Nonetheless, the Social Security Administration projects that without changes to taxes or benefits, annual operating deficits beginning in 2012 are likely to deplete the Social Security Trust Fund by 2029.

In December 1996, the federal 1994-1996 Advisory Council on Social Security presented three alternative plans for reforming the financing of the program.¹ All recommend investing a portion of future Social Security contributions in marketable securities such as stocks and corporate bonds, which offer higher—but riskier—returns than the system's existing portfolio of special U.S. Treasury bonds. The reform plans propose redirecting investment either within the current tax-and-transfer framework or through mandatory private saving accounts in which taxpayers determine how a portion of their contributions will be invested.

This edition of *Current Issues* examines how the Council's investment proposals address Social Security's perceived shortcomings and how they might affect four key aspects of the program: trust fund finances and individual returns, retirement system risk, earnings redistribution and risk sharing, and national saving. The analysis concludes that the effectiveness of the proposed reforms is highly contingent on the reactions of individuals and on developments in government policy and in the financial markets. In addition, while the plans offer potential benefits, they would also introduce market risk, which could, under unfavorable circumstances, compromise the program's risk-sharing and redistributive properties.

Challenges to Social Security

Congress enacted Social Security (Old-Age, Survivors, and Disability Insurance) in 1935 as an intergenerational transfer system in which annual payroll taxes collected from workers fund retiree benefits in the same year. Such pay-as-you-go financing is sensitive to demographic and economic forces that change the relative size of the nation's payroll and total retiree benefits. The alternative to pay-as-you-go financing is prefunding, in which a single generation saves during its working years for its own retirement and earns a market rate of return on its investments.

Congressional reforms in 1983 introduced an element of prefunding to the system by raising the Social Security tax rate above the level necessary for pay-as-you-go funding, thereby creating surplus operating revenues in the trust fund. Each year, the trust fund lends these surplus revenues to the federal government for general spending by purchasing special nonmarketable U.S. Treasury securities. In 1996, the Social Security program's \$30 billion surplus, invested in these securities, cut the total unified federal budget deficit to \$107 billion.

Despite the program's partially prefunded status, the burden of Social Security financing is projected to grow in the wake of demographic and economic trends over the next several decades (Chart 1). The Social Security Administration's intermediate actuarial projections show sharp increases in the ratio of beneficiaries to workers, a long-term trend that will outlast the peak of the baby-boom generation's retirement in 2010-30. At the same time, increasingly generous benefits for past and current retirees, combined with slowing real wage growth, have increased the average retirement benefit as a percentage of the average wage.

Faced with meeting these challenges, the 1994-1996 Advisory Council on Social Security—the most recent in a series of quadrennial commissions convened to review program performance—has recommended three reform plans.² Each plan targets three specific problems of Social Security: deteriorating program finances, declining individual rates of return, and the program's alleged negative impact on national saving.

Deteriorating Program Finances. The erosion of program funding is a major factor motivating the Council's reform initiatives. The Social Security Administration's demographic and economic outlook

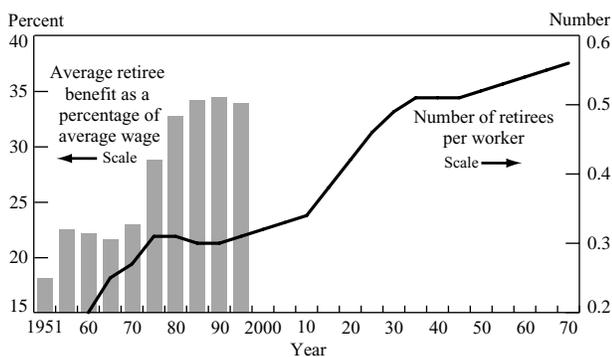
implies that the costs of Social Security relative to the U.S. payroll will rise sharply. One way to quantify the rising program costs is to consider that the Social Security tax rate would have to be raised immediately from 12.4 percent to 14.6 percent, or more than 2 percentage points of payroll, to prefund estimated program liabilities until 2070 at a constant tax level. An alternative approach is to consider that taxes would gradually have to be raised to 16 percent by 2025 and to 18 percent by 2070 for ample pay-as-you-go funding.

Social Security's actuaries project that without changes to taxes or benefits, annual operating deficits will emerge in 2012 and deplete the trust fund by 2029. Although the projected trust fund exhaustion is more than three decades away, two program financing issues fuel the argument for more immediate reform. First, the program currently fails legally mandated tests of "long-range close actuarial balance," which require the present value of expenditures over a seventy-five-year period not to exceed the present value of revenues by more than 5 percent. Second, because surplus revenues in the Social Security Trust Fund have been allocated each year toward general government expenditures, the emergence of operating deficits would trigger broader fiscal repercussions in 2012, when the government would need to issue new debt, raise taxes, or cut spending to meet its Social Security obligations.

Declining Individual Rates of Return. A second motive for reforming the program arises from the fact that the typical worker is earning ever-lower rates of return on Social Security payroll deductions. The promise of high returns on contributions was a key consideration when Congress adopted the pay-as-you-go framework in 1935. The first generation of retirees saw that promise kept, earning average inflation-adjusted annual returns as high as 35 percent in exchange for few or no contributions (Advisory Council on Social Security 1996). Likewise, subsequent generations earned returns of 4 to 11 percent as tax rates and benefits expanded in tandem with payrolls. By contrast, Social Security's actuaries project that the average worker born after 1930 can expect a return of just 1 to 4 percent under the current system.³

Low National Saving. Further spurring the Social Security reform proposals is the contention by critics that the system reduces the incentives for individuals and the government to save. According to Congressional Budget Office data, national saving as a percentage of gross domestic product has fallen steadily, from an average of more than 20 percent during the 1960s to an average of less than 15 percent during 1990-95. Many economists worry that such low saving may compromise long-run capital formation and economic growth.⁴

Chart 1
Economic and Demographic Trends Affecting Social Security



Sources: Board of Trustees (1996), Table II.F19; Social Security Administration (1996).

Note: Values for "number of retirees per worker" after 1995 are projected.

However, the characterization of Social Security financing as a leading culprit in the saving decline is controversial considering the many macroeconomic, demographic, and behavioral factors at work.

With respect to private saving, some economists argue that the expectation of generous benefits (which is itself changing) has reduced workers' incentives to save. However, the empirical evidence on this point is inconclusive. Although Feldstein (1996) finds that the existing pool of Social Security "wealth"—the excess present value of benefits over contributions—reduces private saving by nearly 60 percent, others find a smaller or nonexistent saving effect.⁵ The mixed results may be due to uncertainty in workers' expectations—workers may not reduce saving if they are not sure about the level or existence of the promised benefits.

With respect to government saving, some economists believe that the Treasury's access to Social Security Trust Fund surpluses encourages the government to spend more (or tax less) than it otherwise would. To the extent that the surpluses relax fiscal discipline rather than bridge a predetermined funding gap, the benefits of building the trust fund are lost.⁶ Attempts to address this issue through the use of alternative government accounting—specifically, the creation of an "on-budget" deficit that excludes Social

Security offsets—have failed in practice. For example, recent balanced budget initiatives continue to incorporate Social Security offsets.

Advisory Council Proposals

The three reform plans recommended by the Council are the Personal Security Account (PSA) plan, the Individual Account (IA) plan, and the Maintain Benefits (MB) plan (see box). All three plans advocate investing some portion of future Social Security contributions in marketable securities, along with other program reforms. However, the structure and level of the new investment vary by plan. The PSA and IA plans would establish mandatory worker-owned retirement saving accounts through which individuals would invest their payroll deductions. The PSA plan recommends redirecting a substantial portion of new and existing payroll deductions toward such accounts, while the IA plan proposes a more modest tier of privatization. The MB plan rejects privatization while authorizing Social Security's Board of Trustees to invest a portion of surplus tax revenues in the stock market.⁷

The investment features of the reform plans would have important, and in some cases differential, effects in four areas: trust fund finances and individual returns, risk in the retirement system, risk sharing and income redistribution, and national saving.

What the Advisory Council Proposals Would Do			
	Personal Security Account (PSA) Plan	Individual Account (IA) Plan	Maintain Benefits (MB) Plan
Description	Gradually replace program with flat baseline annuity and mandatory retirement saving in individual accounts.	Institute program reforms and supplement existing program with mandatory retirement saving in individual accounts.	Introduce program reforms; could authorize investment of up to 40 percent of future trust fund surpluses in the market.
Rationale	Expand worker discretion over, and claim to, mandatory retirement saving.	Moderately expand worker discretion over mandatory retirement saving while retaining core benefit structure.	Take advantage of higher market returns to surplus tax contributions while retaining key features of the existing program.
Proposed effective date	January 1, 1998	January 1, 1998	January 1, 2000
Mandatory saving provisions	Require workers to contribute 5.0 percent of earnings to private individual accounts.	Require workers to contribute 1.6 percent of earnings to individual accounts held on government ledger.	None.
Investment provisions	Allow workers to invest PSA savings through private brokers in approved classes of assets.	Allow workers to invest IA savings in a menu of government-selected commercial mutual funds.	Allow Social Security managers to invest a portion of trust fund surpluses in stocks.
Total increase in payroll deduction	1.52 percent	1.6 percent	1.6 percent (effective 2045)
Breakdown of payroll deduction	8.92 percent to trust fund, 5.0 percent to PSA	12.4 percent to trust fund, 1.6 percent to IA	12.4 percent (14.0 percent after 2045) to trust fund

Note: See Advisory Council on Social Security (1996) for a more comprehensive description of each plan, including proposed program reforms.

Trust Fund Finances and Individual Returns. The reformers' main rationale for expanding Social Security investment is to include securities—such as stocks—that have yielded higher rates of return than U.S. Treasury bonds in the past. The higher expected return of stocks, or the “equity premium,” has been sizable in recent history. Data compiled by Ibbotson Associates (1996), an industry source of information on historical capital market returns, show that a representative portfolio of large-company stocks held from 1926 to 1995, with dividend reinvestment, would have paid an average inflation-adjusted return of 5.2 percent more each year than a portfolio of long-term U.S. Treasury bonds held over the same period (Chart 2). In formulating the Social Security reform plans, the Council uses stocks as the benchmark security, even though Social Security market investment could encompass the wider range of financial assets available to mutual fund investors.

The assumption of higher investment returns (the Council calculations presuppose a more conservative equity premium of 4.7 percent per year) is central to the formulation of the reform plans. Each plan relies on higher investment returns to restore “long-range close actuarial balance” to the trust fund and to boost individual rates of return on contributions.

However, the critical assumption—that future Social Security investors will earn such a large equity premium—is misleading for two reasons. First, equity investors expect higher returns in part because they accept higher market risk (discussed in the next section), implying a smaller risk-adjusted equity premium. Second, the infusion of Social Security funds into the stock market could itself reduce the equity premium from its past level by creating new demand for stocks. The Social Security Administration estimates that stock

holdings in Social Security investment accounts could grow to between \$1 trillion and \$2 trillion in 1996 dollars over the next fifteen years, a level that would rival current equity mutual fund holdings.⁸

Risk in the Retirement System. All three plans would introduce market risk to the Social Security system by expanding investment to a host of financial assets. If we once again use stocks as the benchmark, we see that market risk stems from two sources. First, equity returns can be highly volatile over short investment horizons. The Ibbotson Associates data show that annual stock returns have been nearly twice as volatile as returns on long-term U.S. Treasury bonds since 1926. Likewise, simulation testing using the economic assumptions of Social Security's Board of Trustees shows annual stock returns to be potentially four times as volatile as interest rates (Advisory Council on Social Security 1996).

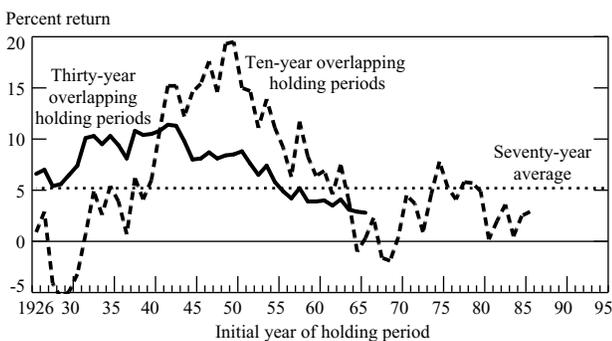
The Ibbotson Associates data also reveal that the average equity premium has been significantly more volatile over decade-long holding periods than it has been over thirty- or seventy-year holding periods (Chart 2). In fact, the average annual equity premium was negative over seven out of sixty overlapping ten-year holding periods since 1926, indicating that equity returns in any given decade may not only fall far short of their historic average but may even trail U.S. Treasury bond returns. The volatility of equity returns declines significantly over holding periods of thirty or more years, during which the equity premium has always been positive.

A second source of market risk arises from the fact that past returns may not represent the full range of possible future outcomes. Despite the equity premium observed in *overlapping* holding periods in the past, economists are wary of predicting future performance from data on so few *independent* holding periods. The fundamental forces underlying the equity premium are complex and may deviate from past patterns in the future. Therefore, it is difficult to predict the level of equity returns that future investors can reasonably expect even over long holding periods.

A counterbalance to new market risk is the reforms' potential reduction of political risk. Political risk exists in the current financing structure because legislators can alter the benefits promised under the Social Security program at any time. Although such political discretion would remain in the MB framework, it would be reduced under the IA and PSA plans insofar as the individual investment accounts established by these two plans are immune to government intervention.

Risk Sharing and Income Redistribution. In addition to altering the program's risk exposure, the reforms

Chart 2
Average Annual Equity Premium by Holding Period



Source: Author's calculations, based on Ibbotson Associates (1996).

Note: The last data point of the ten-year series represents the average annual return from 1986 to 1995; the last data point of the thirty-year series represents the average annual return from 1966 to 1995.

could change the extent to which Social Security pools risk and redistributes income, both within a single generation and across generations. The current framework pools the risk of old-age poverty within a generation through redistributive benefit formulas that transfer funds from high- to low-wage earners. This redistributive function meets societal equity goals, and may also enhance the economy by encouraging individuals to undertake productive but potentially risky enterprises while working. At the same time, the current pay-as-you-go system pools the risk of old-age poverty across generations by transferring income from workers to the coexisting generation of retirees.

Social Security's risk-sharing features would be maintained and extended to any new market risk under the MB plan but would be diminished to varying degrees under the IA and PSA plans. By linking retirement benefits more closely to individual earnings and investment performance, the IA and PSA plans would limit transfers from high- to low-wage earners within a single generation. Similarly, by emphasizing saving accounts held by a single generation over time, the two plans would reduce the extent to which workers subsidize their retired counterparts.

Individual risk would increase most under the PSA plan. Although the centralized part of the program would be highly redistributive, granting all workers the same annuity of \$410 per month regardless of their lifetime tax contributions, the annuity would also represent a much lower level of guaranteed retirement income support. Also, while Social Security's actuaries project that the annuity plus account proceeds would yield all workers more retirement income than the current system does, the reliance on investment performance would also generate a wider range of possible Social Security payouts.⁹ For example, unexpectedly low investment returns could leave minimum-wage workers with less monthly retirement income than the current \$571.¹⁰

National Saving. The net effect of the reform proposals on national saving is impossible to determine in advance because individuals and the government may react to reforms in a range of potentially offsetting ways. If, as many critics fear, the new investment proposals fail to boost saving, they could merely shuffle assets and risks between Social Security and other investors. Then the reforms would not produce the intended economic benefit, nor would they relieve the burden of high retirement costs on future workers.

Reformers hope that the PSA and IA plans will encourage private saving through a combination of structural and financing changes. The structural change—introducing private saving accounts—is intended to make Social Security more closely resemble a saving,

rather than a tax-and-transfer, vehicle. However, the positive saving impact of such a structural change may not materialize if the reforms also alter the incentives facing individuals. For example, an individual may expect a larger or more secure retirement income as a result of reforms and thus may offset the mandatory Social Security saving by reducing other precautionary saving. The net effect on saving could then be neutral or even negative.

The financing change—increasing the combined payroll deduction by 1.52 percent under the PSA plan and by 1.6 percent under the IA plan—holds greater promise for augmenting private saving. Individuals might still reduce other long-term saving or increase borrowing to maintain spending patterns, but it seems unlikely that these reactions would wholly offset the higher deduction. Thaler (1990) argues, somewhat controversially, that individuals do not view all types of saving as fungible, but instead keep separate “mental accounts.” For example, many individuals may be unwilling to compensate for higher Social Security deductions by borrowing against pension or home equity.

With respect to government saving, the reforms' ability to generate fiscal discipline would be largely a political phenomenon. Social Security's actuaries project the unified budget deficit to grow substantially over the next fifteen years under the PSA and MB plans because of diversion of funds from special government securities. This diversion could generate fiscal discipline in two ways. First, an aversion to issuing new public debt to replace lost access to trust fund surpluses could encourage politicians to impose greater fiscal restraints, especially in the current balanced budget climate.¹¹ Second, even if the government issued new public debt, investors' increased awareness of government borrowing could create pressures for subsequent reductions in public borrowing.

Conclusion

The Council's new Social Security investment proposals are designed to improve program finances, reverse the trend of declining returns on contributions, and diminish any deleterious effect on national saving that the program currently has. The proposals recommend raising payroll deduction rates, establishing mandatory individual saving accounts, and investing in the financial markets to achieve these goals.

The analysis here suggests that policymakers might wish to review the new investment proposals with two key considerations in mind. First, the effectiveness of any proposal implemented will be contingent on individual saving and investment decisions, government fiscal policy, and financial market developments. If the

behavioral responses and asset market trends assumed by the Council are not realized, the reforms might not improve—and could even hamper—the program’s provision of retirement income to the nation.

Second, the proposals that establish individual retirement saving accounts could weaken the program’s capacity to pool the risk of low earnings (and new market risk) among workers. Although the proposals could spur national saving, their reduction of risk sharing could hinder Social Security’s contribution to promoting economic efficiency and meeting society’s income-distribution goals.

Notes

1. See Advisory Council on Social Security (1996). Legislators and other policymakers have also proposed reforms to Social Security, which are pending in Congress.
2. The Council members, appointed by the Secretary of Health and Human Services, represent employer and employee groups and include academics and practitioners in the pension-financing field.
3. The calculation assumes present-law benefits and budget-neutral taxes. Bosworth (1996) discusses trends in individual returns.
4. The relationship between investment and growth depends on various factors, including the extent of global capital market integration and the size of the existing capital stock per worker.
5. See Atkinson (1987) for a survey of studies on social insurance and saving.
6. However, if Social Security surpluses fund capital expenditures, they contribute to national saving even as they increase spending.
7. The MB plan calls for further study before Social Security’s Board of Trustees undertakes stock market investment.
8. Some portion of individual account investment would not contribute to U.S. stock market demand because of portfolio reshuffling and foreign equity purchases.
9. Higher replacement rates under the PSA plan stem partly from the fact that tax increases take effect earlier than they do under other reform plans or under present law.
10. First-time-eligible minimum-wage workers in December 1995

received a primary insurance amount of \$571.50 (Social Security Administration 1996). Calculations for this article indicate that a minimum-wage worker earning \$8,840 in 1995, working for forty years, and contributing 5 percent of his or her gross salary to a PSA plan account would have to earn an average annual inflation-adjusted rate of return of 2.5 percent to fund a twenty-year retirement at the same level. Based on the Ibbotson Associates data, the risk to this worker of earning a return below 2.5 percent in the long run would be higher from an overly conservative investment strategy (a 100 percent government bond portfolio) than from an overly risky one (a 100 percent stock portfolio).

11. In contrast, the IA plan would actually lower the deficit by cutting program costs but leaving trust fund revenues largely intact (directing only new payroll deductions to individual accounts).

References

- Advisory Council on Social Security. 1996. *Report of the 1994-1996 Advisory Council on Social Security*. Vols. 1 and 2.
- Atkinson, Anthony. 1987. “Income Maintenance and Social Insurance.” In Martin Feldstein and Alan Auerbach, eds., *Handbook of Public Economics*. Vol. 2. Amsterdam: Elsevier Science Publishers.
- Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. 1996. *The 1996 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds*. Washington, D.C.: U.S. Government Printing Office.
- Bosworth, Barry P. 1996. “Fund Accumulation: How Much? How Managed?” In Peter Diamond, David Lindeman, and Howard Young, eds., *Social Security: What Role for the Future?* Washington, D.C.: National Academy of Social Insurance.
- Feldstein, Martin. 1996. “Social Security and Saving: New Time Series Evidence.” *National Tax Journal* 49, no. 2: 151-64.
- Ibbotson Associates. 1996. *Stocks, Bonds, Bills and Inflation 1996 Yearbook*. Chicago: Ibbotson Associates, Inc.
- Social Security Administration. 1996. *Annual Statistical Supplement to the Social Security Bulletin 1996*. Washington, D.C.: U.S. Government Printing Office, August.
- Thaler, Richard. 1990. “Anomalies: Saving, Fungibility, and Mental Accounts.” *Journal of Economic Perspectives* 4, no. 1 (winter).

About the Author

Susan Miller is an economic analyst in the Capital Markets Function.

The views expressed in this article are those of the author and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

Current Issues in Economics and Finance is published by the Research and Market Analysis Group of the Federal Reserve Bank of New York. Dorothy Meadow Sobol is the editor.
