Would a Privatized Social Security System Really Pay a Higher Rate of Return?

John Geanakoplos, Olivia S. Mitchell, and Stephen P. Zeldes

Prepared for presentation at the
First Annual Joint Conference for the Retirement Research Consortium
“New Developments in Retirement Research”
May 20-21, 1999

An earlier version of this study was presented at the 1998 conference on Social Security reform organized by the National Academy of Social Insurance (NASI) and at the joint MIT-Harvard Public Finance Workshop. The papers from the NASI conference were published by NASI in “Framing the Social Security Debate: Values, Politics, and Economics”, edited by R. Douglas Arnold, Michael J. Graetz, and Alicia H. Munnell, (Brookings Institution Press: Washington, DC, 1998). Useful comments were provided by Douglas Arnold, Jeff Brown, Martin Feldstein, and Kent Smetters. Research support was provided by Yale University (Geanakoplos), the Pension Research Council (Mitchell), and Columbia University (Zeldes). Opinions are solely those of the authors and should not be construed as representing the opinions or policy of SSA or any agency of the Federal Government. Copyright 1998 by John Geanakoplos, Olivia S. Mitchell, and Stephen P. Zeldes. All rights reserved.
Abstract

Many advocates of social security privatization argue that rates of return under a defined contribution individual account system would be much higher for all than they are under the current social security system. This claim is false. The mistake comes from ignoring accrued benefits already promised based on past payroll taxes, and from underestimating the riskiness of stock investments. Confusion arises because three distinct reforms are muddled. By privatization we mean creating individual accounts (which could, for example, be invested exclusively in bonds). By diversification we mean investing in stocks, and perhaps other assets, as well as bonds; diversification might be undertaken either by individuals in their private social security accounts, or by the social security trust fund. By prefunding we mean closing the gap between social security benefits promised to date and the assets on hand to pay for them. Any one of these reforms could be implemented without the other two. If the system were completely privatized, with no prefunding or diversification, the social security system would need to raise new taxes in order to pay benefits already accrued. These added taxes would completely eliminate any rate of return advantage on the individual accounts. If the economy continued to grow at rates comparable to the last 25 years, and if real interest rates remained at levels comparable to their long run historical average, then the new taxes would amount to 3% of payroll in perpetuity (which is a quarter of today's social security taxes). Unlike diversification, prefunding would raise rates of return for later generations, but at the cost of lower returns for today's workers. For households able to invest in the stock market on their own, diversification would not raise rates of return, correctly adjusted to recognize risk. Households that are constrained from holding stock, due to lack of wealth outside
of social security or to fixed costs from holding stocks, would gain higher risk-adjusted
returns and would benefit from diversification. If this group is large, diversification
would raise stock values, thus helping current stockholders, but it would lower future
stock returns, thus hurting young unconstrained households. Overall, since the number of
truly constrained households is probably not that large, privatization and diversification
would have a much smaller effect on returns than reformers typically claim.
Table 1: Differentiating Privatization, Prefunding, and Diversification of Social Security

- **Privatization**: Replace existing social security system with a system of individual accounts held and managed by individuals.

- **Prefunding**: Raise contributions and/or cut benefits so as to lower the sum of explicit and implicit debt associated with the system.

- **Diversification**: Invest social security funds into a broad range of assets, including equities.

<table>
<thead>
<tr>
<th>Privatization</th>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>• Current system</td>
<td>• Create individual accounts</td>
</tr>
<tr>
<td></td>
<td>NO: Current system</td>
<td>• Issue recognition bonds</td>
</tr>
<tr>
<td></td>
<td>Yes: Borrow, invest proceeds in equities through trust fund</td>
<td>• Perpetually roll over principal and enough interest to keep path of debt same as that of unfunded liability under current system</td>
</tr>
<tr>
<td>YES</td>
<td>• Raise taxes / cut benefits to decrease unfunded liability</td>
<td>• Create individual accounts</td>
</tr>
<tr>
<td></td>
<td>No: Invest trust fund in bonds</td>
<td>• Issue recognition bonds</td>
</tr>
<tr>
<td></td>
<td>Yes: Invest trust fund in equities</td>
<td>• Raise taxes / cut benefits to make path of debt lower than path of unfunded liability under current system</td>
</tr>
</tbody>
</table>

Privatization, prefunding, and diversification are distinct concepts. It is possible to have any one, without either of the other two.
Table 2: Annual Inflation-Adjusted Returns on Stocks and Government Bonds: 1926-1996

<table>
<thead>
<tr>
<th>Asset</th>
<th>Arithmetic average return (%)</th>
<th>Standard deviation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real S&amp;P 500</td>
<td>9.4</td>
<td>20.4</td>
</tr>
<tr>
<td>Real long-term government bond</td>
<td>2.4</td>
<td>10.5</td>
</tr>
<tr>
<td>Real intermediate-term government bond</td>
<td>2.3</td>
<td>7.1</td>
</tr>
<tr>
<td>Real short-term T-bill</td>
<td>0.7</td>
<td>4.2</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations based on data from Ibbotson & Associates (1998).
Figure 1:
Estimated Real Internal Rates of Return on Social Security Contributions

Source: Leimer (1994) tax increase balanced budget scenario.
Figure 2: Social Security Net Intercohort Transfers

Net transfers to cohort born in each year
(used left scale)

Cumulative sum:
et transfers to all cohorts born in and prior to each year
(used right scale)

Annual amount: billions of 1997 dollars
Cumulative: billions of 1997 dollars

Source: Leimer (1994) tax increase balanced budget scenario, and authors' calculations.
All figures are present values as of 1997.