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Journal of Policy Modeling 28 (2006) 427–444
Journal of Policy Modeling
www.elsevier.com/locate/jpm

Life-cycle personal accounts proposal for Social Security: An evaluation of President Bush's proposal

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Received 12 July 2005; accepted 21 October 2005
Available online 5 December 2005

Abstract

The life-cycle portfolio proposal for personal accounts within a Social Security system would have the government undertake the dynamic portfolio allocation program for individuals. This paper evaluates, using U.S. historical data 1871–2004, several versions of conventional life-cycle portfolios. The results show disappointing performance relative to the rhetoric of the promoters of the proposal. Dynamic portfolio theory suggests that the optimal life-cycle portfolio may look very different from the conventional form. Moreover, behavioral finance suggests that the design of a life-cycle portfolio for Social Security should consider the attitudes and habits of individuals and as well as their diversity.

Keywords: Dynamic portfolio theory; Life-cycle portfolio; Social Security system

Any plan for private accounts as part of a Social Security system has to take account of the life-cycle risk-management problem. The optimal portfolio for any worker ought generally to change as that person ages, and so it has been proposed that private accounts should be designed either to optimize over time for the worker or at least to make it convenient for worker to do so within the choices that are provided.

President George W. Bush outlined, in his State of the Union speech and associated documents[1] in February 2005, the world's most ambitious version of this proposal for life-cycle accounts within Social Security, and campaigned for succeeding months for his plan. Although it now appears

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[1] Office of the Press Secretary, The White House (2005a, 2005b).

0161-8938/$ – see front matter
doi:10.1016/j.jpolmod.2005.10.010

unlikely that his plan will be implemented in the near future, it will certainly be a model for such plans in the United States and other countries in future years.

In this paper, I will outline the important issues for life-cycle portfolios within Social Security. For concreteness, and to highlight associated government budget and political realities, I will put this analysis of the life-cycle proposal in the context of the specific proposal of President Bush.

Much discussion of the attractiveness of the life-cycle portfolio reform for social security appears to rely on assumptions that a life-cycle portfolio will yield very high returns with little or no risk. This paper investigates the possible returns and possible risks associated with a life-cycle personal account option. I use U.S. historical returns 1871–2004 to assess the potential range of future investment outcomes under several versions of a life-cycle personal accounts plan that are suggested by recent discussions and examples. The results suggest that workers would be well advised to stay away from such life-cycle plans. This paper concludes with a discussion of issues for the better design of life-cycle accounts.

1. How the Bush proposal would work

Under the present U.S. Social Security system, each working individual must contribute 6.2% of his or her earnings (up to an earnings ceiling, currently $90,000) to Social Security, and this is matched by another 6.2% of earnings that the individual's employer must contribute. Upon retirement, the individual's and employer's contributions for all the years that he or she worked, updated for inflation using a wage index, are fed into a formula that determines the annual Social Security benefit that the individual will receive upon retirement. The present formula is progressive, that is, people with lower earnings get relatively more in benefits per dollar contributed than do people with higher earnings. The formula does not take as inputs any financial variables such as interest rates or stock returns, and so the benefits ultimately received are independent of the performance of financial markets. While Social Security benefits are subject to political risk and risks about changes in the economy, they historically have not exhibited any of the annual volatility associated with investments in financial markets.

The proposed new personal account system would be optional: people can stay in the old system (subject to future changes in that system that Congress might make) or elect to have 4.0% of their 6.2% contribution (up to a maximum amount that would be phased out by 2041), diverted into personal accounts. They can then allocate these accounts, according to their tastes, into a portfolio of their choosing, subject to the restriction that it be comprised of a few broadly diversified investment funds of stocks and bonds along the lines of the options currently offered to Federal employees through the Thrift Savings Plan (TSP), and including as well a life-cycle fund option, which the TSP has announced plans for, but which it does not currently offer.

But, according to Bush's plan, the personal account does not come for free. Indeed, there is a much-discussed budget problem that Bush's plan must allow for. A plan that simply allows workers to divert part of their Social Security contribution into a personal portfolio will mean that the government will no longer be able to use this part of current contributions to support the current beneficiaries of Social Security. The government will have to borrow money to make up for the money workers have diverted to the personal accounts. So, in an attempt to preserve balance over an infinite horizon, the Bush plan specifies that when the individual finally retires, an "offset" value, the terminal value of the personal account contributions cumulated at a 3% real interest rate, will be annuitized (converted into a series of payments for life, analogous to the payments that people make on mortgages) and subtracted from the traditional Social Security benefit. In addition to this reduced traditional benefit due to the offset, the worker will also get