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Comment Michael Hurd

An important aspect of the debate about personal retirement accounts concerns their investment in equities. On the one side, a main reason for having personal retirement accounts is that indeed they can be invested in equities that historically have a greater rate of return than bonds and a much greater rate of return than the internal rate of return on Social Security contributions. On the other side is the risk that comes with the higher mean rate of return: there are significant chances that a worker could end up worse off than under a Social Security system that has no personal retirement accounts. Of particular concern is the risk to low-wage workers who are unlikely to have other resources to buffer against bad outcomes. Consequently, there have been a number of proposals to provide insurance against these unfavorable outcomes. This chapter points out that the debate need not be restricted to personal retirement accounts within the structure of the existing Social Security system. Some of the risk from low rates of return in private retirement accounts could be partially offset by increased progressivity in the Social Security program. This is an interesting alternative to insurance against bad outcomes on rates of return and in some ways would be preferable: insurance has the undesirable effect of reducing the mean rate of return on equities because of the cost of insurance. Or said differently, insurance reduces the amount invested in equities partly offsetting the main reason for having personal retirement account in the first place.

The simulations show that there is considerable scope for investing in equities in personal retirement accounts while protecting the bottom part of the income distribution via an increase in the progressivity of the Social Security system. For example, in figure 9.1, the "half-and-half" progressivity structure with no investment in equity will provide greater expected utility for a typical worker in the bottom income decile than the existing structure fully invested in equities. At the same time, those in the top income decile could invest about 80 percent in equities and achieve greater expected utility than under the present structure but with no equities (figure 9.6). Said differently, compared with the present situation, the bottom decile could have greater expected utility and no investment risk, and the top decile

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could have greater expected utility with investment risk. If we think those in the bottom part of the income distribution do not want any investment risk as evidenced by their having few (if any) equities in their portfolios, while those in the upper income deciles can handle investment risk as evidenced by their risk taking in other parts of their portfolios, we might favor this altered situation. It should be pointed out, however, that scenario is similar to having insurance against bad outcomes in that the total amount invested in equities is less than optimal.

The key to this proposal is to increase progressivity. However, greater progressivity means that Social Security contributions will become more of a tax and less of an investment. At the extreme of a flat benefit, it is completely a tax, which has possible labor supply effects and corresponding deadweight losses. Possibly more important are political economy effects. Social Security enjoys widespread political support for several reasons, but probably a leading reason is that it is viewed as an earned right and that greater participation leads to greater benefits. I believe that policymakers should be very cautious to disturb that political equilibrium.

The metric used in the chapter to compare the various options is expected utility. I have some reservations about this approach. Total public pension benefits are the sum of Social Security benefits and the income flow resulting from annuitizing the personal retirement account. Expected utility is calculated by assuming that consumption equals total benefits. For most people, however, consumption is not equal to this flow because they have other economic resources. For example, a well-to-do person will finance consumption out of public pension benefits, employer-sponsored pension benefits including 401k plans, interest and dividends, and from savings (spend-down of capital). The 2 percent of Social Security earnings with the current contribution cap is a very small part of the economic resources of such a person. Thus, the variation in the value of a personal retirement account due to the stochastic rate of return on equities will not cause much variation in consumption as a fraction of total consumption. Said differently, for a well-to-do person, the utility function is practically linear over the relevant amount of variation induced by stochastic rates of return. This would not be true of someone who has little other financial resources. At the extreme would be someone with no other resources. Old-Age and Survivors Insurance (OASI) taxes are 10.6 percent of taxable earnings so that the 2 percent personal retirement account contribution would amount to about 16 percent of total economic resources at retirement under the assumption that both Social Security contributions and the personal retirement account have the same rate of return.[1] Thus, stochastic variation in

1. Of course, if the personal retirement account delivers a much greater rate of return, as would be the case if it were invested in equities at historical market rates of return, it would accumulate to a much greater fraction of economic resources at retirement.

rates of return in the personal retirement account would translate directly into variation in consumption and in utility.

Samwick does not directly address this issue, but does consider an alternative utility function that admits to variation in risk aversion with economic status. He observes that low-wealth households have a large fraction of their portfolios in riskless Social Security, which should lead them to hold a large fraction of their assets in equities. However, just the opposite is observed in the data: low-wealth households are unlikely to hold equities. A possible resolution is that the underlying utility function of low-wealth households exhibits greater risk aversion. Thus, he proposes an alternative to the constant relative risk aversion (CRRA) utility:

$$u(b) = \frac{(b-k)^{1-\gamma}}{1-\gamma},$$

where b is consumption and k is necessary expenditures. Under this utility function, relative risk aversion declines with b, which means that low-spending households are less likely to hold risky portfolios. While this utility function probably leads to a better description of behavior with respect to portfolio choice, it does not really address the issue of alternative sources of finance for consumption. Furthermore, as implemented, households at the low end of the consumption distribution become very risk averse. For example, in figure 9.7, the 20th percentile of consumption is about \$1,400, and with k = \$10,000, a household at the 20th percentile would have a relative risk aversion parameter of about 10.5. This is an extreme value of risk aversion.

Because of the inability to account for other resources that can be used for consumption, there is an imprecise correspondence between variation in total benefit outcomes and variation in utility. Therefore, I prefer analysis of the distributions of actual benefit outcomes as in figures 9.7 and 9.8. For example, in figure 9.7 with proportional reduction (which has the current Social Security benefit structure but at a reduced level), the median benefit would be about \$1,600. There is a 10 percent chance that benefits would be less than approximately \$1,350 and a 10 percent chance they would be more than approximately \$1,950. In my view, this is substantial benefit risk: the range of the middle 80 percent of the distribution is \$600, which is about 0.38 of the median.

A good deal of the variation in benefits appears to arise from earnings risk. This can be seen from figure 9.7 for the "uniform benefit" scenario. Under this scenario, the Social Security benefit is independent of earnings. All the variation in benefit comes from the personal retirement account part of the benefit. Some is due to investment risk and some due to earnings risk because the contribution to the personal retirement account is proportional to earnings. Even so, the curve is beginning to look like a step function, which would be the case with no risk. Indeed, the ratio of the

range of the middle 80 percent to the median is about 0.23. The importance of pure earnings risk is further shown in figure 9.8 for the "no equity" simulation. The same measure of risk is about 0.37.

Apparently earnings risk is an important determinant of the results. It affects the amount in personal retirement accounts even in the absence of rate-of-return risk because a fixed percentage of earnings is put into the account. It affects the benefit from Social Security, but its importance depends on the progressivity of the benefit schedule. It would be useful to present some information about the contribution of earnings risk to total risk. But rather than presenting certainty equivalents as in most of the tables, it would be better to present the ranges of the benefit outcomes.

In summary, the chapter provides an additional way of thinking about protection against unfavorable outcomes were some part of personal retirement accounts invested in equities. However, the political economy of the present public support of the Social Security system should be carefully considered before implementing increased progressivity.