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Proposals to Restructure Social Security

Peter A. Diamond

The 1995 report of the trustees of Social Security projected that the combined Old-Age, Survivor's and Disability Insurance (OASDI) trust funds would run out in 2030. This report wasn't much news, because the problem was slightly less severe than had been projected the year before—the date receded by one year. It also wasn't much news because everyone already knew that there was a problem, and public confidence in the future of Social Security was already quite low. Indeed, the fraction of people reporting themselves very or somewhat confident in Social Security is only around 40 percent. This opinion should be taken with a grain of salt, since the same surveys show that over 90 percent of the interviewees are expecting to receive Social Security benefits and commonly expect it as a major source of income (Reno and Friedland, forthcoming).

Unlike the Medicare problem, the OASDI problem does not seem severe to me. With prompt legislation, we could easily muddle through, putting together a package of revenue increases and benefit cuts that would restore actuarial balance for the 75-year horizon.¹ In this paper, I will not consider the relative merits of alternative packages, but will discuss five proposals for basic changes in how Social Security functions, changes that go beyond changing some of the parameters in

¹ The country does not seem to have much taste for tax increases right now. Yet the polls asking about tax increases just for Social Security find the country solidly behind such increases. In an EBRI/Gallup poll, 64 percent of respondents favor raising taxes now to lessen tax increases in the future, while only 28 percent preferred no tax increase before 2010. A majority oppose (15 percent) or strongly oppose (38 percent) decreasing benefits by 10–20 percent for those born after 1960 in order to avoid a tax increase. Since it is always ambiguous how to interpret such a poll, and we do not want government by opinion poll, this should be viewed as a sampling of mood, not as a policy recommendation.

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the current law. The five proposals are: 1) indexing the normal retirement age to life expectancy (as is being done in Sweden); 2) investing part of the trust funds in private bonds and equities rather than solely federal debt; 3) partial privatization of Social Security (as has been proposed by Senators Kerrey and Simpson, is being done in Sweden and has been implemented in Mexico); 4) replacing Social Security by individually mandated savings (as was done in Chile in 1981); and 5) mandating employer-provided retirement savings (as was recently legislated in Australia and is effectively the case in some European countries). Such changes might improve the economics of Social Security, or they might help with the politics of restoring and preserving actuarial balance.

Indexing the Normal Retirement Age

As legislated in 1983, the Normal Retirement Age (NRA) will slowly increase from its current value of 65 to age 67 for the cohort reaching age 62 in 2022. What does it mean to delay the NRA? The legislation did not change the minimum age of 62 for claiming retired worker benefits; nor did it change the age of 70 for receiving retired worker benefits independent of earnings.² What the legislation did change is the level of benefits as a function of the age at which they are first claimed. A worker retiring at the NRA receives 100 percent of the Primary Insurance Amount, an amount that is a function of lifetime average indexed earnings. A worker retiring either earlier or later receives a different amount. Changing the NRA changes the benefit level by changing the base age for calculating the Actuarial Reduction Factor (for lowering benefits when benefits are claimed before the NRA) and the base age for calculating the Delayed Retirement Credit (for raising benefits when benefits are claimed after the NRA). With an NRA of 67 rather than 65, the benefits of a worker retiring at 62 will be 70 percent of the Primary Insurance Amount instead of 80 percent, representing a one-eighth benefit cut. Thus, "delaying the NRA" is a form of benefit cut.

The impact of such a benefit cut on retirement behavior comes primarily from the income effect of lower benefits. There is little change in incentives from the altered pattern of Actuarial Reduction Factor and Delayed Retirement Credit, which leaves alone or decreases the rate of growth of benefits with later retirement. There may be a symbolic effect from the choice of NRA, including its possible impact on private pensions, whether or not formally integrated with Social Security.

Changing the NRA changes the interaction between Disability Insurance (DI) and Old-Age Insurance (OAI). Disabled workers can apply for disability benefits at any age up to the Normal Retirement Age. Disability benefits equal 100 percent of the Primary Insurance Amount; that is, there is no reduction for the early start of

² Nor did the legislation change the number of years (35 for persons attaining age 62 in 1991 and after) used for calculating Average Indexed Monthly Earnings, the first step in determining benefits.

benefits. At present, the incentive for a 62-year-old worker to apply for DI rather than accepting the available OAI benefits is based on the 20 percent actuarial reduction in retirement benefits, a reduction that does not apply if disability benefits are awarded. Increasing the NRA to 67 reduces retirement benefits at age 62 to 70 percent, without changing the level of disability benefits. Thus there is an increased incentive to apply for disability benefits, blunting both the income effect for additional work and the revenue savings from reduced benefits.

Part of the political appeal of this way of cutting benefits was the ability to avoid the vocabulary of cutting benefits. Another part of the appeal was the ability to relate the change to changes in the economy, namely the steady increase in life expectancy at older ages. *Ceteris paribus*, increases in life expectancy increase the cost of Social Security. In Sweden, recognition of this issue is leading to indexing of the initial benefits for workers retiring at the earliest eligibility age. In terms of U.S. law, this would be similar to indexing the NRA.³ The new Swedish system has not yet been legislated; however, there has been agreement on the direction to be taken. To index the benefits, each year the actuaries proportionally change the benefit formula for the generation turning 61 the following year, using a calculation that depends on both mortality rates and projected wage growth.

Indexing benefits to life expectancy is one approach to limiting the need for a steadily rising payroll tax rate. An alternative to indexing would be to legislate further delays in the Normal Retirement Age. With either approach, there is always the possibility of revising the NRA as mortality experience unfolds. Indexing makes it easier to keep benefits and costs in line with each other, but scheduling delays makes future benefit levels more predictable, since further revisions are likely to be forward looking.

The indexing approach raises two questions. Should the response to increased life expectancy be completely in the form of reduced benefits, or should part of the response to longer life expectancy be a higher payroll tax rate? Should changes in the NRA leave unchanged the other ages in the law, particularly the Early Entitlement Age (EEA) of 62?

To answer the first question, we would want a normative analysis relating the size of the payroll tax rate to life expectancy. Part of the answer depends on the growth of wages. With earlier retirement being a normal good, higher earnings would call for a larger payroll tax to finance an earlier retirement. Part of the answer depends on the evolution of the labor market for older workers as mortality improves (Baily, 1987). Recent data show improving morbidity along with improving mortality, although these do not necessarily go together (for example, Waidmann, Bound and Schoenbaum, 1994; Manton, Stallard and Corder, 1995). Nor do job opportunities necessarily keep pace with improving health. Depending on the

³ The 1983 legislation has a scheduled delay in the normal retirement age but no indexed adjustment. The original bill introduced by Senator Dole included an automatic adjustment of the NRA to preserve the ratio of life expectancy at the NRA to potential working lifetime (measured from 20 to the NRA) (Myers, 1993).

desired behavior of the tax rate, the form of indexing of the NRA could finance some or all of the added cost of additional longevity by reducing benefits.

To approach the second question—of the early eligibility age—we should ask why we have a minimum age for receipt of benefits. Presumably, the same myopia that calls for a mandatory program for the provision of retirement income is present in part of the population, even at age 62. Also, with Supplemental Security Income (SSI) providing a safety net for those over age 65, some people will have an added incentive for early retirement. If it were not for a minimum benefit age, I would expect some people myopically to retire “too soon.” On the other hand, some people (who are not eligible for disability benefits) may be blocked by liquidity constraints from “rationally” retiring before the EEA. Demand for such early retirements can come from poor health, poor job prospects or a short life expectancy. Life expectancies vary greatly in the population for groups distinguished by income and education as well as gender, and rational retirement ages therefore vary as well. Thus, the choice of EEA should represent a balancing of these two effects: preventing some people from retiring “too early” while forcing others to retire (or at least receive retirement benefits) “too late.” But we do not have evidence on the relative sizes of the two populations, much less projections on how their relative sizes might move.

Thus, it is interesting that Sweden is changing the benefit levels by indexing to life expectancy, but is not changing the early entitlement age. Analysis in Canada has considered the same approach (Brown, 1992). Some in the United States would move both ages, not just the Normal Retirement Age. It would be good to have more analysis of the consequences of such a change.

Investing Part of the Trust Funds in the Private Economy

In my youth, a proposal to place part of the trust funds in private securities would have been labeled socialism and seen as increasing government control of the private economy. While there is concern about the risk that Congress might direct investments into particular projects with political appeal (or away from other projects deemed inappropriate), the tone of the argument has changed. The arrival of socialism seems less likely, so possibly “tainted” activities do not seem as problematic. Also relevant is a change in the nature of financial markets. It is now straightforward for an investor, even one as large as Social Security, to invest while having little say about the detailed allocation of capital in the economy by using mutual funds, particularly index funds. I have not heard anyone argue that the Social Security Trustees should be picking good investments. Rather, it is passive investment in index funds that is felt to be both prudent fiduciary behavior for the Trustees and the form of government behavior wanted by people fearing poor investment policies. Another possibility would be selection of a set of private portfolio managers, chosen purely on risk and return criteria.

Investment in private securities looks very attractive at a time of actuarial

imbalance since, on average, private bonds and equities have had higher rates of return than U.S. Treasury bonds (Bosworth, 1996; U. S. Congressional Budget Office, 1994). However, one needs to ask why the average rate of return is higher for private securities. One reason is that the risks are higher, and the higher average returns are an appropriate return for taking risks. In this case, one needs to ask whether it is appropriate for Social Security to take on some of the risk in the stock market. (Below, we consider general equilibrium effects.) Alternatively, the lower return on Treasuries might reflect greater liquidity (higher short-run predictability of sales price) or, possibly, perceived safety that doesn't fully reflect actual (real) risk.

To evaluate such risk bearing, one needs to ask what it means for Social Security to take on these risks. Will poor stock market returns in some year or decade affect future benefits, payroll taxes or general revenues? There is no crisp way to answer this question. The legislative process is one of periodic change, and no one can be sure what a future legislature might do in the face of a larger shortfall than would have happened if the funds were all in Treasury bonds. I suspect that Social Security as a whole is a reasonably adequate risk bearer, since the risks can be spread over time, using the portion of the funds still in Treasury bonds as a cushion for spreading this risk. Moreover, considering sufficiently rapid inflation, which is unlikely but not impossible, a portfolio completely in long-term Treasury bonds would be very risky. One approach to evaluating portfolio risk is by considering the cash flow of Social Security. Then the correlations between the differential returns across assets and the growth of payroll tax revenues play a central role in the design of the optimal portfolio (Technical Panel on Trends and Issues in Retirement Saving, forthcoming). Presumably a long time frame would be appropriate for this calculation. I am not aware of such calculations.⁴

Since Social Security expenditures are relatively predictable and since a substantial trust fund would lower the need for liquidity, it does not seem that Social Security should pay for a liquidity premium if such a premium is part of the lower return of U.S. bonds. Another possibility is that people do not accurately picture the alternative risks, so that the risk-return tradeoff in the market is not as costly in utility terms as it appears. I do not know how to distinguish among these views, since economists do not have well-developed theories with all the possibilities and adequate time series to test them.

Two additional reasons offered in support of such a change—inducing a lower federal deficit and improving investment allocation—are discussed below, where their importance is argued to be small.

Partial Defined Contribution

A number of proposals have been made to privatize some or all of Social Security (United States General Accounting Office, 1990, 1994; Kerrey and Simpson,

⁴ Bohn (1990) examined quarterly U.S. data and concluded that for the government as a whole, in the absence of a risk premium, optimal holding of a stock market index would be negative.

1995), including the proposals described by Edward Gramlich in this issue. In particular, there are proposals to move the revenue generated by 2 percentage points of the payroll tax from Social Security to individual accounts.⁵ Such proposals need cuts in Social Security benefits or alternative sources of revenue to maintain the same level of actuarial balance. The purpose here is to review a generic version of such a proposal. Would such a change result in a lower federal deficit? Would it result in increased national savings? Would it improve the workings of the capital market? Would it improve the quality of our provision of retirement income (and disability and survivor's incomes)? How would it affect the politics of Social Security?

Currently, Social Security is running a surplus, \$59 billion in 1995. Some people have argued that the Social Security surplus is "masking" the true size of the federal deficit. This seems a curious observation, since everyone involved with decisions about the federal deficit is fully aware of the relation between Social Security and the rest of the budget. The question is not awareness, but whether the politics of the setting of federal expenditures and revenues would be different if 2 percent of taxable payroll were flowing into individual accounts rather than into Treasury debt held by the Social Security trust funds. Placing part of the trust funds in private securities is likely to have a similar political impact.

Budget measurement treating the purchase of private assets (but not of Treasury debt) as expenditures gives a different measured deficit if privatization happens and the budget measurement is unchanged.⁶ But just as legislated deficit targets have been set with an eye on politically feasible expenditure reductions, we might see different budget definitions, targets or constraints rather than different budget outcomes.⁷ If other federal spending and revenue do not change, then we would expect no noticeable effect on the deficit or on national savings from the 2 percent privatization, apart from the implications of the different rate of return on the accumulated funds. (Private savings decisions might respond to the change, but it is not clear whether any change would be up or down, and, in any case, the change would not be expected to be large.)

Alternatively, if individual accounts resulted in an increase in the Social Security tax rate that would not happen otherwise, then there would be an impact on national savings. This issue relates to the politics of Social Security rather than the politics of the rest of the federal budget.

Would efficiency in the allocation of capital be improved by having this 2 percent of payroll flow into private investments rather than Treasury debt? Since the Treasury would have to borrow more from the public to offset decreased borrowing from Social Security, we are really inquiring about the effects of shifting Treasury

⁵ Mexico has implemented a 2 percent mandatory defined contribution system on top of its existing defined benefit system. Sweden is including a 2 percent defined contribution pension as part of the social security reform that is in process.

⁶ For Social Security's treatment under the federal budget, see Koitz (1993, 1995).

⁷ For example, stated congressional support for the balanced budget amendment has varied with whether Social Security is included or excluded in the accounting for amendment purposes.

borrowing from one source to another, effects that should be similar whether there are individual accounts or trust fund investments. I suspect that this "open market operation" would be close to a wash (Bosworth, 1996), although I do not know estimates of the relevant elasticities. If there were some change in equilibrium rates of return—a fall in the returns on private securities and a rise for Treasury bonds—there would be increased private investments and higher borrowing costs for the Treasury.

Would a Social Security system that is partially defined contribution and partially defined benefit work better in providing retirement income than what we have now? While there are some difficulties in integrating the 2 percent accounts with disability and survivor's benefits, I focus on retirement income.

Any additional complexity in Social Security (such as directing funds to individual accounts) would add to the administrative costs of Social Security, which only needs to track individual earnings on an annual basis currently (United States General Accounting Office, 1990). If employers deposited the 2 percent directly into individual accounts, there would be added costs for some employers. If these accounts are privately handled, there will be costs to the mutual funds that handle them. Many of these costs, such as record keeping and verification of deposits and of statements, are related more to the number of accounts than to their size. With private handling, these costs would be large relative to the size of the accounts built up with just a 2 percent savings rate. For example, with \$30,000 in annual income, a 2 percent savings rate is \$50 per month. Administrative costs would cause a large decrease in the return on such small accounts.⁸ For individuals who already have Individual Retirement Accounts (IRAs) or 401ks with ongoing contributions, inclusion of additional mandatory contributions would not generate much additional cost. As a ballpark number, averaged over accounts (not dollar weighted), mutual funds currently charge roughly 1 percent of assets. Relative to assets, charges would likely be higher, and they would possibly be considerably higher for small accounts than for large ones. This has been the case in Chile, where there was a difference of 3 percentage points in the rates of return to high and low earners in the first decade after privatization (Vittas and Iglesias, 1992). This is a potential source of political friction. Alternatively, the costs, including advertising, would be lower if individual portfolios were restricted to a narrow set of alternatives and managed by the government, paralleling the organization of TIAA-CREF or the Federal Employees Thrift Plan.

Comparing defined contribution and defined benefit pensions generally, there is a difference in their risk characteristics, with neither clearly dominating the other (Bodie, Marcus and Merton, 1988). This issue is more important when considering full privatization and is discussed below, as are alternative approaches to converting accumulated retirement savings into retirement income flows.

⁸ Indeed, these costs have been a major issue in Mexico where 2 percent SAR accounts have been started on top of the existing social security system.

Having part of Social Security as a defined contribution system is seen by some as reducing the political risk to retirement income. However, it seems to me that the 2 percent solution does little, if anything, to help with the legislative risk to future benefits. While accumulated contributions are likely to be treated differently from defined benefits by future Congresses, the basic source of this risk is the financial position of Social Security. This financial position is not helped by the diversion of 2 percent of payroll into individual accounts with a matching reduction in benefits. Thus, the bulk of benefits would still be at risk, a risk spread over a smaller base of legislated benefits, leaving the overall risk roughly the same.

Another political question is how the separation of Social Security into redistributive and nonredistributive parts would affect the level of redistribution. Concern about redistribution arises both in the process of adjusting Social Security to a 2 percent privatization and in possible future legislation. One could introduce a defined contribution component to Social Security without materially altering income distribution. For example, Social Security benefits could be reduced by an amount calculated by cumulating the diverted 2 percent amounts at some implicit interest rate and then converting the accumulation to an indexed benefit based on an implicit mortality table and interest rate (United States General Accounting Office, 1990). If the government offers individuals the opportunity to keep their 2 percent accounts with Social Security at the same interest rate, and if the government offers annuities on the same terms, then there would not be large redistributive differences. Instead, individuals would come out ahead or behind depending on how well they invested and on their obtaining better or worse annuities (or choosing no annuity, if that is an option). This approach would also accommodate voluntary opt-outs as well as mandatory ones. In contrast, any adjustment of the benefit formula to offset the income distribution implications of the change would be only approximate, and some proposals for partial privatization deliberately alter the amount of redistribution in the system.

However benefits are adjusted, removing a portion of benefits that is linear in earnings would leave the remaining portion more redistributive than currently in relative terms. Such a change opens up the question of the political sustainability of this degree of redistribution in a single program, since redistribution does seem to vary with the details of programs.

In sum, small individual accounts will have additional administrative costs, with the costs large with some forms of organization. The accounts show no sign of improving the provision of retirement income or the workings of the capital market. By themselves, they are not likely to have a large impact on the federal deficit or on the political risk affecting future benefits. Apart from the possibility of their being a political device resulting in higher Social Security taxes and higher national savings, the policy option of 2 percent privatization seems to be dominated by the policy of investing trust funds in private securities, unless one views the political risk of poor investment choice by the trust funds as severe.

Full Defined Contribution

The 1981 reform of social security in Chile has received a great deal of comment, attention and imitation.⁹ There has been similar legislation in Argentina, Colombia and Peru, and consideration of implementation in additional countries. Chilean experience is often cited in discussions of reform in the United States. I briefly describe the 1981 Chilean reform and consider several aspects of its workings in Chile and potential workings in the United States.¹⁰

In contrast with the central role of a benefit formula in a traditional social security system, the central concept in the Chilean system is a contribution rate. The conceptual starting place of a social security system has powerful effects in shaping the legislated details that follow. I think that the distinction between contribution and benefit base is more illuminating than the distinction between privatized and government-run systems, for various pieces of either type of system can be privatized.

Overview of Chilean Reform

Chile began its social insurance system in 1924. By the 1970s it had developed a not-uncommon pattern of separate defined benefit systems for different industries and occupations, so that benefit structures and benefit levels were different in different sectors. Having multiple bureaucracies was inefficient. The benefit formulas were not well designed for economic incentives. The political determination of benefit levels had resulted in very high contribution rates. A major problem was the tendency of the political process to raise benefits when short-run financing was available because of immaturity of a particular benefit system. In addition, inflation destroyed much of the value of accumulated reserves. In the light of these problems, planning on social security reform was begun in the 1970s under the Pinochet government; after a significant fiscal surplus had been built, implementation began in 1981.

The heart of the reform is a privatized mandatory savings plan, together with a market for indexed annuities for conversion of accumulations into retirement income streams. All covered workers must place 10 percent of monthly earnings in a savings account with an approved, highly regulated intermediary, an *Administradora de Fondos de Pensiones*, referred to as an AFP. Each AFP manages a single fund, with the complete return on the fund allocated to the individual accounts. The AFP also provides disability and survivor's insurance, according to rules set down by the government. Workers must pay a charge to the AFP, in addition to the mandatory 10 percent, to finance the required disability and survivor's insurance and to cover the costs and profits of the AFPs.¹¹ The charges are set by the

⁹ For another view of pension structures, including Chile's, see World Bank (1994).

¹⁰ For more detail, see Diamond and Valdes-Prieto (1994) and Myers (1992).

¹¹ Argentina has mandated a contribution rate of 11 percent, with the commission charges deducted, leaving an endogenous savings rate.

competing AFPs, with the government regulating their structure, but not their level. Currently, these charges average roughly 3.5 percent of covered earnings, resulting in an overall cost of 13.5 percent of earnings. Workers are free to select any AFP and to switch among them.

Eligibility for pension benefits is based on age or, for early retirement, a sufficiently large accumulation. Benefits can be taken as a sequence of phased withdrawals or as a real annuity. The annuity option involves a switch of financial intermediary, as the annuity must be purchased from an insurance company.¹² The fact that Chile has a long history of using indexed debt has made it easy for the annuity option to be restricted to indexed annuities. The private providers of social security are closely regulated; there has not been reliance on unregulated market forces. Redistribution within the mandatory savings pillar is not part of the Chilean system, although it could have been. Instead, there is a guaranteed minimum pension for those with sufficient years of coverage. The minimum pension is financed from general revenues and entails an implicit 100 percent tax on the retirement value of accumulations below the minimum. In contrast, Argentina has a flat social security benefit in addition to its privatized system, with both parts financed by the payroll tax.

Cost

We have come to think of privatization as a route to greater efficiency and lower costs. Thus, perhaps the most surprising aspect of the Chilean reform is the high cost of running a privatized social security system. Possibly, this high cost should not have been surprising, for in his 1942 classic, *Social Insurance and Allied Services*, Beveridge (p. 286) referred to a "markedly lower cost of administration in most forms of State Insurance."

Administrative costs of the new system include both those of the AFPs that manage mandatory accumulation and those of the insurance companies that produce disability insurance, life insurance and annuities. Valdes-Prieto (1994) has examined administrative costs, converting them into an average annual charge per year while doing covered work. He estimated that the average administrative charge per effective affiliate while active (assuming purchase of an annuity) is \$89.10 (U.S.) per year for 1991, which is 2.94 percent of average taxable earnings. This 2.94 percent is over 20 percent of the roughly 13.5 percent of earnings paid for the program. The cost per person is not far from costs observed in other privately managed pension systems, such as defined benefit private pensions in the United States. However, it compares unfavorably with administrative costs in well-run unified government-managed systems. For example, the U.S. Social Security Administration reports a cost of \$18.70 (U.S.) per person per year on the same basis. This

¹² In its proposed reform, Swedish retirees have a choice between an annuity and withdrawals over five or ten years for the defined contribution portion of their system. In contrast with the Chilean structure, the annuity choice involves an annuity from the government (with a unisex actuarial table) rather than a purchase in the private economy.

includes only a small payment to the Internal Revenue Service for the collection of payroll taxes and may not fully include hard-to-measure capital costs (Sunden and Mitchell, 1994). While the United States system may cost more than what it reports, any specific number is dependent on the arbitrary allocation of IRS overhead costs among the different taxes that it collects.

Since the costs of running a pension system are unlikely to be either proportional to average wages or independent of average wages in the economy, it is not obvious exactly how one should compare costs across countries in the absence of an estimated cost function. Comparing the United States and Chile, the answer probably lies somewhere between the 2.5-to-1 and 12.5-to-1 cost ratios that would follow from assuming costs are proportional to or independent of average wages. The extent to which the costs depend on the particular Chilean implementation will be discussed briefly below and will soon be supplemented by evidence from other countries. Comparing individually oriented plans in the United States to Social Security gives a similar picture. For example, in 1992, the U.S. life insurance industry reported operating expenses of 11.6 percent of income (with dividends equal to an additional 1.3 percent) (American Council of Life Insurance, 1993). In contrast, the Social Security Administration reports administrative costs that are less than 1 percent of annual revenues, so that even doubling these costs would leave a number well below the private market cost.¹³

Naturally, one wants to know what lies behind this cost differential between private insurance markets and some compulsory government systems. I believe there are a number of elements. One is the economies of scale that come with a single compulsory system without choice. The second element is the costs that arise from competitive attempts to attract more customers: advertising, sales personnel and the like. For example, in June 1994 there were 11,500 salespeople employed relative to 3.5 million Chilean workers who had contributed at least once in the previous 12 months (Valdes-Prieto, 1995). This is nearly 3.5 salespeople per 1,000 contributors. In contrast, in the United States, total Social Security employment is 0.5 employees per 1,000 insured workers (Sunden and Mitchell, 1994). The third component is the fact that demand in actual markets is much less sensitive to price variation than it is in idealized competitive markets. With less price-sensitive demand, private firms will exercise whatever market power they do have and, in turn, the presence of positive markups allows room for slack in the private equilibrium and serves as an incentive for marketing costs.

These elements apply to many products, not just insurance, although the setting of the infrequent purchase of a product that is difficult for consumers to

¹³ Similarly, Valdes-Prieto (1994) has compared costs in U.S. private pensions with those of Social Security. He estimates that a defined benefit plan costs \$187.30 (1992 dollars) per year working. For defined contribution plans, assuming purchase of an annuity, the cost is \$177.60 assuming access to a group annuity and \$367.60 assuming purchase in the individual annuity market. He refers to the difference between Social Security and the costs of individual and group annuities as "staggering."

evaluate, the presence of adverse selection and the myopia that leads to government compulsion all contribute to higher costs in this market.

One also needs to consider the conditions affecting the administrative costs of public supply. The collection of contributions and delivery of cash benefits represents the kind of well-defined task that lends itself to more efficient public supply than do less well-defined tasks (Wilson, 1989). Moreover, the limited effort to vary products with consumer preferences (associated with limited consumer understanding and demand for insurance) also keeps the task easy for the government. In addition, there is the quality of provision of services—such as frequency of statements, speed in responding to queries and speed in initiating benefits after they are claimed—where lower government costs can imply lower quality of services. Indeed, some people argue that the administrative costs of Social Security are too low.

Capital Market

The combination of a steady flow of contributions together with very high real rates of return (an average of 14.5 percent per year from July 1981 to July 1992) has meant a large accumulation of funds invested in the Chilean economy. As of June 1992, the total accumulations were equal to 35 percent of 1992 GDP; equity holdings by pension funds were 9.6 percent of the value of the Santiago Stock Exchange (with life insurance companies holding another 1 percent); and pension funds held 61.1 percent of registered corporate bond issues outstanding (with life insurance companies holding close to another 30 percent). On the other hand, at that time, close to 40 percent of the assets of pension funds were in public debt. The high rates of return, and implied rapid accumulation, are the result of generally high rates of return in the Chilean economy,¹⁴ not particularly astute investment choices by private fund management. No doubt these high rates of return have contributed to the popularity of the reform with Chilean workers.

Together with this accumulation has been an evolution of regulation of the markets in which these funds are invested, resulting in a set of capital markets that function far better than they did before the reform. Careful regulation of capital markets is both a necessary part of a successful privatization of social security and a significant benefit of successfully doing such a privatization in a country like Chile.

At present, in Chile, each AFP is restricted to having a single fund. In the absence of further regulation, the pattern of risk-expected return points offered would be somewhat limited in a setting where each AFP had a single fund, since the costs of entry would be higher than when intermediaries offered a variety of funds directly. In addition, there is regulation guaranteeing that no fund will do too much worse than the average of all funds.¹⁵ This guarantee creates an incentive

¹⁴ Initially, investment outside Chile was not allowed. While it is allowed now, the AFPs have not invested much abroad. While economists would generally favor having part of the portfolio invested abroad, this would be controversial in the United States today.

¹⁵ The guarantee is the higher of half the average return and the average return less 2 percent.

for fund portfolios not to differ too much from the average fund, since the AFP bears some of the down risk and receives none of the up risk (except through increased enrollments). Thus, while workers can choose an AFP, they are restricted in the range of portfolios. Allowing AFPs to offer a choice of funds in a way that significantly expanded the range of alternatives would require a change in the guarantee structure. The inexperience of many small investors suggests that some form of guarantee is important, especially in the early stages of such a reform.

Financing the Transition

During the transition of a reform like that in Chile, mandatory savings flow into new individual accounts rather than directly to pay pensions owed by the existing, mature, pay-as-you-go social insurance system. This change leaves a large fiscal cost on the government budget. The revenue shortfall could be financed by either explicit debt or taxes. In Chile, there has been little issue of new (explicit) public debt to finance the benefits being paid under the old system, although active workers who switched to the new system received explicit government debt, called recognition bonds, on account of past contributions. These bonds have maturities to match the retirement dates of the recipients. This financing decision has implied an increase in fiscal saving, with the decision to avoid debt financing implying an improvement in the fiscal balance of 3.5–4.0 percent of GDP each year in the 1980s and early 1990s. It is anticipated that the level of needed fiscal saving will remain at about this level for the rest of the 1990s, with a gradual decrease thereafter. Before the start of the pension reform, the government budget showed a surplus of 5.5 percent of GDP with a view to avoiding debt financing of the reform. Thus, most of the transition deficit—the deficit in the old pension system—has been financed out of a primary surplus. In addition, an increase in the age of retirement under the old system significantly decreased the implicit liabilities of the government at the time of reform.¹⁶

The Chilean privatization could have been done without the use of a surplus to finance the transition. Such a course would not have the same level of additional capital accumulation as is associated with a simultaneous improvement in the government fiscal balance. While the issue of additional capital accumulation is usually discussed in terms of the transition, it is worth noting that completion of the phase-out of a pay-as-you-go defined benefit system does not necessarily mark a stage with higher capital, since completion of a debt-financed transition leaves a higher level of explicit debt, roughly offsetting the accumulation in the new funded system. It is sometimes suggested that privatization is a tool that will help press a government that has a chronic deficit into doing something about the deficit—if Congress can't deal with a big deficit, let's make it even bigger. There may be political risk associated with such an approach. For example, larger measured deficits may make

¹⁶ Minor portions of this deficit were financed by the sale of shares in formerly state-owned utilities, with pension funds purchasing some of these shares, and by the issue of debt.

political compromise harder and may result in greater borrowing costs on the public debt. There may be a temptation to tap social security funds, possibly at below market rates, as part of the solution of such a debt and political gridlock crisis. Rather than privatization being a cure for a chronic deficit, it may be that a surplus is a contributing condition for a successful privatization.

Redistribution and Political Risk

Benefit-based systems seem to result in more redistribution to and among the current elderly than do contribution-based systems. A country like Chile, with multiple social security systems, is particularly prone to the risk of having the well-off elderly receive a disproportionate share of such redistribution. This difference in outcomes in response to different bases of design is interesting, since there is little in one system that (on average) couldn't be accomplished by the other. Yet adding amounts to individual accounts seems a much more difficult political act than choosing a benefit formula that results in much higher returns on taxes for some workers. Individual accounts seem to call for identifying the source of funds to be added to individual accounts. This is different from redistribution to the current elderly from a benefit structure that leaves the cost vaguely on the future. In other words, handing out explicit debt is different politically from handing out implicit debt. This seems to be the case for corporations as well as governments, with "past service credits" a common part of new defined benefit systems, but not of new defined contribution systems.

Since legislating a benefit formula can easily lead to a program that is not viable in the long run, there is real appeal in individual accounts as a way of insulating the pension system from political actions to increase benefits without direct financing. The Chilean system gets high marks on this dimension, although it is not clear how much of the Chilean reforms, beyond individual accounts, is needed to hold down this sort of political action.

Further political issues arise from the choice of basic design. Separating the privatized pension from the government budget helps insulate benefits from the state of the government budget or the views of the party in power. One can question whether pensions that flow through the government budget should fluctuate more than pensions that do not flow through the government budget. It seems to me that there is no more reason for fluctuations of one sort of pension than of the other. It is interesting to note that Chile did freeze the cost of living adjustment (COLA) for pensions received under the old system in 1985. Since COLAs paid by private insurance companies do not directly affect the government budget, one would not expect to see the government freeze pensions paid under the new system at the time of some future budget squeeze.¹⁷

¹⁷ In the U.S. context, we can ask how to try to affect the politics of Social Security to achieve a similar insulation of retirement income from short-run politics. There is no way to set future Social Security benefits so they will not vary with economic outcomes; the question is to affect the politics, not block them. Benefits must adjust, preferably slowly and with considerable lead time, to the resources available

More generally, there is concern about the risk associated with politically "promised" benefits. In a defined benefit system without automatic balancing features, there is an expectation of needing to revisit benefits and/or revenues from time to time. This is how such a system deals with the incompleteness of planning for different possible outcomes in the future. The "promises" embedded in law are not promises, but the starting place of an ongoing process of adaptation to a changing and unpredictable world. This differs from defined contribution systems, where benefits are whatever can be purchased with accumulated contributions. In a defined contribution system, one might want to change the accumulation rate in response to changing circumstances, but (barring bankruptcies by providers of annuities) a defined contribution system delivers on its "promises," since there are no explicit promises, except to use the available institution to convert accumulations into retirement income flows.

Social Risk and Aggregate Change

In addition to political risks, all social security systems are subject to large economic and demographic risks and to the need to adapt to large projected changes, such as the aging of the population. The Chilean system is sensitive to interest rate and mortality changes, since these affect the adequacy of retirement income relative to prior earnings. This is in contrast with systems that become nonviable if circumstances change and the system is not adapted. The Chilean system can be on automatic pilot in the sense that there is no necessity of correction and the magnitude of cost from nonoptimal parameters may not be too large. While pay-as-you-go systems can be put on automatic pilot, with taxes or benefits or a combination adjusting automatically, in practice they are not.

In responding to aggregate risk, defined benefit systems can spread risk across generations as the benefit formula is slowly adjusted to changing circumstances. This is in contrast to having the realized rates of return on individuals' accounts directly affect their pensions. That is, a defined benefit approach to social security involves repeated legislation, since revenues and costs would not be expected to balance indefinitely. Thus, the quality of these political adjustments becomes a central issue: whether having a defined benefit system represents a good way to respond to the risk of changing circumstances or whether the need for periodic review is a source of significant politically generated risk (Diamond, forthcoming). Indeed, much of the U.S. public is concerned now about the status of its future benefits.

for Social Security. But this important income source should not adjust to the vagaries of the politics of the annual budget process. Including Social Security in the annual budget (as would the Concord Coalition or some versions of the balanced-budget amendment) encourages politics that may not pay enough attention to long-run considerations. Some insulation would come from keeping Social Security out of the measured deficit, but taking Social Security out of the budget does not guarantee thoughtful politics, either.

Insurance, Redistribution and Labor Market Efficiency

Labor market efficiency is affected by social security systems. It is common for benefit-based systems to have poorly designed retirement incentives. The Chilean reform avoids the retirement disincentives within the system, basing eligibility for benefits on age and, for early benefits, on the size of accumulation, not on employment or earnings. But one price of avoiding these distortions is the absence of insurance (beyond disability insurance) over varying lengths of working life, an important risk for many workers. Doing redistribution by a government-guaranteed minimum pension has significant disincentives for work in the covered sector and for payment of the mandatory contributions, as well as the distortions generated by financing the minimum pension. Since the incentives for labor supply depend on all of the programs providing retirement income, there is no necessary gain in efficiency from separating redistributive and nonredistributive parts into separate programs.

The Chilean system gives workers of retirement age a choice between purchasing an indexed annuity and making a series of phased withdrawals from their accounts. These withdrawals are subject to a monthly maximum that varies with age and recent interest earnings on the funds. Without such a limit, the guaranteed minimum pension would give some people a powerful incentive to withdraw rapidly and then tap into the minimum pension. The widespread use of phased withdrawals rather than annuities may reflect incomplete understanding of the risks of long life. However, removal of this option would cut against the sense that people have of controlling these funds. Moreover, reducing the set of alternatives would probably decrease the price sensitivity of demand for annuities, resulting in higher markups.

In the Chilean system, funds are accumulated until retirement age is reached, when an annuity may be purchased. If the individual dies before retirement, the accumulation is part of the worker's estate. A traditional benefit-based system converts these bequests into additional benefits for those surviving until retirement. Similarly, a worker contemplating a future purchase of an annuity has no way to insure what the annuity's rate will be as her health varies. A benefit-based system provides insurance against this variation automatically by relating benefits to earnings history and not recognizing differences in life expectancy for different retirees. Both of these insurance problems could be alleviated by a system of annual annuity purchase, rather than purchase at retirement (Boskin, Kotlikoff and Shoven, 1988). But such a change would have different cost characteristics. Individual annuity pricing also varies with aggregate mortality projections and interest rates; defined benefit systems may or may not build in automatic adjustments for these factors.

If allowed, a private market will use different annuity conversion factors for different people, reflecting estimates of different life expectancies for different groups, and reflecting different markups by firms and varying interest rates. On the other hand, if varying life tables are not allowed in a private market, there are selection problems, as insurance companies compete to attract the groups who will be most profitable. In Chile, the individual annuity market is expensive, as is also the case in the United States (Friedman and Warshawsky, 1990).

Another source of variation in outcomes comes from different rates of return. The Chilean approach limits the differences in rates of return on different portfolios. Using an IRA approach to accumulation, one would worry about the ability of some of the public to choose their portfolios well.¹⁸

Assessment

Overall, the Chilean approach gets high marks for defending the system from political risk. It gets low marks for the provision of insurance and for administrative cost. As implemented in Chile, the approach gets high marks for its effects on capital accumulation and on the functioning of the capital market.

Having the United States imitate Chile would not achieve capital market development, since we already have that. One can wonder whether such a change would help with government budget balancing and capital accumulation. Since the giveaways to early generations from the pay-as-you-go approach have already happened, the current political problem is restoring actuarial balance, not blocking giveaways. Given the politics of Social Security, it is not clear that the added political insulation is good or important. The higher administrative costs, poorer insurance and questionable aggregate risk bearing of the Chilean approach would likely carry over to the United States, even with further innovations in institutions and regulation.

Moreover, the likely use of alternative institutions in the United States raises further issues. The contrast in the likely variation in individual rates of return between the Chilean approach and an IRA approach has been mentioned. Another issue is with the conversion of accumulations into retirement income flows. One might follow the IRA pattern, allowing individual choice as to withdrawing the funds. This would raise concerns about the rate of spending and implied poverty among the older elderly, already a serious issue. Alternatively, one might follow the Social Security pattern, requiring the funds to be put into inflation-indexed annuities. To date, there are no privately provided annuities indexed to the Consumer Price Index (CPI), so these would need to be developed if this route is followed, a development that would probably need CPI-indexed Treasury securities, which are soon to be issued. Both the IRA pattern and mandating privately provided annuities seem to have shortcomings relative to current law, where Social Security has remarkably low administrative costs for the provision of CPI-indexed benefits. How one evaluates large privatization depends on how one thinks the details will be organized and how one judges the quality of political decisions about Social Security. Moreover, there would be political risks to the retirement income system, even with full privatization. For example, there would be calls for earlier access to the funds for other purposes, such as education, house purchase and medical expenses. Also, a fiscally strapped government might make access to other programs, such as unemployment insurance, conditional on first using the funds in a retirement account.

¹⁸ On individual portfolio choices, see U.S. Congressional Budget Office (1994).

Employer Mandate

In addition to its government-provided pensions, Australia recently mandated employer-organized retirement savings for workers (Bateman and Piggott, 1993). Several western European countries effectively have universal employer-provided pensions through mandates or industry arrangements.¹⁹ In Chile, the mandate on workers is enforced by having employers withhold the required amounts and pay them to the AFPs. Since firms have the obligation to withhold the funds in both cases, it is natural to ask about the significant economic differences between these two approaches. Political differences may come from different perceptions as to who pays the cost. There are three economic differences that I want to highlight: who makes the investment decisions for the allocation of accumulated funds; how the accumulation process is organized; and how the payment of benefits is organized.

Investment Decisions

In any pension system with funding, someone must decide which assets to hold. In Chile, the workers choose portfolios, with the choices limited to the portfolios offered by the closely regulated AFPs. In other words, the government limits the array of alternative investment managers available to the workers. The government also limits what those managers can do, as well as creating incentives affecting which portfolios the managers choose. The close regulation of the AFPs is done both to protect the workers, many of whom had little experience or sophistication in investment decisions (and limited understanding of risk-return tradeoffs), and to protect the government, which has given explicit guarantees (on both rates of return and minimum pensions) and which would have faced considerable political pressure had the accumulation process had major difficulties. A result of the close regulation, combined with the guarantees, is that the portfolio choices of workers are quite limited.

In contrast, with a mandate on firms, the firms select the portfolio of assets, or the firms select the manager of the portfolio, or the firms arrange an array of choices for their workers. For example, in the United States, some firms arrange with mutual funds to provide a set of alternatives for their workers. In Australia, employers make contributions to regulated superannuation funds that maintain individual worker accounts. These include firm and industry (multiemployer) funds. The choice of fund can be part of union negotiation. Employees and employers have equal representation on boards of trustees of the funds; the boards select the investment manager.

Generally, one can ask whether we would expect firms to make better or worse investment choices than workers. We can also ask whether we would expect firms to arrange a better array of alternatives for their workers than the government

¹⁹ In the United States, employer mandates were much discussed in the 1970s under the acronym MUPS, Minimum Universal Pension System (President's Commission on Pension Policy, 1981).

would. While firms may be more sophisticated than workers would be in judging alternatives, there is a risk of firms giving workers poor choices, whether from lack of concern or kickbacks. Workers do preserve the option of leaving the firm, seeking employment elsewhere and taking their pension accumulations with them, which creates an incentive for firms to do a good job. However, this incentive may not hold for firms in financial difficulty. Regulation is needed to limit the pressure for workers to invest in shares of the employer. Government guarantees of the honesty of the accumulation process (lack of embezzlement) would serve as an incentive for government monitoring.²⁰ Thus, the contrast between Chilean and Australian approaches is a question of comparative regulation: directly through worker choice or indirectly through the regulation of firms. Is it easier to monitor firms and the mutual funds created for them or to monitor the mutual funds created for worker mandates, along with firms, which still need to be watched to ensure prompt and accurate payments?

Administrative Costs

There is some dispute in Chile as to whether the high administrative costs stem from regulations governing the structure of charges²¹ or from the use of a system with individual worker choice from the full array of allowed alternatives in the market (Bateman, Piggott and Valdes-Prieto, 1995). The division of the high costs between these two sources will not be fully settled until we have experience in other countries (or Chile) with a different commission structure.

As a general proposition, group choice is considerably cheaper than individual choice. In the United States, mutual funds aimed at individuals are roughly three times as expensive (on average) as mutual funds handling large accounts (and so aimed at groups), measured relative to assets and holding constant the type of portfolio. Bateman, Piggott and Valdes-Prieto (1995) have compared marketing expenses in Chile with those in Australia. In Chile, 35.7 percent of accounting costs of AFPs are attributed to marketing, while in Australia, this ratio varies between 3.2 percent and 6.4 percent across funds. The major difference is that much less is spent on direct advertising to workers. In Australia, employers are allowed to set up and run multiemployer funds without necessarily employing financial firms.

When mandates involve high costs on small accounts, the pattern of costs is politically very sensitive, particularly since the administrative costs on a small account can easily exceed the interest earnings on the account. This is exacerbated by workers who have multiple accounts from employment with several firms, either

²⁰ The absence of government guarantees for tax-favored defined contribution plans has become news with reports of firms taking 401k funds (New York Times, November 26, 1995, sec. 3, p. 1). This absence is in contrast with the guarantees given defined benefit plans through the Pension Benefit Guarantee Corporation.

²¹ The regulation of AFPs allows for basing monthly charges on deposits, a fixed amount plus a proportional amount. The level of such charges is set by the firms. Firms cannot base charges on the size of the accumulation, as is common with U.S. mutual funds. Also, each AFP must use the same charge structure for all workers; there is no allowance for group discounts.

simultaneously or, more commonly, sequentially as they move in and out of covered employment.²² Thus, if charges reflect costs, small accounts shrink instead of growing. But if charges do not reflect costs, the implicit cross subsidies will have effects; in Chile, the incentive is for AFPs to seek out high-income workers. With a mandate on employers, such incentives could affect hiring decisions. Australia has set up a subsidized service to manage small accounts. In the United States, this is not much of an issue since small accounts are frequently cashed out when changing employers; however, this practice generates the alternative problem of workers who fail to accumulate because of repeated cashing out.

Annuities

Individual annuity markets are considerably more expensive than group annuity markets. With a mandate on employers, there is a natural grouping available for the provision of group annuities. This could be a major plus for the Australian approach (although not as done in Australia, where workers are allowed to withdraw their accumulation in a lump sum). While one can envision the government forming groups to substitute for this employer grouping, there is no experience with any government having done so.

The Australian mandate was legislated in a setting with substantial pre-existing provision of pensions by private firms and thus allowed some firms to continue with their pre-existing defined benefit plans. In many other firms, existing defined benefit plans have become partially defined contribution. With pre-existing defined benefit plans, this political outcome was natural enough.²³ In addition, insofar as one sees merit in private defined benefit plans, there is reason to allow them.

Concluding Remarks

I have reviewed five policy issues. Indexing the NRA or legislating a schedule of increases seems like a good idea, since it eases future Social Security politics. Investing part of the trust funds in the private economy seems useful. Replacing all of Social Security with individual or firm mandates does not appeal to me, although it has merit in lessening concerns about the politics of Social Security. Replacing part of Social Security with individual accounts seems expensive without accomplishing much that isn't achievable in other ways.

²² In Chile, the 20 AFPs compare records, attempting to hold down the number of workers with multiple accounts. In Australia, there is no easy way to discourage these accounts. Multiple accounts have been a major problem in Mexico.

²³ However, allowing defined benefit plans opens up all the issues and problems that have surrounded the Pension Benefit Guarantee Corporation in the United States (for example, Bodie and Merton, 1993; Ippolito, 1989): namely, what sort of insurance system is necessary to cope with the risk of a company that ends up lacking the resources to pay the promised benefits?

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