

# Prospects for Social Security Reform

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Pension Research Council  
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Frontispiece: Special Treasury securities, stored in a federal government filing cabinet in West Virginia, represent \$700 billion in Social Security Trust Fund assets. Photo: Jeff Baughan.

## Chapter 14

# **An Actuarial Perspective on How Social Security Reform Could Influence Employer-Sponsored Pensions**

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Christopher Bone

The U.S. retirement income system has often been described as a three-legged stool, with the three supports of the stools being social security, employer-sponsored retirement plans, and individual savings. In this analogy, significant changes in the length or strength of one leg of the stool may require changes in the other legs. Yet, to date, actuarial analysis of proposed social security reforms have focused primarily on how the proposed changes would affect the social security program as a stand-alone entity.<sup>1</sup> This chapter reviews the actuarial implications of social security reform for the second leg of the stool — retirement plans sponsored by employers.

We approach this topic by focusing on two areas where actuaries typically are called to assist plan sponsors in determining plan design. These are the pension expense that employers will recognize as a result of a particular plan design, and the lifetime pension benefit of retired former employees expressed in terms of replacement of pre-retirement disposable income (the benefit planning function). To address these issues, we begin by categorizing plans by sponsor and benefit design type. These categories are used as a framework for evaluating the pension expense an employer may incur and the types of benefit changes that might occur under a range of different social security reforms. This allows preliminary analysis of the speed and direction of employer responses to different social security reform alternatives. Such analysis may permit policymakers to begin to review the effects of social security reform proposals on the combined government and employer-provided retirement security system.

### **Key Items of Actuarial Analysis**

Most employer-sponsored retirement plans are designed around the concept of replacing pre-retirement income in retirement (Allen et al. 1988).

Given the amount of income replacement provided by social security to certain groups of employees, most plan sponsors therefore, implicitly or explicitly, consider the level and timing of social security benefits in designing retirement benefit plans. For a sponsor of a retirement program that supplements social security, key actuarial implications of social security reform will be the cost to the sponsor of the revisions to social security and the effect of changes on the behavior of plan participants. Cost to the sponsor may arise in several areas, for example, as payroll taxes or in the cost of the sponsor's plan. Cost issues of primary concern are:

- Who pays — employees through payroll taxes or a broader group through use of income tax revenues?
- How much are the costs/savings to the plan sponsor?
- When do costs increase/decrease?
- Is the cost recorded at a different time than the cash flow?

Anticipated behavioral changes will be evaluated by plan sponsors in terms of the interaction of projected workforce requirements with changes in individual incentives to work. Many plan sponsors design plans to accomplish certain workforce management goals. To continue to achieve these goals, "designed" plans may require modification in different ways as a result of behavioral effects of a particular proposed reform.

### **Categorizing Plans and Sponsors by Benefit Design Philosophy and Sponsor Type**

In evaluating the differential impact of actuarial feedback effects from social security reform, many alternative categorizations could be investigated. We find it useful to categorize first by sector of employment and then by plan type and benefit design philosophy. This categorization allows us to follow the various alternative regulatory schemes that govern plan sponsors' reporting of expense for retirement programs. The ability to determine expense implications for various plans may give further insight on sponsor reactions when we subsequently proceed to outline alternatives for reform and likely reactions among plan sponsors.

The range of different types of plan sponsors by type includes: public sector employers; large private sector employers; small private sector employers; not-for-profit employers; and employers who participate in multiemployer pension plan arrangements. Different regulatory, accounting, and functional environment factors apply to plan sponsors of different types and tend to focus attention on differing measures of pension cost. Furthermore, both government and private sector sources of data on plan sponsors often focus only on members of a particular sector or on plans of a particular variety.<sup>2</sup>

## Measuring Pension Cost in Different Sectors

Measurement of pension cost is a confusing issue, as evidenced by the multiple and mutually inconsistent measures of liabilities and costs required for a private sector defined benefit plan in the current regulatory environment (McGill et al. 1996). Moreover, the confusion does not stop with private sector plans. Similar types of cost (e.g., pension costs reported on financial statements) are inconsistently reported across sectors of employment. Thus a similar plan and workforce may generate different reported pension expense if the sponsor is a public-sector rather than a private-sector employer.

Given the wide disparity of cost rules and of their application, there may be a temptation to dismiss the importance of these inelegant rules to influence plan sponsor decisions. Unfortunately, these conflicting and confusing rules have significant implications for the plan sponsors' ability to access capital markets, to budget and raise cash, and to avoid regulatory costs. Understanding the rules under which a particular plan sponsor operates may have significant bearing on the sponsor's likely reaction to proposed changes in social security.

These differences in cost incidence and determination apply primarily to defined benefit plans. By contrast, defined contribution plans bring with them a certain simplicity, in that the cost of a defined contribution plan, regardless of the entity sponsoring the plan, is almost always equal to the amount of cash dedicated to funding the plan for that year. Because of the substantial additional guarantees and subsidies available within their structure, defined benefit plans present a complex set of rules that vary by entity type and size as discussed below.

*Public sector plans.* In the past, governmental plan accounting for defined benefit plans was typically recorded on a basis equal to the cash contribution to the plan for the plan year. Contributions were usually based on a projection of future liabilities and assets, but sometimes ignored certain promised benefits or even used legislated "rules of thumb." New accounting rules that are effective for fiscal periods beginning after June 15, 1997, require governmental employers to report pension plan expense on the basis of accruing for all promised benefits, using assumptions and funding methods appropriate for an ongoing plan (GASB 27 1994). However, for many plans, it is anticipated that contributions will be equal to the recorded expense. Most governmental plans use a contribution measure that is anticipated to be level over time (usually a level percentage of covered salaries; see PPCC 1996). Many governmental plans have opted out of social security coverage and so perhaps could be assumed relatively immune to changes in social security were it not for two issues: (1) the persistent proposals to include all new public sector employees under social security (Advisory Council 1997), and (2) the overlap in benefits caused by employees who, by

changing jobs and employment sector, move in and out of employment covered by social security.

*Large private sector employer plans.* Under private sector accounting standards, pension cost is determined using a projected cost per year of service concept. Assumptions used to measure cost are a blend of those embedded in annuity purchase rates and rates based on the likely experience of the specific plan in question. Cash contributions are determined primarily based on expected asset returns of the plan and other assumptions specific to the plan, subject to the constraints of the Employee Retirement Income Security Act (ERISA) and the Internal Revenue Code. The actual contribution amounts typically vary significantly from expense reported under the accounting standards. Most large private sector employers appear to make decisions regarding plan changes primarily based on the effect on accounting cost, rather than the effect on contributions.

*Small private sector employer plans.* While smaller private sector plan sponsors are often covered by the accounting and contribution rules that apply to larger private sector entities, contribution requirements may have a greater role in determining changes in benefit policy than accounting rules. For many smaller entities, particularly those that are not publicly traded, pension accounting rules are not viewed as particularly relevant or providing useful information. Contribution requirements are subject to the constraints of ERISA and the Internal Revenue Code as for large private sector plans.

*Not-for-profit employer plans.* These plans may be governmental entities (e.g., certain hospitals and colleges), in which GASB rules apply, or may instead be entities which are subject to private sector accounting constraints and many of the requirements of ERISA. Particular care is often taken in this sector to match expense with contributions. Thus, as with small and governmental plans, contributions are the primary focus on which a decision is likely to be made.

*Multiemployer plans.* Sponsors of multiemployer plans are typically a union or a joint employer/union association. Under most accounting regimens, cost is recorded on the books of the employer of the covered participants on the basis of the required cash contribution (based on a projected view of liabilities and ERISA constraints). In certain circumstances, where there is a significant likelihood that an employer might withdraw from a multiemployer plan, liabilities measured on a plan termination basis may be required to be reflected on the books of the employer (FASB 87, 1985). These liabilities are typically measured on the basis of annuity purchase rates, similar to the basis that applies to the accounting for large private sector pension plans. As such, they can be significantly affected by short-term changes in the level of interest rates.

The categorization above reveals a convergence on two views. One is an accounting paradigm that applies primarily to large private sector entities

and some small private sector employers and employers that participate in multiemployer plans. This paradigm is based on a notion of pension cost per year of service and pension liabilities measured in a way that reflects some portion of the cost to purchase annuities. This view of cost affects decisions about changes in pension benefits due to social security reform for large private sector employers and may affect smaller private sector employers or participants in multiemployer plans. Most other sponsors will look primarily at how benefit changes affect current cash contributions. For defined benefit plans, this second "contribution-based" view will be based on projected liabilities and best estimates of future asset returns; these contributions are often expressed as a level cost as a percentage of pay.<sup>3</sup>

### Categorization by Type of Plan

Before proceeding to discuss plan sponsors' reactions to alternative social security reform proposals, it will also be useful to establish the varieties of plans and the alternatives for measuring expense under these plans and for using these plans to affect employee behaviors.

*Defined contribution plans.* Defined contribution plan design typically follows one or more of the following design philosophies: the plan functions as a mechanism for gainsharing, with contributions to accounts tied fairly directly to profitability or share price (e.g., an Employee Stock Ownership Plan); the plan provides access to tax deferred savings opportunities (e.g., a 401(k) plan with no employer matching of contributions); the plan is driven by an employer target for amount of benefit at retirement; or the plan provides an opportunity to save with direct financial encouragement provided by the employer (e.g., a plan where the employer matches employee contributions up to a certain percent). Differences in philosophy regarding the plan's function and aims may lead plan sponsors to different responses to changes in social security reforms. For instance, plans that are viewed by sponsors as gainsharing mechanisms may regard increases or reductions in social security benefits as not significantly affecting the primary purpose of the plan, and so make no changes in the plan; but plans driven by target income replacement will need to reexamine plan design if social security benefits are changed.

*Defined benefit plans.* Defined benefit plans have a variety of plan features allowing the sponsor to affect worker decisions regarding continued employment versus work with another employer or retirement. These features include: vesting rules, retirement subsidy provisions, variation in the accrual of benefit as a function of service, etc. By their nature, defined benefit plans tend to reflect employer targets and an explicit or implicit model of planning for scheduled retirement and so are likely to be adjusted in response to changes in the level of benefit provided by social security.

*Unfunded non-qualified plans.* Common in large private sector employers

for the top executive group, these plans can be either defined contribution or defined benefit plans. Of note is the distinction for these plans between cash flow (contributions) and accrual of expense. Furthermore, these plans do not enjoy the exemption from FICA tax that funded tax qualified plans do. Participants in these programs are typically earning more than the maximum earnings subject to payroll tax for social security benefits. Thus, proposals to remove the cap on earnings subject to payroll tax (already in effect for the Medicare portion of taxes) have an effect on the cost of these plans.

### **Responses of Employer-Sponsored Plans to Alternatives for Social Security Reform**

Having established categories of plan sponsors and reviewed alternative broad categories of plan design, we ask how these different types of plans and sponsors would be affected by alternatives for social security reform. The following section analyses component parts of social security reform proposals that are incorporated in or have been discussed by various proponents of changes to social security.

#### *Increases in FICA Tax Rates*

One proposal for putting social security back into long-range balance would be through an immediate increase in the payroll tax rate. Alternatively, rather than collecting increased taxes now, increases in the tax rate could be deferred and brought into effect as the difference between social security system revenues and benefit payments narrows.

For a plan sponsor designing a retirement program that is supplemental to social security, a key design parameter is the target living standard in retirement provided by the program. This is addressed by examining the level of replacement of earnings income needed to provide the same disposable personal income after retirement. This replacement standard changes in response to marginal income tax rates (Palmer 1994). Since earnings income is subject to social security payroll taxes, but annuities and investment income are not, a higher payroll tax reduces the percentage of pre-tax earnings that the combination of social security, employer pensions and personal savings must provide. In short, income that was taxed away during employment need not be replaced in retirement. Hence, even without any planned increase in social security *benefits*, an increase in social security *tax rates* may lead to declines in the amount of scheduled private pensions, as pension plan designers react to anticipated lower pre-retirement standards of living. It is likely that some employers will change their pension programs to realize these savings so as to offset any increase in cost due to increases in tax rates. Alternatively, employers might recover the cost of increases in taxes directly, by granting smaller increases in wages than would otherwise

have been given; the savings due to reduced replacement income would then serve to reduce the amount of employee savings required in order to reproduce pre-retirement living standards.

*Defined contribution plans.* If tax rates are increased, these rate increases can be expected to raise employer costs and thereby reduce profitability for private sector employers. But, over time, the tax increases may be anticipated to be passed on to employees in lower wage rates or in decreases in benefits so that total compensation remains constant and profitability is restored. This scenario assumes that outside constraints (e.g., mandated wage rules) do not enter into the calculation. Thus for defined contribution gainsharing plans, social security reform through increased payroll tax rates appears unlikely to reduce long-term allocations to profit sharing plans. Gainsharing type plans are also least likely to be viewed by the sponsor as retirement target arrangements, and so may remain significantly unaffected by increases in social security payroll tax rates.

However, in defined contribution plans for which a primary function is to provide employees with access to tax-deferred savings, actual rates of savings in these plans could well decrease. As higher payroll taxes reduce workers' take-home pay, people may be less willing and less able to save.

Finally, employers with target benefit plans may be anticipated to revise the plans to reflect lower saving needed to replace pre-retirement pay. These revisions are likely to occur over time as sponsors periodically evaluate their total benefit packages, rather than immediately upon the change in tax rates. Matched savings plans will also be reviewed by plan sponsors in light of the lower required replacement ratios generated by the new taxes. Of course, any decrease in propensity or ability to save may generate a need for proportionately greater matching if employer workforce management goals are to be met, so that whether employer matching will rise or fall is not immediately clear. Under the nondiscrimination rules of the Internal Revenue Code, employer responses will be further affected by the need to ensure that the amount of income deferred by non-highly compensated individuals is sufficiently close to the amount deferred by highly compensated individuals. This last effect could force some employers to reevaluate plan designs immediately. Hence, if policymakers are to avoid significant disruption in defined contribution plans at the point of a *social security* payroll tax increase, changes in the nondiscrimination rules that apply to *employer-sponsored* defined contribution plans must be considered.

*Defined benefit plans.* Defined benefit programs, by their nature, tend to target a defined replacement income, and thus reductions in replacement income required to maintain pre-retirement standards of living will probably be factored into the design of these plans. However, there will be no particular urgency to the issue, since anticipated benefit reductions would be a relatively small percentage of the retirement benefit, and the increase in payroll tax does not, of itself, require amendment of the pension plan.

Hence, any changes would probably be accomplished as a part of a periodic benefit program review, rather than immediately upon the change in rates. Many defined benefit plans require routine updating to keep benefit levels in line with increases in pay levels; for these plans, the change to reflect lower replacement ratios could readily take the form of delaying updates to the plan formula. Benefit cost decreases under the reform are likely to spread over an extended period, for both projected contribution amounts and accounting costs.

### *Increases in Social Security Taxable Earnings Base*

Another alternative for reforming the social security program would be to remove the cap on earnings subject to tax and to instead subject all earnings to tax (as in the Medicare Hospital Insurance program). This would engender some additional level of social security benefits, but, due to the highly progressive social security benefit formula, the cost to social security of increased benefits would be more than offset by increased tax collections.

As with tax-rate increase proposals, an increase in the maximum amount of taxable earnings would reduce the replacement ratios required to maintain pre-retirement standards of living. The decrease in the required replacement ratio would only apply to higher paid individuals, since the decrease in pre-retirement disposable income applies only to income expected to exceed the projected pre-retirement maximum taxable earnings base under current law. Hence, one might anticipate that retirement plan designers would decrease marginal replacement ratios as income increases.

A review of the regulatory structure that governs many employer-sponsored plans confirms the likelihood of and suggests some immediacy to changes that reduce the relative retirement income replacement ratios for higher paid individuals. Rules designed to prevent private pension plans from unduly favoring highly paid individuals apply to private sector (and most not-for-profit) organizations. These rules are often complied with, to some extent, by public sector entities. Under these rules, allowance is made for the provision of greater benefits to highly paid individuals due to the fact that social security taxes are only assessed on earnings up to (and social security benefits are only calculated based on) the maximum social security taxable earnings. In essence, for defined contribution plans, the current configuration of the rules recognizes the employer portion of the OASDI social security tax as equivalent to a pension contribution; employers are effectively allowed to continue that level of contribution to a defined contribution plan, providing that certain other rules are met.<sup>4</sup> Rules with comparable intent (but greater complexity) apply to defined benefit pension plans, providing for a level of "permitted disparity" in the provision of benefits to higher-paid individuals. It is anticipated that these special exemptions for anticipated disparity would be eliminated if the underlying

feature of social security (i.e., the cap on taxable earnings) is removed. Complete data on the extent to which current plan designs rely on permitted disparity to pass nondiscrimination tests are not available (particularly since plans need not explicitly adjust benefit levels to integrate with social security to rely on permitted disparity), but clearly it characterizes a majority of the defined benefit plan universe (Olsen et al. 1977).

An initial reaction to the combination of a decrease in marginal required replacement ratios and the elimination of permitted disparity may be to assume that the two offset. But, barring a restructuring of the benefit plan, elimination of permitted disparity would increase benefits provided to all employees on earnings less than the social security earnings base, including employees earning less than the earnings base for whom no change in required income replacement has occurred. If the pension plan is restructured to bring benefits for lower-paid individuals back to the same levels as in effect before the elimination of permitted disparity, the reduction in the combined social security and private pension benefit for higher-paid individuals will exceed the reduction generated in the required replacement rate. This is due to the progressive nature of the social security benefit calculation. For the most highly paid individuals, this effect is further exacerbated by the cap on pensionable wages that can be used in determining benefits under qualified (funded) pension plans. This cap, which generally may be assumed to apply to many of the individuals at a plan sponsor with ultimate authority to approve changes in plan design, may force an employer with relatively egalitarian retirement income provisions to design a separate plan solely for the provision of benefits to the highly paid. Such a nonqualified plan would likely be at least technically unfunded, and cannot cover a broad spectrum of employees. These plans, covering only a few decisionmakers, are of course inexpensive when compared with costs of providing benefits to all employees. Given the cost incentives to rework plans if permitted disparity is eliminated, it is likely that employers will respond quickly to amend plans in the event that payroll taxes are applied to all earnings. It would not be surprising if increasing numbers of employers shifted primarily to nonqualified plans for senior executives and reduced the employer role in the provision of pensions for other workers.

#### Reductions in Social Security Cost of Living Adjustments (COLA)

Other proposals to reform social security have focused on benefit decreases rather than tax increases. Among these are proposals to reduce the indexation of the benefit by indexing to the Consumer Price Index minus some arbitrary fraction (e.g.,  $CPI - 0.5\%$ ). Alternatively, only a portion of the benefit might be indexed (e.g., only the benefit up to the poverty level, or only the amount of benefit received up to the median benefit level).

For sponsors reviewing replacement ratios, a reduction in social security

benefits leads to an increase in the amount that must be provided by employer or employee monies in order to maintain pre-retirement living standards in retirement. However, any widespread change in the indexation of social security benefits may be anticipated to lead to rethinking of what it means to provide a pre-retirement standard of living in retirement. Clearly, the individuals' circumstances change during retirement, and the maintenance of the pre-retirement living standard is unlikely to be exact even at the point of retirement. Will employers change the planning basis to one of maintenance of the level of real disposable income at retirement? Will employees show increased interest in indexed annuities or the ability to manage assets (and so explicitly take steps to guard against inflation risk)? Cost implications of this type of policy change would only apply as plans are amended, for most of the categories of plans and sponsors that we have discussed. Thus, changes to reflect these considerations are likely to occur on a gradual basis without significant immediate disruption of the employer plan arena.

*Public sector defined benefit plans.* While the implications of a reduction in COLA are likely to be reflected relatively slowly for most types of plans, special considerations may apply to public sector plans. Indexed retirement benefits are much more prevalent in these plans (PPCC 1996), and immediate taxpayer pressure on benefits may be anticipated, if indexation of public sector pensions is more generous than for social security benefits.

### Means Testing of Social Security Benefits

Means testing proposals call for curtailing or taxing away social security benefits for those with incomes or assets exceeding certain levels. Clearly a means test would represent a tax on income from savings that, while perhaps not quite a "cliff," certainly presents a very sharp incline.

As with other reductions in social security benefits, a means test increases the amount of retirement income that must come from employer and employee funds to maintain a specified pre-retirement living standard, for the individuals whose benefits will be affected. However, the actual mechanism by which means testing is affected may significantly modify choices about ways to provide retirement income. For instance, means testing might codify a preference for stable (annuity) income by establishing rules that favor annuities compared to asset pools that yield investment income.

Furthermore, the steepness of the implied tax on savings may tend to accelerate any trend to provide sharply different benefits for decision-makers (assumed likely to be subject to any means test) versus rank-and-file employees. Thus, means testing may further increase the number of non-qualified plans that provide retirement benefits only for the top echelon of employees. Other employees may be covered under a plan that (in conjunction with benefits calculated under social security) provides adequate in-

come to the lowest paid and fails to replicate pre-retirement living standards for employees in the middle earning ranges.

### Increases in Retirement Age

A number of reform advocates have recently suggested a partial solution to the social security system's problems by raising the age at which unreduced social security benefits are paid. Proposals include increasing the normal retirement age to age 70, or indexing it to increases in longevity. Other proposals would change the age at which early retirement benefits are first paid.

Changes to the age of retirement clearly affect the underlying basis of planning for retirement by plan sponsors, in that most plans, regardless of sector of employment, feature an accumulation of capital or of retirement benefits. If the date of commencement is to be delayed, then the accumulation per year can safely be reduced. But the retirement age for social security benefits is not necessarily closely linked to retirement ages used by plan sponsors in designing retirement plans for their own employees. Instead, employer retirement planning models typically reflect employer perceptions of workforce needs. To the extent that the social security retirement age proposals reflect the actual availability of an active, productive older workforce, employers may be expected to respond to the same trends in worker productivity by raising pension plan retirement ages in tandem with social security. But, to date, employers continue to sponsor early retirement incentives in defined benefit plans that encourage retirement well before the age of earliest retirement under social security, even as increases in social security normal retirement age are scheduled to begin under existing law.

*Defined benefit plans.* Certain defined benefit plans integrate early retirement benefits very closely with social security through the use of supplemental retirement benefits that are payable until social security retirement age (either early or normal) is reached. Under these plans, an increase in social security retirement age could serve to extend the duration of these supplemental retirement benefits. Thus, an increase in the age of normal or early retirement under social security could have severe cost implications for these plans, leading sponsors of the plans to immediately revisit the plan design.

### Invest Social Security Trust Assets in Private (Domestic) Equities

Recent proposals have advocated investing some of the social security trust funds in equity investments. Under this model, the government would passively purchase domestic securities, presumably through index funds. Increases in the funds available for investments in domestic equity securities

would potentially be significant, raising questions about the degree of governmental control of private equity, the leveraging of passively held index investments, and the power of entrenched management. If the federal deficit is no longer partially financed by the excess of social security taxes over benefit payments, there may be effects on interest rates as well.<sup>5</sup>

The proposal would appear likely to increase short-term demand for equities and so raise values of current equity investments. However, interest rates or taxes might also rise as the federal government financed (or reduced) the deficit by raising additional monies. In balanced portfolios, the effect of rising interest rates on bond prices would tend to offset gains due to additional demand for equities. Over the longer term, there remain unanswered questions about the equilibrium of interest rates versus returns on equities.

*Defined contribution plans.* In and of itself, this reform does not change the underlying benefit structure of the social security program and so would not necessarily induce demand-driven changes in defined contribution plans. However, to the extent that long-term rates of return are increased or decreased, changes in contribution rates may be required to assure adequate retirement income under the new investment paradigm. Such changes are likely to be very slow, as investors and plan sponsors first wait for data to verify the change in investment returns and then modify plans as part of a review of total benefit packages.

*Large private sector defined benefit plans.* A narrowing of the spread between equity returns and bond interest rates may have little effect on portfolios and therefore on the long-term contribution requirements and returns of most defined benefit plans. However, for plans governed by private sector accounting rules, there can be a significant effect on reported cost. For these plans, liabilities are determined on the basis of a mixture of annuity purchase rate assumptions and of assumptions germane to anticipated plan experience. In essence, this forces the determination of liabilities using a discount rate equal to a long bond interest rate, rather than discounting at the anticipated rate of return on the investments. The net effect is to set a pattern of high costs for immature plans, followed by low or even negative costs as the plan matures. A decrease in the spread between equity rates of return and long bond interest rates would decrease this effect over the long term. However, over the near term, large private sector plans would probably see significant reductions in reported pension expense, if the interest rate used to determine expense were to rise.

#### Privatization in IRA-Like Accounts

Some analysts propose to reserve a portion of social security taxes, or increase taxes, to fund investment in individual defined contribution social

security accounts. These accounts would serve as mandatory IRA-type investments. Through the individual account mechanism, the issue of government investment in private sector equities is to some extent finessed, although the issue of replacing a significant source of funds for current deficit financing remains.

The proposed reform shares many features with the proposal to invest social security trust fund assets in equities. It would likely have a similar effect on short-term demand for equities and on interest rates. Identical questions arise about shifts in the long-term equilibrium of interest rates vs. returns on equities. The added item of interest is the clear similarity between the privatized accounts and existing defined contribution plans. At least one proposal (CED 1997) has argued that plan sponsors might directly credit defined contribution plan allocations against the new privatized accounts, so long as the accounts meet certain restrictions. By allowing employers to credit contributions directly to existing defined contribution plans against the new taxes, net savings in the economy are not increased with respect to employees of employers that sponsor existing plans. It is possible, although speculative, that employers who do not currently offer defined contribution plans might be encouraged to offer such a plan as an addition to the required mandatory IRA account. Another concern regarding these accounts is that employers might be forced to step in and increase benefits if returns are poor. However, the similarity of mandatory IRA accounts to current defined contribution plans argues that this risk is no different from that already borne by employers whose retirement programs include a combination of defined contribution and defined benefit plans.

The proposal also shares many features with an increase in social security tax rates. However, in addition to the reduction in required replacement ratios as a result of lowered pre-retirement disposable income, mandatory IRA's may be anticipated to generate additional benefits. Thus, the resulting reduction in employer-provided benefits is likely to be much more significant than for the payroll tax increase alone. For employers with both a defined contribution and a defined benefit plan, this reaches its logical conclusion in the proposal to directly offset defined contribution plan contributions against mandatory IRA contributions.

## **Conclusion**

The degree to which social security reforms determine changes in employer-sponsored retirement plans will depend on the regulatory environment and the desire of plan sponsors to affect retirement decisions of their own workforce. Preliminary analysis indicates that increases in social security tax rates are most likely to affect defined contribution plans, due to the interaction of decreased ability to save by lower-paid individuals with the nondiscrimina-

tion rules for defined contribution plans. The immediate effect may be limited, however, for plans that are not currently close to failing these tests. The effect of removing the limit on earnings subject to payroll taxes would be to require immediate redesign of the majority of private sector, defined benefit plans (and presumably some defined contribution plans as well). This is due to the anticipated elimination of permitted disparity rules at the time the cap on taxable earnings is removed. In conjunction with the progressive nature of the determination of the social security benefit, this could accelerate the trend to a two-tier system of unfunded pension plans for the top-paid group, and a funded plan which is adequate for the lower-paid and inadequate for employees in the middle.

Increases in retirement ages are anticipated to have long-term design implications for sponsored plans; short-term cost increases may be limited to plans that provide early retirement supplements. Similarly, reductions in social security cost-of-living adjustments appear to affect the plan sponsor retirement system gradually, save for the potential for more rapid changes to indexation provisions of public sector plans. Means testing raises many unanswered actuarial issues and could require large and immediate changes in sponsored retirement plans.

Proposals to change the investment policy pursued by the Social Security Administration affect not only benefit design costs but also near-term financial cost drivers, particularly for large private sector plans. These changes could generate large reductions in reported pension (and retiree medical) costs. Longer-term increases in sponsor cost would emerge if this policy were to decrease long-term returns in equity investments. The establishment of mandatory IRA-type accounts would argue for similar effects on markets, but also puts participant benefits at risk if equity markets fail to perform. This adds additional risk that employers will need to increase benefits in a future market downturn, but not to any greater extent than that currently faced by sponsors who rely on a combination of defined contribution and defined benefit plans in designing a retirement program.

If we are to derive a retirement income security policy for all individuals, it is imperative that social security reforms be evaluated not solely for their effects on social security benefits, but also with respect to their effects on employer-sponsored retirement plans, and the desire and ability of employees to save on their own behalf. This chapter uses a preliminary assignment of plans into categories by sector of employment and by type of plan to allow better understanding of the cost drivers and the benefit models underlying plan sponsors' reactions to different reform proposals. Use of similar methodology with alternate methods of categorizing plans (e.g., collectively bargained status) may lead to additional insights and should be pursued. Finally, all proposals put forward to date use a combination of the types of social security reforms discussed; applying the above type of analysis to

actual proposals would require careful evaluation of the interaction of the various reforms.

## Notes

1. For areas of relative actuarial agreement with respect to the effects of social security reform proposals on the social security program, see the monograph series on various reform issues produced by the American Academy of Actuaries.

2. A discussion of employer data sources useful in policy modeling appears in Citro and Hanushek (1997).

3. Placing employers in categories is at best approximate, and meant to describe the regulatory paradigm that receives primary focus. Certain sponsors within a sector may behave more like sponsors within other sectors because of business circumstances such as regulatory environment. For instance, many utilities once focused primarily on cash contribution requirements, as do smaller private firms, because of the importance of regulatory accounting rules (FASB 71, 1982).

4. These additional rules include a restriction that the rate of employer contribution for monies contributed to a plan based on compensation in excess of social security Earnings Base be no more than double the rate of contribution to the plan due to compensation up to the social security Earnings Base. Rules on nondiscrimination testing are contained in Sections 401, 410 and 414 of the Internal Revenue Code and the various regulations provided under the authority of these sections. Specific rules regarding the ability to integrate employer plans with the provisions of social security are included in Sections 401(a)(5) and 401(1).

5. Of course, as the excess of social security taxes over benefit payments is anticipated to become zero and then turn negative over time, the loss of this source of deficit financing is inevitable.

## References

- Advisory Council on Social Security. *Final Report of the 1994–1996 Advisory Council on Social Security*. 2 vols. Washington, D.C.: Social Security Administration, 1997.
- Allen, Everett, Joseph Melone, Jerry Rosenbloom, and Jack VanDerHei. *Pension Planning—Pensions, Profit-Sharing, and Other Deferred Compensation Plans*. 6th ed. Homewood, Ill.: Irwin, 1988.
- American Academy of Actuaries Committee on Social Insurance. "Sorting Through Proposals on Social Security and Medicare." *Contingencies* 7, 6 (1995): 32–36.
- . "Privatizing Social Security." *Contingencies* 8, 4 (1996): 24–30.
- Committee for Economic Development. *Fixing Social Security*. Washington, D.C.: CED, 1997.
- Citro, Constance and Eric Hanushek. *Assessing Policies for Retirement Income—Needs for Data, Research, and Models*. Washington, D.C.: National Academy Press, 96–111, 1997.
- Financial Accounting Standards Board. *Statement No. 71, Accounting for the Effects of Certain Types of Regulation*. Stamford, Conn.: FASB, 1982.
- . *Statement no. 87, Employers' Accounting for Pensions*. Stamford, Conn.: FASB, 1985.
- Governmental Accounting Standards Board. *Statement No. 27, Accounting for Pensions by State and Local Governmental Employers*. Norwalk, Conn.: GASB, 1994.

- McGill, Dan, Kyle Brown, John Haley, and Sylvester J. Schieber. *Fundamentals of Private Pensions*. 7th ed. Philadelphia: Pension Research Council and University of Pennsylvania Press, 1996.
- Olsen, Kelly, Jack VanDerHei, and Dallas Salisbury. "A Framework for Analyzing and Comparing Social Security Policies." *EBRI Issue Brief* 183. Washington, D.C.: Employee Benefits Research Institute, March 1997.
- Palmer, Bruce A. "Retirement Income Replacement Ratios: An Update." *Benefits Quarterly* (Second Quarter 1994).
- Public Pension Coordinating Council. *1995 Survey of State and Local Government Employee Retirement Systems*. Chicago: PPCC, 1996.