

The Effects of Social Security Reform on Private Pensions

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Abstract:

Among the far-reaching effects of Social Security reform on the rest of the economy is the impact on private pensions. This paper develops a model of pension plan design that incorporates heterogeneity in tastes for saving and sorting of workers in the labor market. The model is used to analyze the likely effects of a range of Social Security reform proposals on the design of employer-provided pensions. Several reform options are shown to change the relative benefits received by high- and low-income workers and to affect the ability of pension plan sponsors to comply with nondiscrimination rules for the distribution of pension contributions and benefits.

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INTRODUCTION

Two primary factors have come together in the last six years to transform Social Security from the “third rail” of American politics to a leading reform issue of the day. The first is the report of the 1994-96 Advisory Council on Social Security (Advisory Council, 1996), which focused renewed attention on the financial crisis in Social Security.¹ Though unable to agree on a single proposal to resolve the crisis, three subgroups of members of the Council devised plans with varying degrees of benefit cuts and tax increases. A common element of all the plans was to invest a portion of Social Security’s resources in private securities. Two of the plans explicitly called for a system of individual accounts to be established.

The second factor is the appearance in recent years of budget surpluses that are projected to persist for over a decade. In a pay-as-you-go (PAYGO) system, current payroll tax revenue from workers goes to pay the benefits of current retirees. Those tax revenues cannot be diverted without finding an alternative mechanism to pay current beneficiaries. Alternatively, new revenues must be raised in order to prefund any future liabilities. On several occasions since 1998, projected revenues to the federal government have been revised upward, resulting in positive surprises for the surplus.² The unanticipated surplus revenues have served as a catalyst for political discussions of how to ease the tax burden on the transition generation of workers who must maintain

¹ According to the Social Security Trustees’ Report for 2000 [TR 2000, Table II.F.13], the cost rate will first exceed the income rate on the system in 2015 and the gap will widen to an annual deficit of 6.18 percent of taxable payroll in 2075, the last year in the 75-year forecast period. All descriptions of the financial status of the Social Security program are based on the “intermediate” cost assumptions.

² Congressional Budget Office (2000) reported in July that the total budget surplus in fiscal year 2000 would reach \$232 billion, or 2.4 percent of GDP, under current policies. The estimate of the surplus was \$53 billion higher than the one CBO published in April, when it last updated its budget projections, largely because revenues continued to be higher than earlier forecasts.

current payroll tax rates to provide for current retirees while prefunding a portion of their own future benefits.

There have been many studies of Social Security reform since the Advisory Council's report was published.³ These studies have focused primarily on the reform experiences of other countries, the feasibility of various transition paths, the administrative aspects of a system of individual accounts, and the impact on workers and beneficiaries as participants in the system. To date, there has been no comprehensive discussion of the likely effect that Social Security reform would have on employer-provided pensions. This is a critical omission. Secure retirements are often depicted as a stool with three legs—Social Security, employer-provided pensions, and personal saving. Changing any one of the legs may necessitate changes in the other legs if the stool is to remain stable.

There are several possible channels through which firms and workers might modify the system of employer-provided pensions in response to Social Security reform. First, since the Social Security system is operated through employment, closing the financial gap in Social Security will raise the cost of employing workers. Part of this increased cost will result in lower employment, and part will manifest in lower total compensation in all forms, including pension contributions. This channel operates by reducing the supply of aggregate pension contributions from employers.

Second, because pensions are primarily used as a means of accumulating wealth for retirement, the effect of Social Security reform on pension plans depend on the way

³ See Samwick (1999) for a review of the literature as well as a complete discussion of my previous research on Social Security reform. Two influential contributions to the recent debate are Aaron and Reischauer (1999) and Schieber and Shoven (1999). The Century Foundation also maintains a website with research and links related to Social Security reform at <http://www.tcf.org>.

reform affects workers' demand for retirement saving. For example, a standard life cycle model predicts that reforms that reduce the disposable income of workers will reduce their demand for pensions, as they will have less of a need to transfer resources from their working years to their retirement years. Reforms that reduce expected retirement income will increase workers' demand for pensions, as they will have more of a need to make those transfers. The effect of the reform on the overall demand for pensions clearly depends on the particular combination of tax increases and benefit cuts that are implemented.

Third, there is considerable heterogeneity in the reasons why people save and how well their pensions help them to achieve their goals. While some may save for retirement, others may save to buffer consumption against uncertain income, to accumulate a down payment on a home, or to finance children's education. Based on these considerations, workers may differ in their desired combination of pensions and other forms of compensation. However, pensions by their nature cover groups of workers who share a common employer and cannot be tailored to the preferences of each individual worker. If workers can freely sort themselves across firms on the basis of the combination of wages and pensions offered, then the distinction between the group and the individual would not be relevant. However, if there are impediments to complete sorting, such as search costs or government imposed nondiscrimination rules, then Social Security reform will also affect pensions through changes in the relative demands for pensions by different groups of workers at the firm.

The primary objective of this paper is to identify the important channels through which firms and workers might modify the system of employer-provided pensions in

response to Social Security reform. The remainder of the paper is organized as follows. Section 1 presents background information on the nature of the problem facing Social Security. Section 2 examines the range of possible solutions that have been suggested in recent academic, legislative, and presidential campaign proposals. Section 3 develops a model of saving and sorting in the labor market to characterize how pension plans are distributed in the workforce. Section 4 discusses the particular complications of Social Security reform for pensions that are formally integrated with Social Security. Integrated pension plans base their contributions or benefits on a feature of the Social Security system, such as the maximum taxable earnings level or the typical replacement rate for a given worker. Although it may appear that such pensions are particularly susceptible to Social Security reform, the model in the previous section suggests that this is not the case. Section 5 revisits the policy reforms from Section 2 and assesses their likely impact on the pension plan design. Section 6 concludes and discusses directions for future research.

1. THE PROBLEM FACING SOCIAL SECURITY⁴

Figure 1 demonstrates the magnitude of the financial imbalances inherent in the Social Security program based on projections in the 2000 Trustees Report. The flat line indicated by the squares represents the forecasted income rate. The income rate reflects revenue received by the Old-Age, Survivors, and Disability Insurance (OASDI) program due to the payroll tax of 12.4 percent and the income tax on current benefits. Income taxation on benefits currently generates an amount equal to 0.25 percent of taxable

⁴ See Samwick (1999) for a more extensive discussion of the financing crisis in Social Security.

payroll, making the income rate 12.65 percent in 2000.⁵ In 2075, income taxation of benefits will generate 0.94 percent of payroll, resulting in an income rate of 13.34 percent.⁶

The curve indicated by diamonds represents the cost rate or payments made by the Social Security system to beneficiaries. The cost rate in 2000 is 10.34 percent of payroll, generating the $12.65 - 10.34 = 2.31$ percent annual balance in the program. The annual balance is graphed at the bottom and is indicated by triangles. Over time, the cost rate increases substantially, reaching a value of 19.53 percent of payroll in 2075. The annual balance in that year will be $13.34 - 19.53 = -6.19$ percent of payroll (reported as 6.18 in the Trustees Report due to rounding). Unless the Social Security system is reformed before that time, the payroll tax would have to rise from 12.40 percent to 18.58 percent to pay all benefits promised in current law. Such an increase represents a 50 percent expansion in the required revenues or a 33 percent reduction in the after-tax benefits.

It is common in public discussions to associate the financial crisis in Social Security with the approaching retirement of the Baby Boom generation. However, the problem is more fundamental than the aging of an unusually large birth cohort. In 2075, even the youngest Baby Boomer will be 110 years old. Almost all benefits in that year will be paid to retirees who were born after the Baby Boom generation. Therefore, even if no Baby Boomer pays another dollar in taxes or receives a dollar in benefits, the -6.18

⁵ The income and cost rate figures are reported in Table II.F13 of the 2000 Trustees Report. The portion of the income rate due to the income taxation of benefits is reported in Table II.F17.

⁶ The amount increases over time because the threshold level of modified adjusted gross income that must be reached before benefits are taxed is not indexed for inflation, so a greater number of beneficiaries will surpass this threshold over time. For single (married) taxpayers, 50 percent of benefits become eligible for taxation once a threshold of \$25,000 (\$32,000) is reached, with 85 percent of benefits becoming taxable when a threshold of \$34,000 (\$44,000) is reached.

percent balance in 2075 would be only trivially smaller. The retirement of the Baby Boom does have an important impact on the system's finances, and this can be seen clearly in Figure 1. The period of rapid increase in the cost rate (and decline in the annual balance) occurs during the two decades starting in 2010 when the Baby Boom generation begins to retire. The annual balance over that period deteriorates by 5 percentage points of payroll, but note that it does not improve over the remainder of the 75-year period. The retirement of the Baby Boom generation does not cause the financial crisis, but it does make the long-term problem appear in 35 years rather than 75 years. In so doing, it may have served as a catalyst for getting potential reform to alleviate the financial crisis into the policy arena arena.

2. POLICY OPTIONS FOR RESTORING SOLVENCY

There are only two ways that solvency can be restored to the Social Security system: lower outflows or higher inflows. However, there are a variety of mechanisms for achieving those ends, and many of those mechanisms will entail a bit of both. This section considers a range of policy options that have been suggested in academic and legislative proposals over the past few years, including some reforms that were part of the 2000 presidential campaign. The purpose of this section is to simply present each of the reforms, in advance of summarizing them in Table 3 and evaluating their likely effects on private pensions in Section 5.

Benefit Cuts

To reduce outflows, benefits could be cut by a uniform fraction at all benefit levels. As noted above, the benefit cut required to fully restore solvency reaches

approximately one third by the end of the 75-year forecasting period in TR 2000. A legislative proposal by Representatives Jim Kolbe and Charles Stenholm in 1999 included a provision to (modestly) reduce benefits for all workers directly through the benefit formula.⁷

There are also less direct ways that benefits can be cut. One method is to reduce the linkage between postretirement benefits and the consumer price index. As an example, consider a policy in which imperfect indexation eroded one percent of the real value of benefits each year. If benefits were paid to retirees for an average of 20 years, this policy would reduce benefits by approximately 10 percent when phased in.⁸ The Kolbe-Stenholm proposal discussed above included a provision to reduce the cost of living adjustment by 0.33 percentage points per year.

Another part of the benefit calculation that can be used to reduce benefits is to increase the number of years that are averaged to calculate the AIME. Currently, the AIME is based on the average of the 35 highest indexed years of earnings. Raising the number of years in the calculation necessarily reduces this average, since the added years are lower than the years already included. A legislative proposal by Senators Daniel Patrick Moynihan and John Kerrey in 1999 contained a provision that would have

⁷ “The 21st Century Retirement Act,” introduced as H.R. 1793. An earlier version, co-authored with Senators Judd Gregg and John Breaux, was introduced in 1998 as H.R. 4256 and S. 2313. Under current law, a worker’s average indexed monthly earnings (AIME) is converted to her primary insurance amount (PIA) in a piecewise-linear fashion at rates of 90, 32, and 15 percent. These ratios would have been reduced to 76.3, 16.8, and 7.9 percent for beneficiaries who were newly eligible in 2044 and later. The reductions were less severe at lower benefit levels to shift the burden more to higher income households. See Copeland, VanDerhei, and Salisbury (1999) for a description and simulation analysis of four proposals that were under consideration in 1998 and 1999.

⁸ As noted by Brown (2000), imperfect indexation undoes some of the annuitization inherent in the program. This policy can only be preferred to a uniform benefit cut of equal magnitude on distributional grounds—higher income people tend to live longer and would therefore be disproportionately affected by imperfect annuitization.

increased the number of years in the AIME calculation to 38.⁹ This provision was also included in the very influential reform plan presented in Aaron and Reischauer (1999). The incidence of a benefit cut enacted in this way falls disproportionately on workers who have spent more time out of the labor force, whose earnings in those marginal years will be low or zero.

A third policy that would cut aggregate benefits is to increase the normal retirement age (NRA) at which Social Security benefits can be received. The NRA was 65 when the program was introduced in 1935 and is only now being increased gradually (due to legislation in 1983) to 67. At one extreme, workers could all retire two years later and receive the same benefits (apart from changes in their AIME due to the extra two years of work) as they currently do. Aggregate benefits would be reduced because two more age cohorts would not be collecting each year, and payroll tax revenues would increase because these same cohorts are still working and paying the payroll tax. At the other extreme, workers could retire at exactly the same ages that they would with an NRA of 65 and face greater penalties for early retirement. These penalties reduce total benefits paid in each year.

Given the improvements in longevity since the program's inception and forecasted in the next century, as well as the reduction in manual labor as a share of the jobs in the economy, there is clearly room to increase the NRA without compromising Social Security's objective of insuring against poverty in old age. The Kolbe-Stenholm bill discussed above included a provision to accelerate the increase in the NRA to 67 for those reaching age 62 in 2011 and thereafter index it to longevity. The Aaron-Reischauer proposal included this change in the normal retirement age and a provision to increase the

⁹ "The Social Security Solvency Act of 1999," introduced as S. 21.

early retirement age from 62 to 64 and maintain the three-year difference between the two ages thereafter.

Tax Increases

To increase the revenues of the system, an obvious option is to raise the payroll tax from 12.4 percent of the maximum taxable earnings (MTE) on which it is paid (\$76,200 in 2000). The Moynihan-Kerrey plan included a provision to increase the MTE to \$99,900 and, by 2060, the payroll tax rate to 13.4 percent. Another way to increase the size of the payroll tax base is to mandate that state and local government workers who are not covered by the Social Security program begin to participate. The Moynihan-Kerrey and Aaron-Reischauer proposals required that all newly hired state and local government workers be brought into the system.

Another policy option to raise revenue is to increase the fraction of retirement benefits subject to the income tax or to lower the threshold income level at which benefits become taxable. The Moynihan-Kerrey proposal also included a provision that would make 80 percent of benefits taxable as income to all recipients. The Aaron-Reischauer proposal included a provision to tax benefits in the same manner as private pension income. However, this source of financing is more properly thought of as a benefit cut, since it is paid when participants receive benefits and not when they are subject to the payroll tax.

The prospect of simply increasing the size of the existing PAYGO tax has not received much public consideration, in part because the cost rate will not exceed the income rate for the next fifteen years. Another reason is that the current forecasts of unified budget surpluses appear to provide an alternative means of increasing the

system's inflows without raising the payroll tax.¹⁰ The unified budget is comprised of the on-budget and off-budget accounts. The off-budget account includes the taxes and benefits for Social Security and other entitlement programs, and the on-budget account includes all other government taxes and expenditures.

For example, the Moynihan-Kerrey proposal uses the off-budget surplus to cut the payroll tax by 2 percentage points to allow for the establishment of voluntary investment accounts. The Kolbe-Stenholm proposal calls for an immediate transfer from general revenues (i.e., the on-budget account) to the OASDI trust fund of 0.4 percent of payroll, increasing to 0.8 percent for 2060 and later.¹¹ These proposals would be a tougher sell if the budget were currently in a large deficit.

In the wake of the Advisory Council's (1996) report, proposals to reform the system through investments in the debt and equity of private companies are also being discussed. Many of these proposals are funded in part using the federal budget surplus. For example, Feldstein and Samwick (1998) simulate a transition to a partially funded system using additional revenues from the on-budget surplus to fund contributions of two percent of payroll to Personal Retirement Accounts (PRAs). Benefit payments from PRAs will subsequently be used to replace benefits that would have otherwise been paid from the PAYGO system.¹² Feldstein and Samwick (2000) illustrate a reform of the system that uses revenues from the off-budget surplus to fund contributions to the PRAs.

¹⁰ See Auerbach and Gale (2000) for a careful discussion of the extent to which the forecasted surpluses can actually be used for tax cuts or new spending.

¹¹ Elmendorf and Liebman (2000) discuss the budgetary impact of diverting surplus revenues to help fund Social Security. They focus on what must happen to government expenditures in the unified budget in response to a change in either the on-budget or off-budget components in order for the change not to be equivalent to the issuing of new debt.

¹² A proposal by Representatives Bill Archer and E. Clay Shaw, "The Social Security Guarantee Plan," would similarly use two percentage points of payroll from the on-budget accounts to invest in Social Security Guarantee Accounts.

Diverting payroll tax revenue to investments in private securities requires cuts in government spending, as the government no longer keeps the off-budget revenue that would otherwise have been invested in special issue Treasury bonds in the OASDI trust fund. Both plans note that, to the extent total private and public consumption falls, more capital is available to generate corporate tax revenue, which is in turn available to help fund the transition.

A policy of substituting PRAs invested in private securities for a portion of the PAYGO benefits would increase both the expected return on payroll contributions and the riskiness of retirement benefits. Whether this portfolio change is more appropriately thought of as a tax increase or a benefit cut depends on how the risk is shared. For example, if beneficiaries were to simply forego one third of their PAYGO benefits in exchange for a PRA that would on average have a sufficient balance to fund those benefits, then the portfolio shift is analogous to a benefit cut. The magnitude of the cost of this cut to beneficiaries is equal to the lesser of the utility loss incurred by the exposure to the risk or the costs that must be incurred by beneficiaries to obtain insurance against the added financial risk.¹³ Alternatively, the government could provide that insurance directly by establishing a minimum benefit guarantee. The cost of funding that guarantee would presumably be borne by workers in the form of higher and more variable payroll taxes.¹⁴

¹³ Feldstein and Rangelova (2000) show how this could be done using put and call options. Beneficiaries might also lessen their risk by changing the portfolio allocations in their privately held portfolios.

¹⁴ Whether the pure portfolio change is an efficient way of implementing the tax increase or benefit reduction generally boils down to the explanation for the equity premium puzzle. See Abel (1999), Smetters (1999), and Feldstein, Rangelova, and Samwick (1999) for three different approaches to investment risk in the evaluation of Social Security reform.

Other Reforms

The discussion of policy options thus far indicates that, just to address the solvency of the Social Security system, reform will likely include increases in contributions, reductions in future benefits, and changes in the riskiness of retirement income. The occasion of a major reform is likely to encourage other changes to the system that are not directly related to rectifying its actuarial imbalance.

The recent presidential campaign provides examples from both major political parties. For example, the reform plan put forward by Governor Bush was broadly similar to the one discussed in Feldstein and Samwick (2000). It also permitted a portion of the assets in the PRAs to be bequeathed rather than annuitized. Mandatory and full annuitization has been a central feature of the Social Security system since its inception.

In its treatment of the system's solvency, the reform plan advocated by Vice President Gore was similar to the plan broadly by President Clinton in his 1999 State of the Union Address.¹⁵ It included two provisions unrelated to financial solvency. The first would give parents credit toward Social Security for up to five years spent raising children, bringing such years up to one-half the average wage in the calculation of the AIME (approximately \$16,500 in 2001). The second provision would increase the widow's benefit to 75 percent of the combined couples' benefit, capped at the average Social Security retirement benefit. Currently, the lesser earning spouse receives between one-half and two-thirds of the couple's combined benefit.¹⁶

¹⁵ For an analysis of the Clinton administration's proposal, see Copeland, VanDerhei, and Salisbury (1999). Unlike the Clinton proposal, the Gore plan does not include any Social Security trust fund investments in equities.

¹⁶ The Aaron-Reischauer proposal included the same provision, financed in part by reducing the dependent spouse benefit from one-half to one-third of the retired worker benefit.

As with the Clinton administration's proposal for Universal Savings Accounts (USAs), the Gore plan proposed a new system of individual accounts *outside* the Social Security tax and benefit system. The Gore plan called for the establishment of Retirement Savings Plus Accounts. RSPAs would enjoy the same tax treatment as 401(k) plans and traditional IRAs, with contributions tax-deductible, accumulations tax free, and withdrawals taxed as ordinary income. Pre-retirement withdrawals would be permitted for college educations, first home purchases, and catastrophic medical expenses. Household contributions to RSPAs would be matched by the government at rates that were comparable or even superior to those offered by traditional 401(k) plans, especially for low-income households.¹⁷ The generosity of the match rate makes this policy very important in thinking about the impact of proposed reforms on the design of employer-provided pensions.

3. SAVING AND SORTING IN THE LABOR MARKET

As noted above, Social Security reform may directly affect the availability and generosity private pension plans in two ways. The first is a supply channel, because employers will have less money available with which to compensate workers in all forms. The second is a demand channel, with greater demand for pensions to the extent that benefits will be reduced and a lesser demand for pensions to the extent that payroll taxes will be raised. Restoring financial solvency may also change the features of Social

¹⁷ For a married couple making up to \$30,000 annually, each spouse could contribute up to \$500 annually to his or her own accounts. The refundable tax credit would be \$1500, for a total contribution of \$2000 each. For married couples making between \$30,000 and \$60,000, the \$2000 contribution would be split evenly between the couple and the government match. For those earning between \$60,000 and \$100,000, the \$2000 contribution would be split \$1500 for the couple and \$500 from the government. The match rates in the RSPAs are 300, 100, and 33 percent for the lowest, middle, and highest income groups, respectively. Match rates in typical 401(k) plans are seldom more than 100 percent.

Security (e.g., reducing the annuitization of benefits), causing a greater demand for these features in private pension plans.

A less direct but potentially important effect that Social Security reform may have on the distribution of private pension entitlements is based on the way the combination of pensions and other forms of compensation adjust to restore equilibrium to the labor market after the reform. Social Security reform may affect the relative demands for pensions by groups of workers, and this change in *relative* demands can also impact the *overall* level of pension provision. This section demonstrates the mechanism by which this can happen. Two factors are of paramount importance in the argument: heterogeneity in preferences for saving and (impediments to complete) sorting of workers across firms in the labor market.

Heterogeneity in Life Cycle and Other Motives for Saving

Saving in all of its forms is designed to transfer resources from periods when income is relatively high to periods when income is relatively low. A period can be defined in many ways. Life cycle saving transfers resources from the working years when income is predictably higher to retirement years when income is predictably lower. Precautionary saving transfers resources from states of nature when luck is good to states of nature when luck is bad. Dynastic saving transfers resources from parents' lifetimes to children's lifetimes via bequests.

It is clear from even a quick look at surveys of household wealth is that there is considerable heterogeneity in household saving behavior. Some indication of this heterogeneity can be gained from an examination of self-reported household motives for saving. Table 1 reports the responses to the question, "What is your (family's) most

important reason for saving?” from the Survey of Consumer Finances, 1998.¹⁸

Households can list up to six reasons why they save, in order of importance. The sample consists of all individuals who were the survey respondent or the respondent’s spouse who reported nonzero income. Each member of a two-earner couple is included separately.

The underlying responses have been aggregated into ten groups, and the workers have been divided into six age categories. For each of the five age groups over age 25, retirement is cited most frequently as the primary reason for saving. For workers younger than 25, uncertainty is cited most frequently as the primary reason for saving. Overall, these two categories account for 60 percent of the primary responses.¹⁹

However, the last column shows that 43 percent of the workers do not report retirement as a motive for saving even with six opportunities to do so. Additionally, the primary reasons for saving can change over the life cycle—home purchasing, other housing, and special purchases (like durable goods) are more important below age 45 than above it.

Samwick (1998a) shows that many of the non-retirement motives for saving, including precautionary saving against uncertainty, can give rise to target saving of the sort described by the Buffer Stock model of saving in Carroll (1997). In this model, households are impatient, in the sense that they would like to borrow against future income if it were certain. However, they are also prudent, in the sense of having a precautionary motive to save in the presence of uncertainty. Buffer stock saving

¹⁸ The Survey of Consumer Finances is a triennial survey of household wealth in the United States. See Kennickell (2000) for a description of the 1998 survey.

¹⁹ Samwick (1998a) showed similar tables for the SCF 1992 in which the relative positions of uncertainty and retirement motives were reversed. A possible explanation is the difference in the points in the business cycle for the two years. During the weak recovery of 1992, households were relatively more concerned with job market risk, whereas in the stock market boom of the late 1990s, households were thinking more about enjoying their retirements.

generates a target ratio of wealth to income. Households use this buffer stock primarily to insulate consumption against near-term fluctuations in income. Impatience prevents wealth from getting too high, while prudence keeps it strictly greater than zero.

Besides an underlying preference for consumption now versus consumption later (a high rate of time preference), buffer stock saving can be caused by a sharply rising age-earnings profile. Buffer stock saving is therefore more prevalent early in the life cycle. If income is expected to be much higher in the future than it is today, then there is no life cycle reason to save. Saving will be done for precautionary reasons. Samwick (1995) shows that if households in this buffer stock mode are given a noncontributory pension, they will not reduce their stock of nonpension wealth. Buffer stock savers prefer to have their employers' pension contributions in cash, even with a modest tax disadvantage, because the illiquid pension wealth is a poor substitute for the liquid wealth that they need for precautionary reasons. In contrast, households actively saving for retirement will prefer to take the compensation in the form of the pension contribution because the tax advantage of the pension facilitates the saving that they would like to do.²⁰ These workers can be expected to reduce their other saving somewhat, even if total saving increases.

Variation in household intertemporal budget constraints and underlying rates of time preference can therefore generate heterogeneity in the value that different households place on an employer's pension contributions. Samwick (1998b) uses a stochastic life-cycle model that encompasses both retirement and precautionary saving to

²⁰ Samwick (1995) further shows that, even for households who begin their working careers in a buffer stock mode, the income drop at retirement is a sufficiently "negative income growth rate" that they begin saving for life cycle reasons as retirement approaches. This prediction is borne out in the increasingly frequent citing of retirement as the primary reason for saving as age increases in Table 1.

estimate the distribution of time preference rates from the distribution of wealth-to-income ratios in the Survey of Consumer Finances, 1992. The estimates imply that as much as one third of the residual variation in wealth (controlling for age, income uncertainty, and retirement replacement rates) can be attributed to variation in rates of time preference.

Incomplete Sorting of Workers Across Firms

The evidence from survey questions about saving motives and the wide distribution of wealth and underlying preference parameters suggest that there will be heterogeneity in how a random cross-section of workers value pension contributions relative to wages or other forms of compensation. This heterogeneity, much of which cannot be ascertained systematically by the employer, means that it is not possible for the employer to design a pension plan that explicitly matches the desired amount of tax advantaged saving on a worker-by-worker basis. At best, employers can establish a plan that provides the optimal benefits for a large subset of employees, perhaps those that the firm is most interested in retaining.

However, given the limited ability of the employer to ascertain which employees want the pension and which do not, the contributions can be funded only by reducing the wages of all workers covered by the plan. Workers can search across potential employers for the combination of wages and pensions that best suits their tastes for the tax advantage provided by pensions. Workers with low rates of time preference would choose firms with generous pensions, and impatient workers would choose firms with less generous or no pensions.²¹

²¹ Ippolito (1996) derives a model in which patience is an unobservable but productive trait. Firms offer 401(k) plans with match rates to attract and retain patient workers. Since patient workers would like to

Table 2 provides some evidence on the extent of this sorting. Households in the Survey of Consumer Finances 1998 were asked, “In planning your (family’s) saving and spending, which of the time periods listed on this page is most important to you?” The possible responses are listed in the left column of the table. They range from “the next few months” to “10 years or more.” Samwick (1998b) shows that households who report longer time horizons have lower estimated rates of time preference. Responses can therefore be used as a proxy for an underlying preference for pension versus wage compensation. The next column reports the probability of pension coverage for each saving horizon group. As expected, the probability of pension coverage is lower for workers who report shorter horizons, at 45 percent for “Next Few Months” and 41 percent for “Next Year,” compared to a sample average probability of 54 percent. The probability of pension coverage rises with the saving horizon, to 52 percent for those reporting a horizon of “Next Few Years” to 60 percent for those reporting “Next 5 – 10 Years” to 64 percent for those reporting “Over 10 years.” The positive correlation between pension coverage and the saving horizon is evidence that on average, pensions are more likely to be offered to workers with longer saving horizons or that workers with those longer saving horizons are able to select into jobs that offer pensions.

The third column of the table shows that the sorting is not perfect. Among workers covered by a pension, 22 percent report saving horizons of the “Next Few Months” or the “Next Year.” Because of the lower rates of pension coverage for these horizon groups, this is less than in the population at large, but it is still a nontrivial fraction. Another 27 percent report a saving horizon of the “Next Few Years.” Given the

save more than impatient workers, the employer match allows patient workers to receive more in total compensation from the employer.

variety of saving motives shown in Table 1 that could give rise to short saving horizons, there are clearly a substantial number of households whose saving objectives cannot be met by the illiquidity of the assets or entitlements in their pension plans.²² The remaining two columns of the table show that these workers are on average lower income and younger than those who report longer saving horizons.

Imperfections in the labor market are required to support this allocation of workers to pension covered jobs. One possible imperfection is that the labor market is not competitive enough to offer an identical job with the same total compensation that offers more of that compensation as wages rather than pension contributions. Given an overall rate of pension coverage of only 54 percent and the costs to the employer of administering a pension plan, this explanation is doubtful. Alternatively, such a job may exist, but a high cost of searching for that better combination of wages and pensions keeps impatient workers in jobs with pension coverage that they value very little.

Another possible labor market imperfection is that workers with short saving horizons do not have to give up wages (or other fringe benefits that they do value) in order to receive the pension contributions from the employer. A complicated set of nondiscrimination rules requires a rough parity of coverage, participation, and contributions made across different categories of employees if the contributions are to be tax advantaged. In the case of pensions, the categories are highly and non-highly compensated workers.²³ Regulations such as nondiscrimination rules are common when

²² Strictly speaking, the table applies only to the pension covered population as a whole and not individually to each firm that offers a pension. It could be that, within the set of firms that offer pensions, workers with short saving horizons are in pensions with low employer contributions and generous loan and withdrawal provisions and those with long horizons are in generous pensions with less immediate liquidity.

²³ See Chapter 5 of McGill, Brown, Haley, and Schieber (1996) for a description of nondiscrimination rules.

an exception is made to the income tax code to ensure that the benefits of that exception are distributed in a way that is deemed to be equitable.

Table 2 shows that compensation is correlated with the saving horizon, so it is reasonable to expect these rules to be binding. This prediction is confirmed by Garrett (1995), who demonstrates large effects of the rules on the contributions made by employers on behalf of non-highly compensated workers relative to highly compensated workers. Further evidence on the effects of nondiscrimination rules is presented in Carrington, McCue, and Pierce (2000). They use firm-level data on compensation packages to analyze the variation in pensions, wages, and other fringe benefits. They have two main findings that are consistent with an effect of nondiscrimination rules on the distribution of pension entitlements. First, they find that differences across pension entitlements across workers in the same firm account for 36 percent of the total variation in pension entitlements across all workers in their sample. This is substantially less than the corresponding estimate of 53 percent for the within-firm component of wage variation. Nondiscrimination rules appear to make pension entitlements more homogeneous than wages. Second, they show that, controlling for the level of own compensation, the share taken as pension benefits increases with the average compensation of the other workers at the firm. In the absence of nondiscrimination rules (or other impediments to perfect sorting), the average compensation of other workers would have no effect on the pension entitlements of a given worker.

In effect, nondiscrimination rules are a tax on the employment of workers who have high rates of time preference, because pension contributions are favored by the tax code. Employment costs are increased without a corresponding benefit to the firm or the

worker. To the extent that these workers can be identified, they may bear the incidence of this tax through lower wages and reduced employment opportunities. To the extent that these workers cannot be identified, or that nondiscrimination rules are binding, the incidence of the tax can be shifted to the workers with low rates of time preference or the employer.

Implications for Social Security Reform

To summarize, there is evidence that workers differ in their patience or rates of time preference. Less patient workers have a lower willingness to forego wages for pension contributions. These differences are not necessarily observable to outsiders such as the employer and so cannot be made a part of the employment contract explicitly. However, the correlation between patience and income, along with the progressive income tax rate schedule, both suggest that the high income workers at a given firm are the natural clientele for compensation taken in the form of pensions. Imperfections in the labor market, abetted by nondiscrimination rules, prevent complete sorting of workers into jobs that offer their optimal combination of wages and pensions, given their productivity. In equilibrium, both the employer and the patient, generally high-income workers bear some of the incidence of subsidizing the contributions of the impatient, generally low-income workers.

Social Security reform can therefore affect private pensions by changing the magnitude of this subsidy, quite apart from how it affects the overall supply and demand for pension contributions. For example, consider a simple reform of Social Security that cut benefits only for low-income workers. Relative to high-income workers, low-income workers become more willing to accept lower wages for higher pension contributions.

The direct effect of this higher demand is for the employer to make the pension more generous for the low-income workers. If the employer was previously constrained by the nondiscrimination rules, then that constraint will now be relaxed, making it possible for the employer to *also* offer the high-income workers a compensation package that consists of more pension contributions and lower wages. Because of the tax advantage of pensions, this change will also raise the firm's profits.

This expansion in the pension contributions on behalf of high-income workers even though their Social Security benefits were not changed by the reform illustrates the mechanism through which Social Security reform can affect the distribution of pension entitlements by changing the *relative* demands for pensions by low- and high-income workers.

4. PENSION PLAN INTEGRATION

Whenever there is a change to Social Security, employers are induced to change their pension plans because, in light of the change, another plan design may better achieve the savings objectives of the workers. All pension plans are therefore implicitly linked to Social Security, since the optimal use of the tax advantage of the pension depends on the other resources available to retirees. Additionally, some plans are also explicitly linked to features of the Social Security system through pension plan integration. This section provides some background on pension plan integration and argues that the defining characteristic of integrated plans does not pose any additional substantive challenge for ascertaining the effects of reform on the pension plan.

Pension plans can be formally integrated through the Offset method and the Excess method. Under the Offset method, defined benefit pension plans can deduct a percentage of the retiree's Social Security benefits from the benefits paid by the pension. In most cases, the plan uses an estimate of the benefits rather than the actual benefits paid to each individual. Since the Social Security benefit formula gives higher replacement rates at lower earnings levels, integrating the plan via the Offset method has the effect of allowing the firm to devote its resources to higher paid employees. Not surprisingly, there are nondiscrimination rules on how much the benefit offset can affect low- versus high-earning workers. There are also rules that prevent an employee's entire pension from being eliminated and a maximum offset of 50 percent of the Social Security benefits. For example, if a retiree's pension and Social Security benefits were \$10,000 and \$4,000 per year, an offset rate of 25 percent would leave her with a total retirement income of \$13,000 instead of \$14,000.

Under the Excess method, a defined benefit pension plan can provide higher replacement rates on pension covered earnings above the Social Security MTE than on earnings below the MTE. There are nondiscrimination rules that limit the differential between these replacement rates. For example, consider a worker who retires with final average compensation of \$100,000 and 20 years of service. If the plan credited years of service below the MTE at 0.75 percent per year and years of service above the MTE at 1.25 percent per year, then the retiree would receive (in 2000 when the MTE is \$76,200):

$$20 * 0.0075 * 76,200 + 20 * 0.0125 * (100,000 - 76,200) = 11,430 + 5,950 = \$17,380.$$

Defined contribution pension plans can be integrated in a manner similar to Excess

method, with higher contribution rates on earnings above the MTE and nondiscrimination rules restricting the amount of the differential.

Ostensibly, integrated pensions attempt to provide workers of all earnings levels with roughly equal benefits from the combination of the pension and Social Security or roughly equal contribution rates from the employer to the combination of pensions and Social Security. In practice, pension plan integration is a method that employers can use to direct their resources toward higher income workers, as the model in the previous section suggests will be in their interests. Tabulations of the 1992 Health and Retirement Study in Slusher (1998) indicate that of respondents age 51-61, 64.2 percent had a pension on a current or past job. Of these workers, 38.8 percent had participated in at least one pension plan that was integrated with 18.9 percent having had an Offset plan and 23.0 having had an Excess plan or an integrated DC plan.

The explicit link between pensions and Social Security in integrated plans seems to suggest that pension benefits will change automatically in response to reductions in benefits or increases in the MTE.²⁴ For example, a reduction in benefits would lessen the amounts that are deducted from Offset plans. The percentage offset in the plan is the fraction of the Social Security benefit cut that would be recouped by the beneficiary.²⁵ Merton, Bodie, and Marcus (1987) discuss how this type of integration could serve in theory as insurance against the uncertainty in Social Security benefits if the employer committed firmly to a replacement rate inclusive of the worker's actual Social Security benefit. In practice, pension plans are integrated to achieve cross-sectional redistribution

²⁴ Slusher (1998) and Bender (1999) analyze the characteristics of workers covered by integrated pension plans and discuss the implications of Social Security reform for integrated pension plan design.

toward high-income workers who get low replacement rates from the existing Social Security benefit formula, not as insurance against the risk that all workers will be promised a lower replacement rate from the Social Security system after fundamental reform.

Any differences between integrated and other plans in their sensitivities to Social Security reform are more apparent than real. Because an integrated plan relies explicitly on a feature of the Social Security system to generate its distribution of replacement rates, a change in that feature requires the firm to specify whether the old pension formulas apply to the new feature. For example, if the MTE is increased as part of Social Security reform, then the firm must clarify whether the integration will occur at the old or the new MTE.²⁶ However, the more important effect of the change in the MTE is that it changes the anticipated distribution of retirement replacement rates across the workers. The model in the previous section suggests that a change in the MTE will cause *all* pension plans to change their provisions to restore a distribution of pension benefits that achieves the firm's objectives given the new MTE.

It would not be surprising, however, if some of the most dramatic responses to fundamental Social Security reform were found in plans that are currently integrated with Social Security. Pension plan integration is likely to be an indicator that the employer is aware of the potential for redistribution and targeting of benefits through the pension. Integration might also indicate a set of low-income workers who are content with a plan

²⁵ In contrast, increases in the MTE make the pension plan appear less generous to high-income workers because the higher replacement (or contribution) rate on compensation above the MTE applies to a smaller excess amount.

²⁶ Historically, major tax and regulatory changes, such as the Social Security legislation in 1983 and the Tax Reform Act of 1986, have precipitated changes in integration rules. See Chapter 15 of McGill, Brown, Haley, and Schieber (1996) for a description of pension plan integration.

in which they get comparatively little from the pension benefits relative to their higher-income colleagues.²⁷

5. THE IMPACT ON EMPLOYER-PROVIDED PENSIONS

Table 3 summarizes the broad range of possible reforms discussed in Section 2. Following that discussion, benefit cuts are listed first, followed by tax increases, individual accounts, and other reforms. The columns of the table summarize the channels through which reforms can affect private pensions. The discussion of each of these columns in turn provides the organizing framework for the analysis.

The first column pertains to the impact that reform can have on the supply of pensions through changes in the resources available to employers to make pension contributions. Not surprisingly, only reforms that increase taxes paid in to the existing PAYGO system or a new system of individual accounts will have effects on the supply of pensions. Greater contributions to Social Security or individual accounts will lower contributions to pensions. Reforms that restore solvency by reducing future benefits do not have any effects on the ability of employers to make pension contributions. These entries in the table are denoted by an ellipsis (...).

The second column in Table 3 pertains to the impact that reform can have on the overall demand for pensions through changes in lifetime budget constraints of workers. This column captures the direct effect of the reform due to life cycle saving and does not distinguish between different types of workers. All reforms tend to reduce the amount of resources that households will have available over their lifetimes. The key aspect of the

²⁷ Slusher (1998) notes that if Social Security reform includes a switch to individual accounts that are invested in risky securities, then integration under the Offset method becomes more difficult to implement.

reform is when that reduction occurs. If the reduction occurs during retirement, then the need for life cycle saving increases and so too will the overall demand for pensions. This is the case with any reform that cuts benefits (including an increase in the income tax on benefits). In contrast, the two reforms listed at the bottom of the table—crediting earnings for years spent in caregiving and increasing widow’s benefits—increase post-retirement income and thereby decrease the need for life cycle saving and the demand for pensions.

If the reduction in worker resources occurs before retirement, as is the case with higher taxes or the establishment of individual accounts, then the need for life cycle saving decreases. This decrease will reduce the overall demand for pensions. Some of the reforms that are listed as tax increases actually embody a small expansion in future benefits as well. For example, when newly hired state and local government workers are brought into the system, they will pay higher taxes today and receive higher benefits in the future. For both reasons, they will demand less of an employer-provided pension. The reason this reform is nonetheless treated like a tax increase is that previously, these workers were not helping to finance the payments to current retirees in the PAYGO system. On balance, their lifetime resources are lower because a portion of their savings is now taxed away for this purpose.

Establishing a system of individual accounts can also affect the budget constraint in both the pre- and post-retirement periods. If the individual accounts serve only to replace PAYGO benefits with an equivalent payout from the account, then there will be no change in post-retirement income. Such a system would require the accounts to be invested in riskless, inflation-protected securities and paid out as annuities. If instead the

Employers wishing to integrate their pensions would be more inclined to use the Excess method.

accounts can be invested in risky securities, then the effects on post-retirement income will be ambiguous unless the government also provides a benefit guarantee. In such a scenario, post-retirement income will be higher because the retiree will have more options for collecting income (risky investing or the guarantee). Similarly, individual accounts that supplement the existing PAYGO system, such as the RSPAs proposed during the presidential campaign, will increase retirement income and thereby reduce the demand for employer provided pensions.

The next column in Table 3 pertains to the effect of reform on pensions through the changes in the relative demands for pensions by different groups of workers. As discussed in Section 3, the critical element in each case is the incidence of the change in Social Security on the two groups of workers—patient and impatient—recalling that the former tends to have higher income than the latter. When the demand for pensions increases more for low-income workers than for high-income workers, the nondiscrimination rules will be less likely to bind. This will enable the employer to offer a greater share of compensation as pensions to all workers, not just the low-income workers.

This effect appears in two places. The first is when post-retirement income is reduced disproportionately for low-income workers through benefit cuts. Reducing benefits through across the board reductions in the PIA will clearly affect the benefits of low-income workers more than those of high-income workers. Making cost of living adjustments less generous will reduce the benefits of high-income workers by more, given the positive correlation between lifetime income and longevity. Subjecting more of benefits to tax or increasing the rate at which they are taxed will also affect high-income

workers by more than low-income workers. This determination is ambiguous for the other two benefit cuts listed in the table. It is not clear which group of workers' marginal years of earnings are lower relative to their average earnings. Nor is it clear which group would be more affected by an increase in the normal retirement age for Social Security. Ultimately, these are questions that must be resolved empirically.

The second place where the effect of changes in relative demands for pensions appears is when taxes are raised disproportionately on high-income workers. As noted above, the tax increase reduces their demand for pensions based on life cycle considerations. However, that initial reduction in their pension contributions will relax the nondiscrimination constraints if they are binding. In that case, the employer can reduce the pension contributions made on behalf of the low-income workers. Thus, part of the higher tax burden on the high-income workers can be offset by reducing the implicit cross-subsidy of the low-income workers. Low-income workers will have their pensions scaled back, even if their tax rates are not specifically changed in the reform.

Thus, tax increases or contributions to individual accounts that are financed disproportionately by high-income workers will have larger reductions in pension coverage than will tax increases that are financed disproportionately by low-income workers. Considering the tax increases in the table, increases in the maximum taxable earnings level disproportionately affect high-income workers, whereas increases in the payroll tax rate disproportionately affect low-income workers. For the individual account reforms, the effect will be ambiguous for those that use the account to substitute for a portion of the PAYGO benefits. However, if the individual accounts are similar to the USA or RSPA plans discussed above, then they clearly have the effect of increasing

retirement benefits by more for low-income workers. In that case, they tend to make the nondiscrimination rules more likely to bind.²⁸

The last column of the table considers the effects that Social Security reform may have on the form that pensions take, rather than their overall level of generosity. Some reform proposals reduce benefits by reducing cost of living adjustments. As noted above, reducing the COLA has the effect of reducing the degree of annuitization in Social Security, because the real value of benefits is lower at higher ages. This particular type of benefit cut may increase the demand for annuities as the desired form of payout of pension balances. That increase might also come in the form of a more generous COLA on defined benefit pension plans.²⁹

Increasing the Social Security normal retirement age (NRA) presents several possible complications to pension plans. If the NRA is increased without a parallel increase in the early retirement age (ERA), then the critical effect occurs at the current ERA of 62, as most workers with a pension are retired before they reach the Social Security NRA. Under the current system, the hazard rate of retirement is sharply higher at age 62 than at other ages. This spike in retirement rates is likely due to the need for liquidity in income among potential retirees. DB pension plans also have early and normal retirement ages, and these ages are typically lower than the ERA and NRA for

²⁸ The interaction between government-sponsored accounts and nondiscrimination rules has been examined. Salisbury (1999) presents evidence from a large survey of 401(k) plan sponsors on the likely effect of the Clinton USA plan on the ability of the plan sponsors to meet the nondiscrimination rules. Salisbury's estimates indicate that between 13 and 26 percent of plans would fail the nondiscrimination rules if eligible workers stopped making voluntary contributions to their 401(k) plan in favor of the new account. As a result, the Gore proposal for RSPAs included provisions to give relief from the nondiscrimination rules if the failure is due to participation in RSPAs by low-income workers. Despite this relief, there still remains the possibility that RSPAs make low-income workers less willing to accept lower wages in exchange for pensions, because the RSPA decreases their current income and increases their retirement income.

Social Security. For example, a common ERA for pensions is age 55. DB pension formulas are often structured to offer financial incentives to remain with the firm until the ERA and then to depart shortly thereafter. This is facilitated by supplementing the early retirement pension by an extra amount in the years between the ERAs on the plan and on Social Security.

If the Social Security ERA does not change, then the effect of the higher Social Security NRA is to reduce the level of the benefit available at age 62. Workers are less likely to retire at age 62, but, conditional on wanting to retire at 62, they will prefer to have less of a supplement and more of a benefit that continues beyond the ERA. If the ERA increases along with the NRA, then workers will absorb the benefit cut largely by postponing retirement until the new ERA. The natural response for the employer is to increase the ERA in the pension plan to help preserve the same number of years of supplemental payment, or to reduce the benefit that continues beyond the new ERA in favor of more years of the supplement prior to the new ERA.

By far the most dramatic reforms that have been proposed pertain to the establishment of individual accounts to replace a portion of Social Security benefits that would otherwise have to come from the pay-as-you-go system. In the typical setup, individual accounts differ from a straight increase in the payroll tax by investing in higher return, higher risk portfolios. This allows the expected replacement rate to be funded with a lower annual contribution than would be required for a payroll tax hike, at the cost of greater financial risk to a portion of retirement income.³⁰

²⁹ Some defined benefit pension plans have a formal cost of living adjustment in the plan. Other plans give periodic, ad hoc increases to retirees at the plan sponsor's discretion.

³⁰ See Feldstein, Rangelova, and Samwick (1999) for simulations of the distribution of benefits from individual accounts under a variety of transition scenarios.

What is new to the discussion is the impact of the portfolio shift from the Social Security benefit to the financial account.³¹ The effect of the portfolio shift comes primarily from the ways that workers will attempt to prepare for that risk. We can expect precautionary behavior to manifest in two ways. First, workers will attempt to reduce the riskiness of their other financial asset portfolios to temper the amount of total risk that they face. Defined contribution assets can be expected to shift toward safer assets. Second, the added risk will encourage a greater level of total saving, particularly among patient workers who are already saving for retirement. They will seek to increase their contributions to pensions to provide this higher income in retirement when their total income is subject to more risk. Since the impatient workers as a group will have less of an inclination to increase retirement saving, nondiscrimination rules may bind more severely when these modifications are attempted. Taken as a whole, attempts to offset the effects of individual accounts will reduce both risk and expected returns on pensions but increase total assets in the pension system.

6. CONCLUSIONS

The analysis in this paper establishes a framework for analyzing the likely impact of Social Security reform on employer-provided pensions. The framework incorporates the standard effects on the supply of pension contributions by employers and the life cycle demand for pensions by workers. Its main analytical contribution is to also incorporate heterogeneity both in tastes for saving and imperfections in the way workers are matched to firms based on their desired mix of wages and pensions.

³¹ As discussed in McHale (1999), evidence on unanticipated benefit reductions from a variety of countries suggests that it is incorrect to think of the Social Security benefits promised under current law as if they

Any pension plan is likely to cover two types of workers. Those in the first group have saving horizons that extend to retirement and are therefore willing to accept lower wages in exchange for pension benefits. Those in the second group have much shorter saving horizons and are therefore unwilling to forego wages to obtain pension benefits. These two can co-exist if the employer and the workers in the first group are willing to devote some of their tax savings to make contributions on behalf of the workers in the second group. The key to understanding the full effect of any potential reform on employer-provided pensions is to determine how it changes the relative demands for tax advantaged saving by each of the two groups.

There are several important areas for future research. First, the public debate on Social Security reform requires more specifics from policy makers on how the long-term annual gap in finances will be closed. Some suggestions along these lines are set forth in Social Security Advisory Board (1999).

Second, because the model of pension plan determination operates at the level of the employer, data must be collected at the employer level and supplemented with detailed demographic and economic data about employees (and financial and economic data about the employers). Think of a dataset that linked the Bureau of Labor Statistics' Employee Benefits Survey, the Health and Retirement Study, and Compustat. The data collected by EBRI that is used in Salisbury (1999) and even those of a single firm, as in Kusko, Poterba, and Wilcox (1997), are good starting points.

Third, more work is clearly needed in understanding the full model of saving. Extending the deterministic life cycle model to include uncertainty was important, as was the introduction of target saving behavior. But even that model is incomplete. Recent

were riskless.

theoretical advances in habit formation and non-exponential discounting are clearly relevant to the way households save, as are behavioral models that rely on psychological factors other than the standard utility maximization paradigm in economics.

Additionally, research on portfolio allocation over the life cycle is even less comprehensive than research on the size of the portfolio. As Social Security and employer-provided pensions continue to rely more heavily on individual accounts, informed policy requires a more thorough understanding of how households choose to allocate their retirement portfolios.

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Table 1

Household Reasons for Saving, by Age

Reason for Saving	Age Category						All	Any Mention
	Under 25	25 - 34	35 - 44	45 - 54	55 - 64	Over 65		
Retirement	11.83	31.06	37.73	49.69	56.38	39.25	39.61	57.17
Uncertainty	20.59	18.22	19.61	19.56	18.93	28.53	19.47	32.84
Home Purchase	17.72	9.52	3.72	1.57	0.08	0	4.94	9.75
Other Housing	17.43	15.43	14.18	8.2	1.78	1.98	11.5	22.99
Transfers to Family	4.67	1.65	1.55	1.62	3.46	2.93	2.02	6.88
Special Purchases	8.62	7.64	11.71	9.03	4.74	6.4	8.92	23.80
Investment/Business	0.54	0.21	0.8	0.02	0.59	0	0.41	1.60
Cover Expenses	3.86	1.95	1.17	1.3	1.72	3.96	1.69	3.49
Good Idea/Get Ahead	13.55	11.82	7.83	7.15	10.76	9.76	9.39	12.79
Don't/Can't Save	1.19	2.49	1.69	1.87	1.55	7.18	2.05	2.08
Population Share	5.49	25.47	31.20	23.53	11.50	2.82	100.00	

Source: Author's calculations from the Survey of Consumer Finances, 1998

Notes:

- 1) Question is "What are your (family's) most important reasons for saving?"
- 2) Sample consists of all respondents and spouses who earn nonzero income.

Table 2

Pension Coverage and Saving Horizons

Saving Horizon	Probability of Pension Coverage	Fraction of Pension Covered Workers	Median Earnings (Thousands)	Median Age
Next Few Months	45.10	13.46	25	37
Next Year	41.05	9.01	26	38
Next Few Years	51.80	26.76	28	40
Next 5 - 10 Years	59.78	28.98	34	45
Over 10 Years	63.56	21.80	36	39
Total	53.70	100.00	30	41

Source: Author's calculations from the Survey of Consumer Finances, 1998

Notes:

- 1) Question is "In planning your (family's) saving and spending, which of the time periods listed on this page is most important to you?"
- 2) Sample consists of all respondents and spouses who earn nonzero income.

Table 3
Summary of Major Social Security Reform Proposals

Possible Reform	Direct Effect on Employer Resources	Direct Effect on Worker Resources	Pre-Retirement Post-Retirement	Wage Level of Workers With Larger Change in Demand	Other Effects on Pension Plan Design
Benefit Cuts					
Percentage Reductions in PIAs	...	...	Lower	Low	...
Less Generous COLAs	...	...	Lower	High	More Annuitization
Include More Years in AIME	...	...	Lower	Ambiguous	...
Increase Normal Retirement Age	...	...	Lower	Ambiguous	Accommodate
Increase Income Tax on Benefits	...	...	Lower	High	...
Tax Increases					
Include New State and Local Employees	Lower	Lower	Higher	Ambiguous	...
Increase the Maximum Taxable Earnings	Lower	Lower	Higher	High	...
Increase the Payroll Tax Rate	Lower	Lower	...	Low	...
Individual Accounts					
Used to Replace Some PAYGO Benefits	Lower	Lower	...	Ambiguous	Less Financial Risk
Replacement, with a Benefit Guarantee	Lower	Lower	Higher	Ambiguous	...
Used to Supplement PAYGO Benefits	Lower	Lower	Higher	Low	...
Other Recently Proposed Reforms					
Credit Earnings for Years of Caregiving	...	...	Higher	Low	...
Increase Widow Benefits	...	...	Higher	Ambiguous	...

Notes: Reforms are discussed in Section 2. The effects on pension coverage are analyzed in Section 5.

Figure 1
Estimated Income and Cost Rates, Intermediate Assumptions

