Reducing the Risk of Investment-Based Social Security Reform

MARTIN FELDSTEIN

Many governments around the world – including Australia, Britain, Sweden, Mexico, China, and Chile– have shifted from pure pay-as-you-go tax financed Social Security pensions to plans that rely in whole or in part on investments in stocks and bonds. There is now active discussion about the desirability of doing so in the United States. The Clinton administration came close to proposing such a plan. President Bush established a bipartisan presidential commission to advise on detailed aspects of such a plan and, after his reelection in 2004, reiterated his intention to introduce legislation to change Social Security in this way.

Any consideration of introducing an investment-based component into Social Security immediately raises the issue of the risk associated with uncertain asset returns. Some individuals would welcome the opportunity to achieve a higher return on their Social Security contributions even if that entails accepting additional market risk. Others would be reluctant to subject their retirement income to the uncertainty of investment returns. More generally, individuals differ in the extent to which they would accept additional risk in exchange for higher returns.

This study presents a new market-based approach to reducing the risk of investment-based Social Security that could be tailored to individual risk preferences. With this new form of risk reduction, substituting an investment-based personal retirement account (PRA) for the traditional pure pay-as-you-go (PAYGO) plan could achieve both a significantly higher expected retirement income and a very high probability that the investment-based annuity would be at least as large as the pay-as-you-go benefit. A key feature of the approach developed here is a guarantee that the individual would not lose any of the real value of each year's PRA savings and might be guaranteed to earn at least some minimum real rate of return.

In one example of such a plan, the current 12.4 percent pay-as-you-go tax is compared with a mixed plan that has a 6.2 percent pay-as-you-go tax and 6.2 percent annual PRA savings. This new mixed plan, when fully phased in, would have the following desirable characteristics:

- The median value of the combined retirement income (i.e., the sum of the pay-as-you-go benefit and the PRA annuity) would be 147 percent of the traditional pay-as-you-go benefit.

- There would be a 95 percent probability that the combined retirement income (the pay-as-you-go benefit and the PRA annuity) exceeds the traditional pay-as-you-go benefit.

- There would be less than one chance in one hundred that the combined retirement income would be less than 96 percent of the traditional pay-as-you-go benefit.

- Each year's PRA saving would be guaranteed to earn at least a one percent real rate of return between the time that it is saved and its value at age 66 (and generally substantially more). It is therefore referred to in the study as a "No Lose" plan.

- The variable annuity purchased at age 66 would have a similar "No Lose" feature, i.e., a guaranteed real rate of return of at least one percent.

The "No Lose" concepts developed in the study rely on financial instruments already available in the marketplace. The idea is that the amount saved in a PRA each year would be guaranteed to retain at least its real value by age 66. The simplest way to achieve such a No Lose PRA account would be to combine TIPS (Treasury Inflation Protected Securities, which have a guaranteed real return) with equities. The fraction of the annual PRA saving that would have to be invested in TIPS to guarantee that the annual PRA saving would retain its real value by age 66 depends on the age of the saver and the rate of return on the TIPS of the relevant maturity. For example, if the saver is 21 years old and the real return on TIPS is 2 percent, a $1000 PRA saving would be divided between $410 in TIPS and the remaining $590 in equities. The 2 percent real return and the 45 year investment period imply that the $410 would accumulate to $1000 at the initial price level by age 66. Even if the equity portion became completely worthless, the PRA account would be worth the initial $1000 real dollars.

At older working ages, there are fewer years for the TIPS to accumulate and therefore a larger fraction of the initial saving must be invested in TIPS. For example, a 40 year old would have to invest $598 out of each $1000 of new saving in TIPS to guarantee the $1000 value of the account at age 66 with the remaining $402 invested in equities. In practice of course the value at age 66 of the annual PRA saving would be worth substantially more than the guaranteed amount because the equity portion of the account would add additional value. Indeed the likelihood (based on past market returns) is that the equity portion would add very substantial additional value. The study considers a range of "No Lose" options with varying trade-offs between the guaranteed minimum return, and the distribution of possible higher returns. For example, the approach can be easily modified to increase the guarantee from a zero real return (No Lose) to a one percent real rate of return. Indeed different trade-offs might be more or less desirable to different individuals, based on their particular risk preferences. These options are then evaluated relative to the baseline values that would be provided through a traditional pay-as-you-go Social Security system. Simulations are used to derive the probability distributions of retirement incomes relative to the "benchmark" benefits specified in current law. Calculations of expected utility show that the risk reduction techniques developed in the study can raise expected utility relative to investment-based plans with no guarantees. Finally, the study shows how these approaches might be applied to deal with the aging of the population without the large rise in the payroll tax that would otherwise be required.

The full working paper is available on our website, www.nber.org/programs/ag/rrc/books&papers.html as paper NB04-03 and as NBER Working Paper #11084.

MARTIN FELDSTEIN is Professor of Economics at Harvard University and President of the National Bureau of Economic Research.