The Limits of Saving

Pamela Perun

THE RETIREMENT PROJECT

Occasional Paper Number 7
ABOUT THE SERIES

THE RETIREMENT PROJECT IS A MULTIYEAR research effort that will address the challenges and opportunities facing private and public retirement policies in the twenty-first century. As the number of elderly Americans grows more rapidly, Urban Institute researchers will examine this population’s needs. The project will assess how current retirement policies, demographic trends, and private-sector practices influence the well-being of older individuals, the economy, and government budgets. Analysis will focus on both the public and private sectors and will integrate income and health needs. Researchers will also evaluate the advantages and disadvantages of proposed policy options. Drawing on the Urban Institute’s expertise in health and retirement policy, the project will provide objective, nonpartisan information for policymakers and the public as they face the challenges of an aging population. All Retirement Project publications can be found on the Urban Institute’s Web site, http://www.urban.org. The project is made possible by a generous grant from the Andrew W. Mellon Foundation.
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LIKE RIP VAN WINKLE, BABY BOOMERS HAVE awoken to find that they have aged. Their retirement is looming, and now it seems that everyone is worried about saving for it. The popular press, with the assistance of the financial services industry, has made saving for retirement a trendy topic. Financial planning advice and products devoted to retirement savings fill the daily newspaper, the media, and even the Internet.

When concerns over retirement income arise, we usually look to the private pension system for solutions. Recently, Congress has been considering a set of proposals that increase the amount people can save through the private pension system by raising limits on contributions to defined contribution plans. The current limits have not been raised in several years. In fact, in many respects, they are much lower than they were in the early 1980s. These reform proposals would largely restore previous limits, reversing a 20-year trend of restricting pension contributions in order to reduce federal budget deficits and distribute tax benefits more evenly.

Many view these proposals as a means, in an era of budget surpluses, of reclaiming the private pension system’s intended status. Raising contribution limits may also be an appropriate response to employers’ growing belief that employees must assume more responsibility for their retirement income. Many employers, for example, have reduced their own contributions to defined contribution plans or terminated defined benefit plans, leaving employee savings to fill the gap. Others have shifted from outright contributions to matching contributions. But proposals to raise contribution limits are highly controversial. Although some people feel that the long-overdue changes will restore the pension system’s ability to generate adequate retirement income after years of cutbacks and restrictions, others think the changes will provide extra tax benefits to wealthy Americans without substantially raising overall retirement savings.

How might raising the limits on contributions to defined contribution plans affect individual retirement savings through the private pension system? Using a model of hypothetical lifetime savings, this paper analyzes the reform proposals for a sample of defined contribution plans that permit individuals to choose how much to save for retirement every year.

The paper argues that the reforms would do little to change the savings status quo in the private pension system. Any positive effect is found primarily among higher-income individuals and individuals who can afford extremely high savings rates under the raised limits. Some negative effects—perhaps due to model assumptions—are found among lower-income individuals who try to save at a high rate. Current contribution limits comfortably accommodate more plausible savings rates for all income levels.

Consequently, the primary effect of the proposals is to enable higher-income individuals who would like—and can afford—to save more for retirement to do so with more federal tax dollars. The proposals do little to provide extra incentive to those who can afford to save more but do not. Nor do they provide additional benefits to those who can afford to save only a little or nothing at all. As a result, more constructive reforms of the private pension system, with greater potential to increase saving, are warranted. Ideally, such reforms would rationalize the number and types of plans available and help those left behind by today’s private pension system.

THE STUDY

Evaluating reform proposals to the private pension system is a difficult task. The complex system has many plan types, sources of funding, intricate rules, and special exceptions. In addition, the savings decisions that people make, regardless of their purpose, are not well understood. Therefore, it seems appropriate to test the reform proposals using a very simplified model of the private pension system. Because these proposals are designed to enable individuals to save more for retirement, this paper focuses exclusively on each proposal’s effect on plans permitting individuals to decide how much to save for retirement each year. For each plan, it compares hypothetical lifetime savings under current law (before reform) and proposed law for two different groups: those who save the maximum amount allowed each year (“maximizers”) and those who save 5 percent of their pretax income each year (“steady savers”).

This study does not attempt to analyze how much people should, or do, save for retirement. Nor does it assess the impact of these proposals on increasing society’s overall savings (which may be an independent policy goal). Even if there were an empirical basis for such analyses—none currently exists—this study has a different focus. It examines how much people could save in a lifetime, given certain propensities to save, and looks at limits in the current tax code versus those in the reform proposals. This analysis is solely concerned with savings and associated tax subsidies within a subset of private pension system plans; it does not take employer contributions or participation in multiple plans into account. In addition, no attempt is made to estimate or analyze the effects of savings in other forms—home ownership, equi-
The Retirement Plans

The sample plans are all defined contribution plans. They include 401(k)s, 403(b)s, and 457s for employees; individual retirement accounts (IRAs) for employees whose employers do not have plans; and Simplified Employee Pensions (SEPs) and money purchase plans (MPPs) for self-employed individuals (see appendix A for brief histories and descriptions of each plan).

The core set of plans—401(k), 403(b), and 457 plans—explicitly permit employees to decide (within tax code limits) how much to save for retirement every year, a relatively new feature in the private pension plan system. IRAs provide a similar savings arrangement. Self-employed individuals are included in the analysis because they have similarly flexible savings choices with MPPs, which are the most generous defined contribution plans, and SEPs, which are less generous but more popular.

The Contribution Limits

Table 1 describes the relevant limits on contributions under both current law and the proposed changes for each sample plan. Although each plan involves many limits, there are essentially three to keep in mind. The first, under Internal Revenue Code (I.R.C.) § 401(a)(17), limits the amount of compensation that can be used to calculate contributions. Where it applies, this limit for year 2000 is $170,000. The second, under I.R.C. § 415(c)(1), limits the amount that can be contributed to an individual account each year; where applicable, this limit is currently $30,000 or 25 percent of what a worker is paid (whichever is lower) and generally includes contributions from both employers and employees. The third, under I.R.C. § 402(g) and 457(b)(2), limits the amount that an individual can contribute to a 401(k), 403(b), or 457 plan. In year 2000, this limit is $10,500 for 401(k) plans and 403(b) plans and $8,000 for 457 plans.

Among the plans, 457s are simpler than either 401(k)s or 403(b)s. Under current law, each employee can contribute to a 457 a fixed amount ($8,000 in year 2000) or 25 percent of his or her earnings, whichever is lower. Both 401(k)s and 403(b)s are more complex. Special rules are designed to encourage low-paid employees to participate in 401(k)s. Under a 401(k) plan, the amount that highly paid employees (generally those earning at least $55,000 a year) can contribute as a group depends on how much low-paid employees contribute as a group. Rules governing 401(k) plans also restrict an employee’s annual individual contributions to whichever is lower: a fixed amount ($10,500 in year 2000) or 25 percent of his or her compensation. While low-paid employees always have the option to contribute as much as they wish under this annual limit, highly paid employees may not be able to contribute as much as they wish if low-paid employees contribute too little to the plan.

The most complicated of the three plans are 403(b)s. They have the same annual individual contribution limit as 401(k) plans, but they also have an additional limit called a maximum exclusion allowance (MEA). In contrast to 401(k)s, which focus on contribution differentials between low-paid and highly paid employees, the MEA sets an individual cumulative ceiling on contributions; the ceiling must be tested annually.

Like 457s, IRAs are also simple plans. Any individual without a plan at work can contribute up to $2,000 a year on a pretax basis. For self-employed individuals, SEPs and MPPs are relatively simple arrangements—provided, as is assumed in this study, there are no other employees. As a general rule, an MPP permits a self-employed person with no employees to contribute whichever is smaller: $30,000 or 25 percent of his or her earnings. A self-employed person with no employees who is saving through an SEP is limited to an annual contribution of whichever is lower: $30,000 or 15 percent of his or her compensation. It is important to note that the “earned income” of self-employed individuals is computed after deducting such items as plan contributions and one-half of self-employment taxes paid from gross earnings. This calculation essentially reduces the compensation limit to 20 percent for an MPP and 13 percent for an SEP.

The reform proposals would make the following changes:

- Standardize the contribution limits in 401(k), 403(b), and 457 plans;
- Raise the cap on compensation from $170,000 to $200,000;
- Over a five-year period, raise the dollar limit for contributions by employees in 401(k), 403(b), and 457 plans to $15,000;
- Raise the compensation limit from 25 percent to 100 percent; and
- Raise the limit on annual individual contributions from $30,000 to $40,000.

The Model

The model used in this study creates hypothetical patterns of retirement contributions, earnings, and distributions for six identical individuals, each of whom saves for retirement under only one of the six sample plans. For this paper, the model analyzes two types of savers: maximizers (who save the maximum amount permitted under each plan each year) and steady savers (who save 5 percent of before-tax compensation each year).

Each individual is assumed to begin saving in 2001, the year he or she turns 35. In order to simplify the analysis...
<table>
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<th>Comparison of Relevant Limits</th>
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<td><strong>CONTRIBUTION LIMITS</strong></td>
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<td>IRA</td>
<td>Lesser of $2,000 or compensation</td>
<td>Compensation</td>
<td>Contribution deductible if no employer plan</td>
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<tr>
<td>401(k)</td>
<td><strong>Current Law</strong>: Lesser of $10,500 or 25 percent of compensation</td>
<td><strong>Current Law</strong>: $170,000</td>
<td>Average contributions by the highly paid limited to 125 percent of the average percentage contributed by the non–highly paid or twice the percentage contributed by the non–highly paid and that percentage plus 2</td>
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<td><strong>Proposed Law</strong>: Lesser of $15,000 (by 2005) or 100 percent of compensation</td>
<td><strong>Proposed Law</strong>: $200,000 (in 2001)</td>
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<td>403(b)</td>
<td><strong>Current Law</strong>: Least of $10,500, 25 percent of compensation, or Maximum Exclusion Allowance (MEA) (20 percent of compensation times years of service minus prior contributions)</td>
<td><strong>Current Law</strong>: $170,000</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td><strong>Proposed Law</strong>: Lesser of $15,000 (by 2005) or 100 percent of compensation</td>
<td><strong>Proposed Law</strong>: $200,000 (in 2001)</td>
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<tr>
<td>457</td>
<td><strong>Current Law</strong>: Lesser of $8,000 or 25 percent of compensation</td>
<td><strong>Current Law</strong>: None</td>
<td>Contributions calculated on the basis of compensation minus contributions</td>
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<td></td>
<td><strong>Proposed Law</strong>: Lesser of $15,000 (by 2005) or 50 percent of compensation</td>
<td><strong>Proposed Law</strong>: None</td>
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<td>SEP</td>
<td><strong>Current Law</strong>: Lesser of $30,000 or 13 percent of compensation</td>
<td><strong>Current Law</strong>: $170,000</td>
<td>Overall 15 percent deductible limit on all contributions</td>
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<td></td>
<td><strong>Proposed Law</strong>: Lesser of $40,000 (by 2005) or 13 percent of compensation</td>
<td><strong>Proposed Law</strong>: $200,000 (in 2001)</td>
<td>For self-employed, contributions calculated on the basis of gross earnings minus contributions</td>
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<tr>
<td>MPP</td>
<td><strong>Current Law</strong>: Lesser of $30,000 or 20 percent of compensation</td>
<td><strong>Current Law</strong>: $170,000</td>
<td>For self-employed, contributions calculated on the basis of gross earnings minus contributions</td>
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<tr>
<td></td>
<td><strong>Proposed Law</strong>: Lesser of $40,000 (by 2005) or 50 percent of compensation</td>
<td><strong>Proposed Law</strong>: $200,000 (in 2001)</td>
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as much as possible, the model assumes that individuals save for retirement exclusively through the private pension system and through one type of plan during their work lives. To compute the value of a given plan and its tax benefits, the model also includes a control (a twin) who has no retirement plan but who saves the same amount on a pretax basis. Savings continue until each individual reaches age 65 in 2031 and retires. Distributions begin in the first year of retirement and continue for 10 years.

Contributions are assumed to be invested 60 percent in equities (with a 7 percent real rate of return and a 9.4 percent nominal rate of return) and 40 percent in bonds (with a 3 percent real rate of return and a 5.4 percent nominal rate of return). Discount rates used in the study to calculate present values are a weighted average of these real rates of return. Twins are assumed to realize 30 percent of the equity portion of their portfolios each year, even in retirement. They pay capital gains taxes on realized amounts and reinvest the remainder in equities. Interest on the bond portion of their portfolios is taxed at ordinary income tax rates, with the remainder reinvested in bonds. These parameters are fixed throughout each individual’s life. For individual tax calculations, it is assumed that individuals are single and take the standard deduction each year. This, along with their earnings and their contributions to a plan, determines taxable income and thus their relevant tax bracket (i.e., marginal tax rate). Tax rates are assumed to remain consistent with current law, and tax brackets are adjusted annually for inflation under current rules. A 2.4 percent annual increase in inflation is also assumed. Contribution, compensation, and other limits under each plan are adjusted for inflation as prescribed under current law.

The Graphs
The horizontal axis of each graph indicates compensation, defined as the level of income earned in 2001 (the initial year of savings) when each individual is 35. In the discussion below, it is important to remember that the term “income” actually refers to income in the initial year of saving. Because all income profiles (rich and poor) are proportional, they can be taken as indicative of the individual’s lifetime compensation level.

For each of the six plans, individuals are simultaneously plotted across 24 income levels, beginning with the lowest-paid person (initial income of $10,000) and ending with an extremely highly paid person (initial income of $240,000). This income range covers three broad groups: individuals who are highly paid throughout their lifetimes, individuals who are never highly paid, and individuals who may or may not be highly paid in any given year. Data points are presented in increments of $10,000, beginning at $10,000 and ending at $240,000. This model assumes that each individual has a 1 percent real increase in earnings over his or her lifetime, with a real income peak at age 50. Each graph plots the six plans individually.

Contributions
The model computes two savings patterns, one for current law and another for the reform proposals, and then calculates the changes caused by the proposals. Current law is illustrated in the “before reform” graphs. The graphs labeled “changes” show the difference in lifetime savings due to the reform proposals, assuming that reforms are implemented.

Subsidies
The graphs also illustrate the subsidies available to maximizers and steady savers before reform and the difference as a result of reform. Saving through the private pension system can provide substantial tax subsidies not available through other means of savings. The tax code provides three special provisions: Plan contributions are made with pretax dollars, earnings on those contributions accumulate on a tax-free basis, and no taxes are paid on retirement benefits until payments are actually received. The first subsidy derives from the interplay between tax rates at the time of contribution and distribution: the greater the differential in tax rates, the greater the tax subsidy. In most situations, assuming tax rates stay the same, people will be in lower tax brackets in retirement than during their work lives. If so, they will save on taxes because their benefits will ultimately be taxed at lower rates. The second subsidy exists because taxes on contributions and earnings are deferred until benefits are distributed from the plan. This can provide an even more substantial tax benefit. The graphs consider the effect of the reform proposals on tax subsidies expressed as follows: total real subsidies, average percentage subsidies, and marginal subsidies.

CASE I: MAXIMIZERS
The analysis first examines the effects of increasing contribution limits by examining the most extreme savings profile, those belonging to maximizers. The following graphs illustrate the maximum total lifetime contributions and maximum value of various tax subsidies available through each plan under current law and after changes due to reform proposals. It is important to remember that although maximizers contribute the maximum amount deductible for tax purposes each year, theirs is not necessarily the optimal savings pattern for all individuals at all times.
Contributions
As the analysis below indicates, there are instances when some maximizers would actually be better off contributing less. Figures 1 and 2 illustrate the maximum total contributions (in 2001 dollars) associated with each plan.

Before Reform
In figure 1, the plans can be grouped into three levels: (1) IRAs; (2) 457s, 403(b)s, and 401(k)s; and (3) SEPs and MPPs. IRAs provide maximizers with the most limited ability to save for retirement. After 30 years of saving, the majority of maximizers have contributed only about $44,000 (close to $25,000 in present-value terms) toward their retirement. When earnings on those contributions are taken into account, most maximizers with IRAs have accumulations of about $125,000 in real dollars at age 65.

On the other hand, SEPs and MPPs provide self-employed maximizers with the greatest ability to save. The amount these maximizers can contribute increases up to $160,000 in income, at which point compensation limits curb contributions. The most maximizers can contribute is about $700,000 through an SEP and about $1,000,000 through an MPP ($350,000 and $525,000, respectively, in present value). When earnings are taken into consideration, maximizers with SEPs and MPPs and $10,000 in initial income have account accumulations at age 65 of about $100,000 and $170,000, respectively. Maximizers with these plans at initial income levels of $160,000 and greater have account accumulations of $1.7 million and $2.6 million, respectively.

Contributions for maximizers with 401(k), 403(b), or 457 plans also flatten out but at the much lower level of roughly $40,000 in initial income. The compensation limit restricts contributions at these income levels while the flat dollar limit ($10,500 for 403(b) and 401(k) plans and $8,000 for 457 plans) takes effect thereafter. A third limit, applicable only to 401(k) plans, restricts contributions by maximizers in the $70,000 to $120,000 initial income range. Maximum lifetime contributions by retirement are about $320,000 (401(k) plans), $330,000 (403(b) plans), and $260,000 (457 plans). The present value of those contributions is about $160,000, $170,000, and $130,000, respectively. Account accumulations at age 65 in real terms are about $820,000, $844,000, and $670,000.

Reform Results
The primary effect of the reform proposals is to make MPP, the most generous plan, even more generous. Even the poorest maximizers with MPPs, those earning $10,000 in initial income, can increase their lifetime contributions by about $100,000. Largely because they can increase contributions to 50 percent of income (up to a maximum of $40,000), those in the income range of $30,000 to $150,000 can contribute substantially more. Those with initial incomes of $80,000 benefit the most and can increase their lifetime contributions by about $700,000. Account accumulations at retirement for all maximizers who earn $80,000 are about $3.1 million, an increase of at least 80 percent. Maximizers with SEPs are not so fortunate. They benefit only from the increase in the plan compensation limit from $170,000 to $200,000. Those formerly affected by that limit increase their lifetime contributions by about $100,000. The reform proposals make no change to IRAs, the least generous plan.

A secondary effect of the reform proposals is to make 401(k), 403(b), and 457 plans far more uniform. First, the maximum exclusion allowance, effective only for 403(b) plans, and the 25 percent-of-compensation limit (for all but 457 plans) no longer apply. This primarily

FIGURES 1–2
Figure 1: Maximizers’ Lifetime Savings before Reform
Figure 2: Changes in Maximizers’ Lifetime Savings Due to Reform

Source: Perun-Stoft comparative plan savings model.
benefits low-paid individuals (those earning less than $40,000 in initial income). For example, maximizers at the $10,000 initial income level benefit the most, since they can contribute roughly an additional $80,000 to a 457 plan and $250,000 to a 403(b) plan or 401(k) plan. Second, the same contribution cap—increased substantially to $15,000 annually—applies to all three plans.

Maximizers with 457 plans benefit the most, largely because their dollar contribution limit almost doubles; the other two plans experience about a 50 percent increase in the limit. Maximizers with 457 plans and incomes above $40,000 increase their contributions by about $150,000; those with 403(b) plans contribute only about an additional $80,000. Maximizers with 401(k) plans and incomes between $80,000 and $140,000 do not participate in these increases because of the special 401(k) nondiscrimination rules. But those with initial income levels below $70,000 are on a par with maximizers with 403(b) plans. When account accumulations are considered, a variety of maximizers—those with 457 plans and incomes over $30,000, 403(b) plans and incomes over $10,000, or 401(k) plans and incomes between $20,000 and $80,000—end up with the same amount, about $1 million (roughly three to four times their accumulations under current law). These are substantial increases, but their maximum accumulations are still only one-third to one-half of those possible with an SEP or MPP.

Total Real Subsidies
Figures 3 and 4 illustrate the amount of real after-tax dollars maximizers receive as a tax subsidy through participation in the private pension system. More explicitly, these figures show the difference in tax dollars paid on retirement accumulations by two identical individuals, one who saves through the private pension system and receives its special tax subsidies and one who saves through more conventional means, such as a brokerage or savings account, and pays taxes on those savings every year under standard tax rules. The figures indicate how many more dollars the individuals in each plan at each income level have available to spend in retirement compared with their twins.

Before Reform
Figure 3 illustrates the general relationship between contributions and subsidies. Individuals who contribute more generally receive a larger subsidy. This does not necessarily mean that the richest contributors receive the greatest dollar amount. Due to the interaction of plan limits on contributions, the greatest subsidies accrue to those in the more generous plans and to whom those plans are most generous. For example, maximizers with SEPs or MPPs, the most generous plans, generally receive the greatest subsidies. People saving through SEPs receive subsidies that range from a low of about $17,000 (if their initial income is $10,000) to a high of about $400,000 (if their initial income is over $160,000). Comparable amounts for those with MPPs are a low of about $24,000 to a high of almost $550,000. The experience of maximizers with IRAs further illustrates this relationship. Their contributions are a uniform dollar amount, independent of income, and their subsidies are almost uniform as well. All maximizers with IRAs in income levels over $30,000 receive about $40,000 in subsidies. Maximizers with 457, 403(b), and 401(k) plans receive very similar subsidies because their plan limits are very similar. But because 401(k) plans are often less generous to those at income levels between $80,000 and

FIGURES 3–4

Figure 3: Maximizers’ Total Real Subsidy before Reform

Figure 4: Changes in Maximizers’ Total Real Subsidy Due to Reform

Source: Perun-Stoft comparative plan savings model.
$120,000, subsidies for these maximizers lag behind those of their peers with other plans.

Figure 3 also illustrates the general relationship between tax brackets and tax subsidies. The amount the federal government forgoes in taxes on retirement plan savings depends on the differential in tax rates during employment and in retirement. Even if individuals are in the same tax bracket during retirement, individuals in higher tax brackets during employment will receive larger dollar subsidies on their savings because the government forgives more in taxes. Figure 3, for example, indicates that subsidies for all maximizers show a pronounced increase at about $40,000 in initial income. They increase by about one-third for IRAs, double for SEP, and at least triple for all other plans. A second but less pronounced increase occurs at around $110,000 to $130,000 in initial income. This increase is most apparent in SEPs, MPPs, 457 plans, and 403(b) plans, where subsidies increase by about 35 percent for SEPs, 40 percent for MPPs, and about 25 percent for 457s and 403(b)s. These jumps occur close to bend points in tax brackets, thus illustrating that individuals in higher tax brackets receive greater subsidies than those who are relatively close in income levels but in a lower tax bracket during employment. The contributions made by these individuals are not very different, but the tax subsidy received often is.

Reform Results

As figure 4 indicates, the reform proposals decrease the dollar subsidy received by many of the poorest maximizers (for example, those with initial income levels of $10,000 to $40,000). Maximizers at these income levels with IRAs and SEPs receive no additional subsidies; those in the other plans actually receive negative subsidies. Maximizers with 403(b) and 401(k) plans receive about $50,000 less (a loss of about $55,000) if they have $10,000 in initial income and about $40,000 less (a loss of about $18,000) if they have $20,000 in initial income. Under current law, contributions by individuals are capped at $10,500 or 25 percent of compensation, but the reform proposals eliminate the 25 percent cap in most plans. As a result, most maximizers contribute the flat dollar amount that, at these income levels, comprises most of their taxable income, so they pay very little in tax during employment. But in retirement they receive substantial retirement distributions that are taxed, often at high rates. They do not receive tax benefits from the private pension system and might be better off not participating at all. This illustrates that the strategy for maximizing savings modeled in this paper is not the optimal strategy for these individuals. These negative subsidies, however, may be attributable to the assumed 10-year distribution schedule. If maximizers took distributions over a period of 15 to 20 years, the amount included in income every year would be smaller and the negative subsidy might then diminish or disappear.

Other maximizers profit from the more generous contribution limits. Again, those favored by the more generous plans receive the greatest subsidy increase in terms of dollars. Maximizers with MPPs and initial income levels between roughly $110,000 and $130,000 are the primary winners. They receive $100,000 to $150,000 in additional subsidies. Maximizers with 457 plans also generally do better than those with 403(b) or 401(k) plans because they receive the greatest increase in contribution limits. Maximizers with IRAs, of course, receive no additional subsidy because their contribution limits are unchanged. Maximizers with SEPs receive additional subsidies—only where the increased limit on compensation takes effect at income levels above $160,000. Their maximum additional subsidy amount is about $50,000.

Average Subsidy Rates

Figures 5 and 6 examine a more relative measure of the subsidies available to participants in the private pension system. The vertical axis in both figures indicates the percentage of retirement dollars received by individuals in each plan that are attributable to the tax benefits of the private pension system.

Before Reform

Figure 5 illustrates two primary effects. First, it is in many respects the inverse of figures 1 and 3. Perhaps surprisingly, maximizers with IRAs, the least generous plans, receive the highest average subsidies at all income levels. Maximizers with MPPs, the most generous plans, receive the smallest average subsidies at all but the lowest income levels. This relationship reflects an interaction between contribution differentials across the plans and tax rate differentials. Individuals with IRAs, for example, can only contribute $2,000 each year. That amount is unlikely to reduce their taxes substantially or to lower their tax brackets during employment, allowing them to receive the maximum available subsidy. Individuals in other plans can make more substantial contributions, which will lower their taxes and perhaps their tax brackets during employment and therefore their ultimate tax subsidy.

Second, richer maximizers get a much higher average subsidy rate than poorer maximizers, independent of plan type. This effect occurs in all plans, although figure 5 exhibits similar jumps in subsidy rates (at the tax bracket bend point) to those shown in figure 3. For example, maximizers with incomes below $40,000 generally.

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receive average subsidies below 20 percent, or 20¢ on the dollar. Average subsidies (except for maximizers with IRAs) for those with incomes between $40,000 and $130,000 are in the mid-20 percent to mid-30 percent ranges, or about 25¢ to 35¢ on the dollar; for those in the highest income levels, average subsidies are in the mid-30 percent to mid-40 percent ranges, or about 35¢ to 45¢ on the dollar.

In general, the differences between tax rates in employment and retirement play the key role in producing the tax subsidies available through the private pension system. Differences in contribution amounts play a limited role, primarily as a component in the tax bracket effect. But tax deferral is an important factor also. If tax rates in employment and retirement were the same, individuals would still receive subsidized savings through the private pension system. Those savings would be at a lower, but more uniform, rate across income levels. For example, individuals who make below $20,000 annually receive average subsidy rates of about 15 percent, while those at higher income levels receive between 30 percent and 36 percent. In addition, differences based on contribution amounts disappear as individuals within equivalent income levels receive the same average subsidy rate, independent of plan types. The only exceptions to this rule are maximizers with IRAs who still receive a slightly greater, by 1 to 2 percent, subsidy than is available under all other plans.

Reform Results

Figure 6 indicates that the reform proposals either have no effect on or actually decrease the average subsidy rate available to maximizers. The larger contributions permitted under the proposals decrease the tax bracket effect and tax subsidies, though most of the decreases are modest (less than negative 5 percent). The poorest maximizers can lose the benefit of the tax bracket effect entirely. For example, maximizers with 403(b) and 401(k) plans at income levels of $10,000 to $20,000 actually receive negative subsidies. Their increased contributions eliminate most or all of their taxable income during employment, but they face large tax bills on substantial plan distributions later. Again, a longer distribution schedule might eliminate or diminish the size of these negative subsidies.

Marginal Subsidy Rates

Figures 7 and 8 illustrate another relative measure of subsidies available through participation in the private pension system. The vertical axis in both figures indicates the additional, or marginal, subsidy a maximizer could obtain by contributing (if possible) one additional dollar to a plan.

Before Reform

Figure 7 tells a story similar to figure 6’s. Maximizers with IRAs receive the most generous marginal subsidies, while those with MPPs generally receive the least generous. For example, a maximizer with an IRA at the $150,000 to $160,000 income level receives the most generous subsidy, 53 percent, or 53¢ per additional dollar of saving. Richer maximizers generally receive higher marginal subsidies than poorer maximizers. Maximizers with all plans (except IRAs) at income levels above $160,000 receive between 25¢ and 40¢ in tax subsidy for each additional dollar saved; those at income levels between $50,000 and $100,000 receive between 15¢ and 25¢ per additional dollar.

Figure 7 reveals that even under current law, some of the poorest maximizers receive negative subsidies. Maximizers with all plans but SEPs and IRAs at income lev-
els between $20,000 and $40,000 receive marginal subsidies of between negative 2 percent and negative 4 percent. This means that they pay an extra 2¢ to 4¢ in tax for each additional dollar saved. Contributions by these maximizers are most often affected by the 25-percent-of-compensation limit, suggesting that the limits at these income levels may already be too generous. These maximizers would do better, from a tax perspective, not to save through the private pension system. Lengthening the distribution schedule might make these negative subsidies disappear, but it is unlikely to substantially increase them.

Reform Results
Figure 8 illustrates that the reform proposals have either no or a modest negative effect on the marginal subsidies of most maximizers. But it is the poorest maximizers who are most adversely affected. Maximizers with initial incomes between $10,000 and $40,000 with all plans but IRAs and SEPs now receive a negative subsidy under the reform proposals. In most cases, the negative subsidy is modest. But this is not true for maximizers with 403(b)s and 401(k)s. Under current law, they receive marginal subsidies of 8¢ and 6¢ on the dollar, respectively. Under the reform proposals, they receive a subsidy of negative 99 percent, which translates into an additional 99¢ in taxes for every additional dollar saved. Again, these maximizers would be better off not taking advantage of these higher contribution limits and increasing their savings outside the private pension system instead.

CASE II: STEADY SAVERS
Obviously, few people wish to save, or are even capable of saving, the maximum amount permitted under the private pension system each year. Most people save far less than do maximizers. This section of the paper analyzes a more plausible and reasonable savings profile. It examines the experience of steady savers, those who contribute 5 percent of their earnings to a plan annually.

Contributions
Figures 9 and 10 illustrate the total contributions made to each plan by age 65. Again, dollar amounts on the vertical axis are expressed in 2001 dollars, contributions are calculated for the 30-year period between ages 35 and 65, and the horizontal axis indicates compensation in the first year of savings (age 35).

Before Reform
Figure 9 indicates a generally positive and linear relationship between income levels and contributions among steady savers. In addition, there is little variation across the plans. At income levels under $160,000, steady savers with all plans except IRAs contribute the same amount. The special nondiscrimination rules that apply to 401(k) plans, often reducing contributions by those earning between $80,000 and $120,000, have no effect on steady savers. Steady savers with 401(k) plans at these income levels contribute just as much as their peers. Steady savers with IRAs and incomes over $30,000, however, contribute the same amount. At these income levels, steady savers become maximizers as the limit on contributions takes effect.

At about $160,000 in income, the remaining plans begin to diverge as the specific limits applicable to 457s, 403(b)s, and 401(k)s start to take effect. Steady savers with 457 plans reach plan limits at an income of about $150,000 a year because 5 percent of this level of compensation is $7,500, about the annual dollar limit under 457 plans. Steady savers with 403(b) and 401(k) plans do not reach plan limits until about $200,000 in income, at
which point the annual dollar limit of about $10,000 begins to take effect. Steady savers with MPPs or SEPs, even at about $240,000 a year, never reach maximum plan limits.

Because of this relative uniformity across plan types, the maximum contributions by age 65 are very similar for each plan. Steady savers with SEPs and MPPs contribute about $400,000 (about $200,000 in present-value terms), those with 403(b)s and 401(k)s contribute about $330,000 (about $160,000 in present-value terms), and those with 457s contribute about $260,000 (about $130,000 in present-value terms). When earnings are taken into account, steady savers arrive at retirement with maximum account accumulations of about $1 million (SEPs and MPPs), $850,000 (403(b) plans), $820,000 (401(k) plans), and $670,000 (457 plans). Steady savers with IRAs arrive at retirement exactly as did maximizers with IRAs—with about $44,000 in maximum contributions and account accumulations of $125,000.

Reform Results

Figure 10 indicates that the reform proposals benefit only steady savers at the highest income levels with 457, 403(b), and 401(k) plans, largely because of the increase in the flat dollar limit that becomes available to more steady savers. Steady savers with 457 plans are the largest beneficiaries of these changes, contributing close to an additional $20,000 at $160,000 in initial income and an additional $130,000 at $240,000 in initial income. When earnings are taken into account, the effect of these changes is that steady savers with 457 and 403(b) plans have about the same maximum account accumulation of

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**Source:** Perun-Stoft comparative plan savings model.
close to $1 million as do steady savers with SEPs and MPPs; those with 401(k) plans have over $900,000.

Total Real Subsidies
Figure 11 indicates the total dollars received by steady savers as a tax subsidy under current law, and figure 12 indicates how the reform proposals affect those amounts.

Before Reform
Figure 11 also indicates a generally linear, positive relationship between dollar subsidies and income levels through about $150,000 in initial income. This reflects the fact, previously seen in figure 9, that steady savers have uniform contributions across plans within these income intervals. Subsidies for steady savers with 457, 403(b), and 401(k) plans increase linearly until they reach their unique plan limits, when both contributions and dollar subsidies begin to taper off. Contribution limits never affect steady savers with SEPs or MPPs. Steady savers with IRAs, as always, are the exception. At the three lowest income levels, they receive dollar subsidies similar to those of other plans, but they start falling behind at $40,000 in initial income.

Reform Results
Again, the reform proposals affect only those steady savers at higher income levels (above $160,000) and only those with 457, 403(b), and 401(k) plans. Steady savers at the highest income level receive about an additional $70,000 in subsidies if they have a 457 plan, $30,000 if they have a 403(b) plan, and $25,000 if they have an IRA.

Average Subsidy Rates
Figure 13 illustrates the average subsidy rates received by steady savers under current law, and figure 14 indicates how the reform proposals affect those rates.

Before Reform
The average subsidy rates received by steady savers are not very different from those received by maximizers. Again, steady savers with IRAs generally receive the highest subsidy rates, and subsidy rates rise with income levels. Steady savers with IRAs and income levels between $140,000 and $190,000 receive the greatest subsidy, 53¢ on the dollar. The other steady savers show the same pattern of average subsidy but receive subsidy rates of about 10 percent less, depending on income level. In addition, when average subsidy rates are tested in a world without tax brackets, steady savers' average subsidy rates are identical to those received by maximizers across plan types and income levels. The only real difference is that steady savers do not show the variability in rate by plan type that maximizers do. Steady savers with all plans other than IRAs receive the same average subsidy rate at the same income level.

Reform Results
Once again, the reform proposals affect only those steady savers at the highest income levels and only those with 457, 403(b), and 401(k) plans. Figure 14 indicates some decreases in average subsidy rates among steady savers in those plans with incomes above $170,000, but the decreases are quite modest (3 percent or less).

Marginal Subsidy Rates
Figure 15 illustrates the additional, or marginal, subsidy a steady saver could obtain by contributing one additional dollar of savings to a plan under current law; figure 16 indicates the effect of the reform proposals.

Before Reform
Although steady savers exhibit the same general trend in marginal subsidy rates as maximizers, there is at least one important difference: As figure 15 illustrates, there are no negative marginal subsidy rates. This means that all steady savers, including those at the lowest income levels, receive some tax benefit from saving through the private pension system. In addition, the marginal subsidy is almost identical across all plans at each income level (steady savers with IRAs are the exception). At incomes over $170,000, there is some divergence, as the marginal subsidy rate for steady savers with 457 plans remains essentially flat while all others begin to decrease. Steady savers with IRAs exhibit the same pattern as the other plans, but in all income levels above $30,000 they receive a 6 to 14 percent greater marginal subsidy. But, as was true of maximizers, wealthier steady savers generally receive greater marginal subsidy rates than poorer steady savers. For example, most steady savers with incomes above $140,000 receive about 30¢ to 50¢ in subsidy for each additional dollar saved, while those with incomes between $30,000 and $100,000 receive 20¢ to 30¢ in subsidy. In contrast, steady savers with incomes below $20,000 receive marginal subsidies of about 10¢ to 15¢.

Reform Results
As was the case with the other subsidies, the reform proposals have no significant effect on the marginal subsidies received by steady savers. Only steady savers with 457 plans and incomes over $170,000 experience any change; in their case, it is a negative but very modest change (between negative 1 percent and negative 4 percent).
CONCLUSIONS

Although this study tested the effects of the reform proposals on a very simple model of saving through the private pension system, its results suggest several findings that can be more broadly applied. First, the reform proposals will primarily benefit those individuals who wish to and are capable of saving a large portion of their incomes. The current system can comfortably accommodate reasonable, plausible rates of saving. Second, the reform proposals will not increase the average or marginal tax subsidies for savings obtainable through the private pension system. In fact, they may very well decrease those subsidies, particularly for individuals at the lowest income levels, but only for those who save more than they could have saved before. Third, the reform proposals will increase the absolute amount of dollars received in tax subsidies. This means that the magnitude of federal tax dollars devoted to the private pension system will increase but that the pattern of distribution of those dollars across income groups will largely remain the same.

The proposals help those who would like and can afford to save more for retirement. They do little to provide additional incentive to those who can afford to save more but don’t. They also provide no additional incentives to those who can afford to save only a little or nothing at all. Much political capital has already been expended on these proposals, and more will be necessary to make them law. From a political cost-benefit perspective, it is reasonable to ask whether they are worth the expense. These proposals do not attempt to make fundamental changes in the structure or operation of the system, both of which are needed to reform the private pension system.\textsuperscript{10}

\textbf{FIGURES 13–16}

Figure 13: Steady Savers’ Average Subsidy Rate before Reform

Figure 14: Changes in Steady Savers’ Average Subsidy Rate Due to Reform

Figure 15: Steady Savers’ Marginal Subsidy before Reform

Figure 16: Changes in Steady Savers’ Marginal Subsidy Due to Reform

Source: Perun-Stoft comparative plan savings model.
The private pension system should be made more effective for those who are left out or left behind by the current system. Low-income savers are often left out of a pension system that is based solely on tax system incentives and subsidies. They do not earn enough and cannot contribute enough to receive much benefit from the incentives and subsidies in place today. It is extremely unlikely that they would or could increase their savings to take advantage of the reform proposal increases. This study suggests that they might be better off saving through more conventional means than through the private pension system. Helping low-income savers is difficult and may require some federal assistance in the form of matching contributions. But this is certainly a more worthy effort than providing additional federal tax dollars to help those who can already save a large amount.

Something should also be done about IRAs. Employees who have no employer plan, even for their own savings, have certainly been left behind in the current system. A modest increase in IRA contribution limits seems easier to justify than the large increases in other plans found in the reform proposals. Yet there is some resistance to raising IRA contribution limits. The theory is that employers, particularly small ones, who can make substantial contributions to IRAs for themselves will be less inclined to sponsor a qualified plan where they must make contributions for their employees. But today's low IRA limits certainly have not solved the problem of employer plan sponsorship. This is a complicated issue that needs to be addressed. In the meantime, these employees deserve greater access to the tax benefits of the private pension system.

But the primary issue for policymakers is the current pension system's many different savings plans and rules. Although the reform proposals help make plans more consistent, they do not attempt the long-overdue step of rationalizing the employee savings system. It no longer makes sense for employee savings plans to be subject to different rules based upon the tax attributes of the employer. For example, even though the reform proposals standardize contribution rules, the plans will continue to differ in important respects. Currently, they differ in their ability to offer loans, hardship distributions, and rollovers to IRAs, as well as in the standards of fiduciary responsibility imposed on those who handle and invest contributions by employees. These differences add to the administrative burden of a plan, and standardizing these rules could encourage more employers to provide plans for their employees. But other differences have even greater consequences. Most employers now require their employees to take more responsibility for their own retirement savings. Providing plans that promote participation by low-income workers is critical. If the evidence indicates that the nondiscrimination rules for 401(k)s are effective in getting low-income workers to save, it might be worthwhile to extend those rules to all employee savings plans, even at the cost of more legal and administrative complexity.

ENDNOTES

The author wishes to thank Steven E. Stoft for his extraordinary efforts in creating the model used in this paper, and Rudolph G. Penner and C. Eugene Steuerle for their helpful comments on the analysis and prior versions of the paper.

The term "private pension system" as used in this paper includes all arrangements to produce retirement income authorized by the Internal Revenue Code, such as qualified plans, tax-sheltered annuities, plans based on individual retirement accounts, individual retirement accounts, and other deferred compensation arrangements. It does not include equity-based plans or arrangements such as stock option or stock purchase plans.

There are many variations of the reform proposals analyzed here. Several were included in the Taxpayer Relief Act of 1999, which was vetoed by President Clinton last fall, and were subsequently reintroduced in other bills in both the House of Representatives and the Senate. This model analyzes mainly the proposals that were referred to the House Ways and Means Committee in October 1999 as part of the Wage and Employment Growth Act of 1999 (H.R. 3081). There are no substantial differences across the various proposals now under consideration, and the model represents a fair cross-section of all the current proposals.

Limits are adjusted for inflation.

According to the statute, the limit is actually one-third of compensation, but compensation is determined after subtracting contributions to the plan. Therefore, in effect, the limit is reduced to 25 percent of compensation.

This paper analyzes only the standard formula for contributions under each plan. Under current law, 457 and 403(b) plans provide "catch-up" elections, which enable certain older employees to contribute additional amounts. Certain types of employees are eligible for alternative contribution elections through 403(b) plans. The reform proposals would eliminate the special 403(b) elections, change the 457 catch-up, and provide new, identical catch-up elections for individuals over 50 in 401(k), 403(b), and 457 plans. Because of the complexity of the relevant rules, this paper does not examine the effect of these alternative contribution formulas under either current or proposed law.
Under these assumptions, the world during the next 40 years looks very much like it does today. No claim is made for their predictive ability. Income tax rates, rates of return, and inflation rates, for example, have varied widely in the past and are expected to do so in the future. Any major changes in such rates could change the results of the analysis substantially. These assumptions are merely intended to hold important variables to predictable changes as much as possible in order to make the effects of the reform proposals more apparent.

Pension law has no single standard for determining who is highly paid. One measure for 401(k) plans, found in I.R.C. 414(q), is currently $85,000 a year in income as a cut-off point for some nondiscrimination testing purposes. There is also an inferred measure under I.R.C. 401(a)(17) that uses $170,000 (in 2000) as the compensation cut-off point for calculating contributions under most plans.

Under these special rules, the amount highly paid individuals (generally, over $85,000 in income) as a group can contribute depends on how much low-paid individuals contribute as a group. To calculate contributions to 401(k) plans, assumptions have to be made about low-paid employees' contribution rates. This model assumes that they save, on average, 4 percent annually. This restricts the contributions of highly paid employees to 4 percent plus the differential permitted by law. Prior analysis indicates that if the low-paid contribute 10 percent or more as a group, highly paid contributions are not restricted. But that was felt to be an unreasonably high figure. For simplicity's sake, these calculations assume that no highly paid person can contribute more than the average amount contributed by the low-paid plus the differential permitted by law. In an actual 401(k) plan with many participants, the amount contributed by the highly paid must be within legal limits on a group basis only. So not all highly paid individuals are held to the group average. This model therefore overstates somewhat the effect of these restrictions on highly paid individuals.

A more extensive discussion of these issues can be found in Perun and Steuerle (2000).

See Perun (1999).

REFERENCES


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Appendix A: Savings Plans for Employees

Savings plans for employees, a relatively new addition to the private pension system, permit employees to decide how much to save for retirement each year within tax code limits and, usually, how those savings will be invested. Employers often provide matching contributions (not taken into account in this analysis) to 401(k) plans to encourage more savings by low-paid employees.

401(K) Plans
The most popular employee savings plans are 401(k)s. For technical legal reasons, a 401(k) plan must be part of a larger defined contribution plan, either a stock bonus plan or profit-sharing plan. They are qualified plans belonging to the largest and oldest family of plans satisfying the requirements of I.R.C. ' 401(a). The tax code has provided favorable tax treatment for such plans since the 1920s. Formally created in 1978, 401(k) plans became widely used only in the early 1980s after the resolution of various legal issues. They are typically sponsored by for-profit employers. Since 1997, tax-exempt employers have once again been able to sponsor such plans, but few do because 403(b) plans are so much simpler. Government employers may not sponsor 401(k) plans, which are very difficult to administer because they are subject to complicated annual testing procedures designed to ensure that highly paid employees do not contribute significantly more than low-paid employees. In addition, 401(k) plans are subject to the Employee Retirement Income Security Act of 1974 (ERISA) and must comply with its reporting, disclosure, prohibited-transaction, and fiduciary liability requirements.

403(B) Plans
Only tax-exempt charities, educational, scientific, or similar entities organized under I.R.C. ' 501(c)(3); or public schools may offer 403(b) plans, often called tax-deferred or tax-sheltered annuities. Tax-sheltered annuities were initially authorized under I.R.C. ' 403 in 1942, and 403(b) arrangements for employee contributions became available in 1958. These are not qualified plans, since they are not regulated by I.R.C. ' 401(a), but they receive essentially the same tax treatment. If the 403(b) plan is structured without employer contributions, as is the case in this analysis, it is not subject to ERISA. In addition, the employees, not the plan or the employer, are responsible for ensuring their own compliance with the tax code limits.

457 Plans
The 457 plan, primarily sponsored by state and local government employers, was enacted in 1978 under I.R.C. ' 457 as part of an effort to set more uniform standards for employee savings arrangements. These plans are part of a family of plans known as nonqualified deferred compensation plans. They also are not qualified plans, but they have similar tax benefits to qualified plans. They are not subject to ERISA.

IRAs
IRAs were created in 1974 under I.R.C. ' 408. Employees without an employer-sponsored plan or with incomes below certain limits may make tax-deductible contributions to a traditional IRA. Others may make after-tax contributions to a traditional IRA or the new Roth IRA. Contributions to all IRAs by a single individual are subject to a $2,000 annual limit. Under a traditional IRA—but not a Roth IRA—benefits attributable to tax-deductible contributions, earnings, and earnings on after-tax contributions are taxable when received. IRAs are not usually subject to ERISA, and contributors are responsible for complying with savings limits.

Plans for the Self-Employed
Since 1962, the tax code has permitted self-employed individuals (such as unincorporated businesses, sole proprietorships, and farmers) to sponsor retirement plans. Until the early 1980s, these plans were subject to tighter limits on contributions and benefits and more restrictive provisions than corporate retirement plans. Self-employed individuals are treated as “employers,” even if they have no employees, so that they can choose from among the many different types of plans available. Their decision about how much to contribute each year on their own behalf is the functional equivalent of an employee’s decision in a 401(k)-type plan. Most choose a qualified defined contribution plan.

Money Purchase Pension Plans (MPPs)
A money purchase plan is a qualified defined contribution plan that permits larger contributions than a profit-sharing plan, its primary alternative. Employers contribute to MPPs annually, according to a fixed contribution formula, while contributions to a profit-sharing plan are discretionary. Because they cover only self-
employed people and their spouses, MPPs are not subject to ERISA.

Simplified Employee Pension Plans (SEPs)
A self-employed person can also choose an IRA-based SEP, created in 1978 under I.R.C. ' 408(k). These plans are easier to administer than qualified plans. Their contribution and deduction limits are similar to those of qualified profit-sharing plans. SEPs are not subject to ERISA if the only participants are self-employed people and their spouses.
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Occasional Paper Number 7