Private Pensions:

Issues and Options

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Abstract

This paper provides an overview of the U.S. system of pensions and tax-preferred saving, examines the effects of current policies, and evaluates proposals for reform. In light of lengthening life spans, earlier retirement, and projected financial shortfalls in Social Security and Medicare, the financial status of the elderly in the future will depend heavily on private saving for retirement. The central goal of the private pension system should be to encourage or provide adequate and secure retirement income in a cost-efficient and equitable manner.

The present system falls short of these goals. Pensions currently cost the U.S. Treasury almost $200 billion per year. Pension benefits are skewed toward more affluent households who would be more likely to be saving adequately for retirement even without pensions, and who disproportionately use pensions to divert other saving (rather than to raise their overall level of saving). Pension benefits are meager among lower- and middle-income households who more often are not saving adequately for retirement, but for whom pensions do serve effectively to raise retirement wealth. Pension rules often allocate financial risks to workers, the group least well equipped to handle these issues. Pension rules are unduly complex.

Reforms that raise contribution limits even further are unlikely to be helpful in promoting the goals noted above. Rather, pension reforms should focus on expanding benefits for lower- and middle-income households, improving incentives and opportunities to diversify investments, increasing financial education, improving the structure and rules regarding cash balance plans, and simplifying and strengthening non-discrimination rules.

Introduction

One of the most striking economic transitions over the past century has been the creation of a lengthy retirement period at the end of most working lives. In 1900, nearly two out of every three men aged sixty-five or older were in the work force.[1] By 2000, fewer than one in five among this age group was in the labor force.[2] An extended retirement is a historic advance in economic well-being, but it creates new challenges for public policy.

Over the past century, the United States has developed government programs and encouraged private institutions to ensure that elderly households have adequate income and health care during retirement. Social Security, established in 1935, covers more than 95 percent of workers. It provides basic, assured income support to retirees (and to the disabled and survivors), but was never intended to provide for all retirement needs.[3]

Other than Social Security, the primary saving vehicles for most households are pensions and saving plans favored by tax incentives, which form a second tier of retirement income.[4] Tax incentives for employer-based pensions originated in 1921. Pensions expanded during World War II because pension contributions were exempt from wage controls and were deductible

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[1] Dan McGill, Kyle Brown, John Haley, and Sylvester J. Schieber, *Fundamentals of Private Pensions* 7th Edition (University of Pennsylvania Press, 1996), p. 5.

[2] Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey, Series ID: LFU606501 (1). Available http://data.bls.gov/cgi-bin/srgate, accessed January 28, 2003.

[3] Other programs also directly support the elderly. Medicare provides hospital insurance and the opportunity to purchase supplementary medical insurance. Supplemental Security Income and disability insurance provide benefits to poor elderly households and those with disabled individuals, respectively.

[4] The tax advantage takes one of two forms. Under one approach, deposits are made from after-tax income, but investment earnings and withdrawals are not taxed. Under the alternative approach, deposits are made from before-tax income; investment earnings are untaxed when earned, but withdrawals are taxed as ordinary income. These two approaches are equivalent if the taxpayer is in the same tax bracket at all times, and if the *before*-tax amount contributed to the former approach is equal to the before-tax amount contributed to the latter approach (which means that the amount initially deposited in the account under the former approach, in which after-tax dollars are initially deposited, is smaller than the amount deposited in the account under the latter approach).

under the rapidly growing income tax. The spread of pensions continued after the war, and rules governing them have been modified repeatedly. The creation of Keogh accounts in 1962 and Individual Retirement Arrangements (sometimes called Individual Retirement Accounts or IRAs) in 1974 expanded eligibility for tax-sheltered saving plans beyond the employer-based system.

In 1998, pensions and tax-preferred saving plans covered more than 70 million workers. These plans received more than $200 billion in new contributions, had total assets of more than $4 trillion, and provided one-fifth of the income of the elderly.[5] Relative to Social Security, pension coverage is less universal—only about half of workers are covered at any one time and about two-thirds are covered at some point in their career. Coverage is particularly low among lower earners. Because pensions are intended to replace earnings rather than meet basic needs, pension income is distributed less equally than Social Security.

Other financial assets, proceeds from businesses, and home equity constitute a third source of retirement income. Other than housing equity, however, ownership of these assets is concentrated among a few, relatively affluent retirees.

This multi-tier approach to retirement saving has enabled millions of retirees to enjoy a financially secure retirement. Poverty among the elderly, which was higher than among the non-elderly until 1994, has now fallen to roughly the same level as among non-elderly adults.

But retirement programs now face significant challenges. Social Security is projected to run a long-term deficit that will require benefit adjustments or new revenues. Even now Social Security replaces only a small fraction of earnings for most workers, and that fraction is destined

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[5] Department of Labor, Pension and Welfare Benefits Administration, *Private Pension Bulletin: Abstract of 1998 Form 5500 Annual Reports*, Number 11 (Winter 2001-2002), Table A1; and Employee Benefit Research Institute, "Income of the Elderly, 1998," January 2000.

to decline for retirement at any given age under current law (see table 1). Medicare faces equally serious financial challenges. These problems underscore the importance of private pensions and other tax sheltered saving plans in meeting the needs of tomorrow's retirees.

In light of these circumstances, the central goal of the private pension system should be to encourage or provide *adequate* and *secure* retirement income in a *cost-efficient* and *equitable* manner. To meet this goal, pensions must achieve several intermediate objectives.

First, they should increase households' saving for retirement. The central motivation for using the tax system to encourage pensions is the belief that without incentives, people would save too little to provide themselves with adequate retirement income.[6] How many people save inadequately for retirement is controversial, but at least a significant minority of the population falls into this category. Some are myopic and do not plan ahead. Some with modest incomes may save little because they have little hope of saving more than the benefits they would receive under means-tested government income security programs for the poor elderly. Saving incentives succeed in any meaningful sense only if they increase the saving of those who would have saved too little in their absence.

Second, pensions should boost national saving—the sum of public and private saving. National saving contributes to economic growth, and increased growth would make Social Security and Medicare easier to finance. Pensions increase national saving, however, only to the extent that the contributions represent saving that would not have occurred anyway and only to

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[6] Under a personal income tax, the tax rules applicable to pensions and to other "tax-sheltered" saving involve subsidies. Under the income tax, all income, whether it is currently consumed or saved, should be taxed as earned. Against this standard, pensions are "tax favored," in the sense that tax is not imposed at the time the worker's net pension wealth increases. Many analysts, however, favor a tax on consumption rather than income. For those who favor taxation of consumption, not income, the tax treatment of pensions and other sheltered income is not a concession, but rather a step toward a superior principle of taxation. It is not our purpose here to evaluate the various positions in this debate, but merely to point out that perspectives on the current tax system intersect with the partly independent debate about how best to design pensions.

the extent that the increase in private saving exceeds the reduction in tax revenues resulting from the tax incentives. Private saving is not increased when people shift assets into the tax-preferred pensions or reduce other saving that they would have undertaken.[7]

Third, pensions should induce efficient handling of risk. Long-term financial commitments, such as those represented by pensions, are inescapably risky. The recent stock market collapse and corporate scandals underscore those risks. While people are working and accumulating pensions, the risks include the possibility of unemployment, slowed growth of wages, a decline in asset values, unanticipated inflation, and disappointing yields. The final three risks persist during the payout stage, after the worker has retired. In addition, workers face the risk that they may outlive their assets in some pension plans.

Fourth, the increasing burdens on workers to support a growing retired population suggest that pensions should not promote early retirement and, in fact, should encourage continued work. Extended working lives are now feasible because of increasing longevity and improved health.

Finally, the pension system must be sufficiently simple and otherwise attractive enough to induce employers to offer pension plans and workers to participate in them. This is a considerable task because of inherent conflicts in the design of pension policy.

Considerable controversy surrounds the extent to which the current pension system attains these goals and, to the extent that it does not, how the system should change. In this chapter, we describe the current system of pensions and tax-deferred saving, evaluate its ability to meet the goals described above, and discuss options for reform.

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[7] Note that it is possible national saving would increase without improving retirement income adequacy if private saving increased by more than the reduction in public saving, but the private saving was undertaken only by those already well prepared for retirement.

A Brief Overview of Pensions and Tax-Preferred Saving

Pensions and tax-favored saving plans come in several different forms. In *defined contribution* (DC) plans, employers and/or employees contribute a specified portion of a worker's current salary into an account belonging to the individual worker. Employer contributions are excluded from the employee's current taxable income. In the most common DC plans—the 401(k) plan, named for the section of the Internal Revenue Code that authorizes them—employees' contributions are also excluded from current personal income tax. Employer contributions may be independent of the workers' contributions, but many companies match a percentage of the worker's contribution. A typical formula would have the employer contribute an amount equal to 50 percent of the first 6 percent of salary that the worker contributes. Employers provide a menu of approved investments, and workers are free to choose among them. At retirement, the worker simply receives the account balance, which is the sum of deposits and all investment income. Workers may withdraw the funds as a lump sum or convert them to annuity (that is, a periodic payment that lasts as long as the annuitant is alive). In either case, withdrawals are taxed as ordinary income. Employees generally may borrow against these accounts or make hardship withdrawals before retirement. Workers who leave their jobs before retirement typically may roll the funds into an IRA or cash out the balances. If the funds are withdrawn before legislated ages, workers are subject to penalties in addition to income taxes. Minimum distribution rules also require workers to begin withdrawing funds once they are retired and have reached a certain age.

Under *defined benefit* (DB) plans, employers commit to paying workers with sufficient job tenure an annual retirement benefit that usually depends on years of service and a measure of a worker's average salary. A typical formula might provide an annual benefit equal to 1 percent

times the number of years the worker stayed at the firm times the average salary over the worker's five highest-paid years at the firm. The employer funds these benefits by making pre-tax contributions to a pension fund for all employees. Employees typically do not make contributions. Employees pay income tax when the benefits are paid. The Pension Benefit Guaranty Corporation insures defined benefit payments up to $42,954 a year for 65-year-olds in 2002.[8] Employees typically do not have access to the funds before retirement.

Even this short description indicates that DC and DB plans differ in numerous ways (see table 2). In a DB plan, workers have few choices: they are enrolled in the plan, the employer makes contributions, and a benefit is paid when the worker retires. In a DC plan, workers have numerous choices: workers decide whether to participate and how much to contribute; and they have some (though typically limited) discretion on how to allocate the funds across investment options, when to withdraw the funds, and in what form to take the withdrawal.

The distribution of financial risks also differs. Workers bear the risk associated with fluctuations in asset prices under DC plans. Such plans impose few risks on employers, whose responsibilities end with their contributions. By contrast, employers bear the direct risk under DB plans. Under DB plans, employers must make whatever deposits are necessary to keep reserves equal to the accrued value of pension liabilities. When asset prices fall and interest rates drop—which increases the present discounted value of accrued liabilities—the required deposits may be large enough to significantly affect the financial solvency of the sponsoring company. This problem arose for many large companies in 2002 and 2003. This does not mean that

[8] Pension Benefit Guaranty Company, "Benefits." Available http://www.pbgc.gov/about/ BENEFITS.htm, accessed January 29, 2003.

workers bear no risks in DB plans, though. Firms can pass some of the risks to workers by changing the future benefit formula if the pension fund goes sour.

Retirees under most DB plans have traditionally received annuities, though increasingly they are paid as lump sums. Most DC participants have taken their benefits as lump sums.[9] Participants who choose not to annuitize their balances run the risk of outliving their pension benefits. Annuities usually are not indexed for inflation. As a result, their value erodes over time, but generally payments are not terminated before the pensioner (or the pensioner and spouse, under joint-and-survivor annuities) dies.

DC plans treat frequent job changers better than DB plans do. Typically, DC benefits accrue and vest faster than do DB benefits. Whether job changers leave their balances at their old employer or transfer the funds to an IRA, the balances continue to grow as investment returns accumulate. In contrast, DB benefits are typically frozen in nominal terms when workers switch employers. The real value of benefits actually falls over time because of inflation.

DB plans offer employers the flexibility to structure pension-accrual patterns to encourage job retention at some points in the career and retirement at other points. DC plans offer firms less opportunity to structure pensions to encourage or discourage retirement. *Cash balance* plans and other so-called hybrid plans have been designed at least in part to capture key benefits of both DB and DC plans (see table 2). Cash balance plans are legally classified as DB plans because the employer owns the assets, makes the investment choices, bears the direct investment risk, and is required to maintain adequate reserves. But the worker's accrual of pension rights resembles that of DC plans. The employer credits the workers' accounts with

[9] Jeffrey R. Brown and Mark J. Warshawsky, "Longevity-Insured Retirement Distributions from Pension Plans: Market and Regulatory Issues," paper presented at the conference "Public Policies and Private Pensions," sponsored by the Brookings Institution, Stanford Institute for Economic Policy Research, and TIAA-CREF Institute, Washington, D.C., September 2000.

contributions, typically set as a percentage of current earnings. The employer also provides a credit based on the account balance and a specified interest rate. Workers accrue (notional) account balances. Workers who switch jobs before retirement may withdraw or transfer the account balances to other tax-sheltered accounts. The interest credit rate under a cash balance plan is specified in advance, rather than depending on financial market performance as under DC plans, but employers may change the interest credit rate over time.

In addition to the employer-sponsored plans noted above, many people contribute to tax-sheltered accounts under several different arrangements. The most widely used are Individual Retirement Arrangements or IRAs. Self-employed individuals may contribute to Keogh plans, which operate similar to defined contribution plans, except that there is no employer. Funds placed in such accounts are not taxed when deposited, investment income accrues tax-free, and withdrawals are taxed as ordinary income. The main exception is the so-called Roth IRA, under which the income used to finance contributions is subject to income tax, but investment returns and withdrawals are not taxed.[10] In each case, account holders decide how much to invest, what investments to make, and when to withdraw the balances. They also bear all financial risk.

Aggregate Trends

Defined contribution plans have been increasingly dominant since 1975 (see table 3). Between 1975 and 1998, the number of defined contribution plans more than tripled and the

[10] Eligibility for traditional IRAs among those covered by employer-provided plans is limited to married filers with adjusted gross income below $64,000 in 2002 and single filers with adjusted gross income below $44,000. There is no income limit, however, for those who are not covered by an employer-provided pension (unless the worker's spouse is covered, in which case the income limit is equal to the limit on Roth IRAs). Individuals not eligible for the traditional IRA may contribute to a nondeductible IRA, where the contributions are made from after-tax income, but assets accrue untaxed, and only the excess of withdrawals over contributions is taxed. Eligibility for the Roth IRA, regardless of whether the worker or spouse is an active participant in an employer-based pension, is limited to married filers with incomes below $160,000 and single filers with income below $110,000. Leonard E. Burman, William G. Gale, and David Weiner, "The Taxation of Retirement Saving: Choosing between Front-Loaded and Back-Loaded Options," *National Tax Journal*, Vol. 54, No. 3 (September 2001).

number of active participants more than quadrupled. During the same period, the number of defined benefit plans fell by almost half and the number of active participants fell by one-quarter. Defined contribution plans accounted for more than 80 percent of contributions to pensions in 1998, compared with just over one-third in 1975.

From the mid-1970s to the mid-1980s, DC plans largely supplemented older DB plans. Since the mid-1980s, DC plans appear to be displacing DB plans. Almost all new DC pension plans have been 401(k) plans. Notably, overall pension coverage rates have been flat over the entire period since 1975.[11]

Several factors help explain the shift to DC plans. Employment has shifted from unionized industries, where defined-benefit plans were common, to nonunionized industries, where they are relatively rare. The burden of government regulations on DB plans has increased relative to DC plans. Tax policy provided that worker contributions to 401(k) plans, but not to DB plans, were tax deductible. Perceptions of increased worker mobility may also have increased the perceived attractiveness of DC plans, which are more beneficial for frequent job changers, as noted above.[12]

Increasingly, DB plans are cash balance plans. BankAmerica originated cash balance plans in 1985. Although the idea attracted little interest at first, by 1999 cash balance plans

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[11] William G. Gale, Leslie E. Papke, and Jack VanDerhei, "Understanding the Shift from Defined Benefit to Defined Contribution Plans," paper presented at the conference "ERISA after 25 Years: A Framework for Evaluating Pension Reform," Sponsored by the Brookings Institution, the Stanford Institute for Economic Policy Research, and the TIAA-CREF Institute, Washington, D.C., September 1999.

[12] See Robert Clark and Ann McDermed, *The Choice of Pension Plans in a Changing Regulatory Environment* (American Enterprise Institute, 1990); Alan Gustman and Thomas Steinmeier, "The Stampede toward Defined-Contribution Pension Plans: Fact or Fiction," *Industrial Relations*, vol. 31, no. 2 (April 1992), pp. 361–69; Richard Ippolito, "Explaining the Growth of Defined-Contribution Plans," *Industrial Relations*, vol. 34, no. 1 (January 1995), pp. 1–20; Richard Ippolito, "Disparate Savings Propensities and National Retirement Policy," in *Living With Defined-Contribution Plans* (University of Pennsylvania for the Pension Research Council, 1998), pp. 247–72; and Gale, Papke, and VanDerhei, "Understanding the Shift from Defined-Benefit to Defined-Contribution Plans."

accounted for about 15 percent of all DB assets.[13] Several considerations may explain the shift to cash balance plans. Many design features of cash balance plans are attractive to both employers and employees. Some critics allege that companies have adopted cash balance plans to reduce their pension obligations, and some companies have indeed reduced pension costs by converting to a cash balance plan, but others have actually increased pension funding following the conversion.[14]

Who Benefits from Pensions?

The tax advantages associated with pension contributions in 2002 reduced the present value of tax revenues by over $190 billion.[15] That is, they provided taxpayers with a tax cut of $190 billion in present value. The size of this tax advantage underscores the fact that the U.S. makes a substantial investment in pension subsidies.

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[13] Christine Williamson, "Up, Up and Away: Cash-Balance Catches Fires," *Pensions and Investments*, May 31, 1999. A survey of about 1,000 major U.S. employers found that the proportion of very large DB plans that were cash balance plans rose from 6 percent in 1995 to 16 percent in 1999. Hewitt Associates *SpecBook*, cited in Paul Yakoboski, "Overview of the Defined-Benefit System," presented at the ERBI-ERF Policy Forum, "The Next 25 Years of ERISA: The Future of Private Retirement Plans," December 1, 1999.

[14] One potential motivation for adopting a cash balance plan instead of a 401(k) plan involves the reversion tax that applies to terminations of defined benefit plans. If a plan sponsor terminates a defined benefit plan, it must decide what to do with the excess assets—the plan's current assets less its measured future liabilities. If the firm tries to bring these assets back into the corporation, the assets are subject to a 50 percent reversion tax. If the firm transfers the assets to a defined contribution plan, the assets are still taxed (albeit at a lower rate). A firm may therefore find it prohibitively expensive from a tax perspective to terminate a defined benefit plan and replace it with a defined contribution plan. Instead, the firm can avoid the tax altogether if it converts the defined benefit plan to a cash balance plan. Since the cash balance plan is technically classified as a defined benefit plan under law, the switch can be designed to avoid "terminating" the previous defined benefit plan and thereby triggering the reversion tax. Richard Ippolito and John Thompson, "The Survival Rate of Defined Benefit Plans: 1987–1995," *Industrial Relations* 39 (April 2000), pp. 228–45.

[15] Budget of the U. S. Government, Fiscal Year 2004, Analytical Perspectives, Table 6-4, p. 112.

Determining who benefits from pensions and by how much is complicated. Some workers elect not to participate in pension plans.[16] Among participants, contribution rates vary. In addition, pension benefits are not free. Both economic theory and empirical studies show that workers pay for pensions through lower wages than they would otherwise earn. But it is not clear whether the matchup between pension accruals and wage adjustments occurs at the level of the worker, the firm, or the industry.[17] A further issue is that the value of the tax breaks on pensions depends on the level and pattern of tax rates over workers' lifetimes.

Despite these difficulties, however, the broad pattern of distributional consequences is clear. High-income households are more likely to be covered by a pension. They are more likely to participate if they are eligible. The share of salary contributed, given participation, rises with earnings.[18] And tax deferral is worth more to high-bracket than to low-bracket filers, a feature reinforced partly by the fact that high earners are likely to face a larger drop in marginal tax rates on retirement than are low earners.

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[16] Note also that the worker who is covered by a private pension but chooses not to participate still obtains a benefit from the pension plan; specifically, he or she obtains the option to participate. The extent to which this option is considered a benefit implies that coverage, even without participation, provides some value.

[17] If the adjustment occurs at the level of the firm or a broad group of workers within the firm, pensions with less than 100 percent participation redistribute compensation from nonparticipants to participants. Under this assumption, a firm offers a pension to a group of workers and reduces the group's aggregate wages accordingly. Group members who do not participate are then actually made worse off by the pension (at least without putting a value on the option to participate): their wages are lower than they would otherwise be, but they do not receive the benefits of pensions. Workers who do participate (or who participate more extensively, by contributing a higher share of their salary) are made better off, because their wage reduction is smaller than the pension benefits they receive.

[18] Contribution rates also vary across workers participating in a 401(k). Low earners typically contribute a smaller percentage of their pay to 401(k)-type pension plans than do high earners. Among workers age 18 to 64 with a 401(k) plan in 1992, for example, the average employee contribution rate (excluding employer matches) was 3.7 percent of pay for those with household income less than $25,000 and 7.9 percent of pay for those with household income exceeding $75,000. General Accounting Office, "401(k) Pension Plans: Many Take Advantage of Opportunities to Ensure Adequate Retirement Income," GAO/HEHS-96-176, 1996, table II.4.

Coverage. Roughly 50 percent of full-time private-sector wage and salary workers are covered by a pension. This fraction has changed little since the early 1970s, when the Employee Retirement Income Security Act was enacted.[19] Pensions covered fewer than one-fifth of workers with less than a high school degree in 1999, compared with almost two-thirds of workers with a college degree or more. Pensions covered only 6 percent of workers earning less than $10,000 a year, compared with 76 percent of workers earning more than $50,000 a year.[20] Pension coverage is generally high among full-time workers at large and medium-sized firms. About 85 percent of those in the labor force who worked and lacked pension coverage had low income, did not work full time, worked for a small company, or were relatively young.[21] Roughly three-quarters of the uncovered population worked for an employer that did not sponsor a pension plan in 1999.[22]

Participation Rates. While participation is automatic for workers covered under DB plans, it is usually optional under 401(k) plans. In 1993, two-thirds of workers who were offered

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[19] The coverage figures apply to individual workers at a given point in time. Coverage rates are somewhat higher over a lifetime and on a household rather than individual worker basis. For example, roughly two-thirds of households are covered by a pension at some point during their careers. According to data from the Health and Retirement Survey, which provides information on the income and wealth holdings of people born between 1931 and 1941 and therefore currently in their peak retirement years, 65.6 percent of households had positive pension wealth. See Alan Gustman and others, "Pension and Social Security Wealth in the Health and Retirement Study," in James P. Smith and Robert J. Willis, eds., *Wealth, Work, and Health: Innovations in Measurement in the Social Sciences* (Ann Arbor: University of Michigan Press, 2000).

[20] These figures include both part-time and full-time workers. See Department of Labor, Pension and Welfare Benefits Administration, "Coverage Status of Workers under Employer Provided Plans," 2000, available at http://www.dol.gov/pwba/programs/opr/CWS-Survey/hilites.html.

[21] General Accounting Office, "Private Pensions: Implications of Conversions to Cash Balance Plans," GAS/HEHS-00/185 (September 2000).

[22] Peter Orszag and Robert Greenstein, "Toward Progressive Pensions: A Summary of the U.S. Pension System and Proposals for Reform," paper presented at the conference "Inclusion in Asset Building: Research and Policy Symposium," Washington University, St. Louis, September 21–23, 2000. Several factors explain the absence of pension plans in many firms, especially small businesses. For example, surveys of small businesses suggest that administrative costs and the complexity of the pension tax code are important factors—but perhaps not the most important factors—in discouraging them from offering pension plans. The surveys suggest that somewhat more important explanations include the preference of workers for other forms of compensation or the uncertainty of the firm's future prospects.

the opportunity to participate in a 401(k) plan did so. Participation was significantly higher for higher-earning workers.[23] Only 6 percent of taxpayers eligible to make deductible contributions to an IRA did so in 1996.[24]

Why is participation so low? For low earners, the answer may be income that is too low to permit saving after payment for necessities. Yet 60 percent of households at or below the poverty line indicate that they save at least something.[25] Experience with a program that provides tax breaks and matching funds to encourage saving among participating low-income families suggests that poor families will save if presented with financial incentives to do so.[26] A more plausible explanation for low participation rates is that tax incentives for retirement are meager for low-income households. Tax deferral means little to people whose tax rate is low or zero.[27]

Another important factor is a lack of financial education. Only 32 percent of the work force has even tried to figure out how much saving is needed for retirement, according to a 2002

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[23] Department of Labor, Social Security Administration, Small Business Administration, and Pension Benefit Guaranty Corporation, *Pension and Health Benefits of American Workers* (1994), table C7. The participation figures apply only to whether a worker makes a contribution to a 401(k), not to the relative *size* of that contribution. General Accounting Office, "401(k) Pension Plans: Many Take Advantage of Opportunities to Ensure Adequate Retirement Income," GAO/HEHS-96-176, 1996, Table II.4.

[24] Paul Smith, "Complexity in Retirement Savings Policy," *National Tax Journal*, Vol. LV, No. 3 (September 2002), pp. 530–54.

[25] Jeanne M. Hogarth and Chris E. Anguelov, "Can the Poor Save?" *Proceedings of Association for Financial Counseling and Planning Education* (2001).

[26] Michael Sherraden, "Asset Building Policy and Programs for the Poor," in Thomas Shapiro and Edward Wolff, eds., *Assets for the Poor: The Benefits of Spreading Asset Ownership* (New York: Russell Sage Foundation, 2001).

[27] For moderate-income workers, the rules for taxation of future Social Security benefits may reduce the tax advantage associated with 401(k) contributions. A portion of Social Security benefits is subject to income tax, but only if income exceeds certain thresholds. Jagadeesh Gokhale, Lawrence Kotlikoff, and Todd Neuman, "Does Participating in a 401(k) Raise Your Lifetime Taxes?" NBER Working Paper W8341, June 2001. The authors argue that the net tax effect from contributing to the 401(k) may actually be positive (that is, contributions raise lifetime taxes), because the tax benefit from the 401(k) is outweighed by the cost from the increased taxation of Social Security benefits. Their examples, however, assume that workers make the maximum allowable contribution to a 401(k) and that Social Security benefits are claimed at age 65. The vast majority of workers, however, do not contribute the maximum amount to a 401(k) and also claim benefits before age 65; relaxing those assumptions makes it much less likely that the net effect of contributing to a 401(k) is to raise lifetime taxes.

survey.[28] Financial education appears to be particularly effective at raising saving levels. Students who are exposed to financial decisionmaking courses in high school, for example, tend to have greater wealth when adults. Employer-provided financial education also tends to generate higher saving. Households that have planned for retirement tend to save more than other households, even controlling for income and other characteristics.[29]

Inertia also matters. Participation rates are lower if workers must make an affirmative decision to join a 401(k) plan or an IRA than they are if workers are presumed to participate unless they elect not to do so. Inertia and the "power of suggestion," it appears, play an important role in determining savings patterns.[30]

Contribution Rates. Contribution rates also vary across workers participating in a 401(k) plan: Participating low-income workers typically contribute a smaller percentage of their pay to 401(k)-type pension plans than higher-income workers. Among workers age 18 to 64 with a 401(k) plan in 1992, for example, the average employee contribution rate (excluding employer

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[28] Employee Benefit Research Institute, *2002 Retirement Confidence Survey, Summary of Findings*, available at http://www.ebri.org/rcs/2002/index.htm.

[29] B. Douglas Bernheim, Daniel M. Garrett, and Dean M. Maki, "Education and Saving: The Long-Term Effects of High School Financial Curriculum Mandates," NBER Working Paper 6085 (July 1997); B. Douglas Bernheim and Daniel Garrett, "The Determinants and Consequences of Financial Education in the Workplace: Evidence from a Survey of Households," NBER Working Paper 5667 (1996); Patrick J. Bayer, B. Douglas Bernheim, and John Karl Scholz, "The Effects of Financial Education in the Workplace: Evidence from a Survey of Employers," NBER Working Paper 5655 (July 1996); Annamaria Lusardi, "Explaining Why So Many People Do Not Save," Center for Retirement Research, Working Paper 2001-05, Boston College (September 2001).

[30] Brigitte C. Madrian and Dennis F. Shea, "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior," NBER Working Paper No. 7682 (May 2000). Madrian and Shea studied 401(k) participation rates among employees in a large corporation before and after a change in the default option. Before the change, workers had to elect to participate in the 401(k); after the change, they were automatically enrolled unless they explicitly requested to opt out. The authors found that 401(k) participation increased dramatically after the change. Since none of the other features of the plan changed, the purely rational model of economic behavior has difficulty explaining the results.

matches) was 3.7 percent of pay for those with household income less than $25,000 and 7.9 percent of pay for those with household income exceeding $75,000.[31]

Evaluating the Pension System

The key objectives of the pension system include raising retirement saving and national saving, handling risk efficiently, and encouraging later retirement. The key constraint on reaching these goals is to keep the pension system simple—to encourage participation in a voluntary system—and affordable. How does the current system stack up?

Adequacy of Wealth Accumulation

Although there is some controversy, most studies have found that at least some U.S. households are saving too little and therefore arrive at retirement with insufficient wealth to maintain their current living standards. Not surprisingly, the studies typically find that the problem is more serious among families with modest incomes.[32]

Pensions and tax-preferred saving plans represent substantial assets, but whether and how much they increase wealth accumulation is less clear. Pension contributions raise private wealth, but only if they are financed by a reduction in current consumption. Contributions do not raise

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[31] General Accounting Office. "401(k) Pension Plans: Many Take Advantage of Opportunities to Ensure Adequate Retirement Income," GAO/HEHS-96-176, 1996, Table II.4.

[32] Eric M. Engen, William G. Gale, and Cori E. Uccello, "The Adequacy of Household Saving," *Brookings Papers on Economic Activity* 1999(2), pp. 65–165. The authors emphasize that levels of savings adequacy are actually higher than most studies suggest, because the studies ignore uncertainty and suffer from other biases. An important issue involves home equity, which represents the most significant asset for the vast majority of families. According to the Census Bureau, the home ownership rate among those 65 years and older was 80 percent in 2000, relative to 41 percent among those under 35 and an overall rate of 67 percent. Some elderly families may be willing to move out of their home, or reduce their equity in their home, in order to finance consumption during retirement, and that could significantly affect savings adequacy levels. But Venti and Wise argue that housing wealth is typically not used to support nonhousing consumption during retirement. See Steven F. Venti and David A. Wise, "Aging and Housing Equity," in Olivia S. Mitchell and others, eds., *Innovations in Retirement Financing* (Philadelphia: University of Pennsylvania Press, 2002), pp. 254–281.

private wealth if they are financed by reductions in other saving the household would have done anyway, by transfers from taxable to tax-preferred accounts or by increased borrowing.

The empirical evidence on this issue is mixed. Most studies of DB plans find a strong impact of pensions on a household's overall wealth. But these studies contain a variety of statistical biases that exaggerate the effect, and efforts to control for those biases have produced estimates that are substantially smaller.[33] Even the studies that find that only a small share of overall contributions represents net additional saving, however, indicate that DB pension plans can help raise wealth accumulation by low- and middle-income households, who often have little in the way of other assets.

The effects of 401(k) plans are equally controversial. Early studies found that 401(k) plans significantly raised wealth accumulation, but a number of more recent studies using better statistical techniques have found the effects to be substantially smaller or nonexistent.[34] Several

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[33] Even the studies finding that only a small share of overall contributions represents new saving, however, indicate that pension plans can help raise wealth accumulation by low- and middle-income households, who often have little in the way of other assets. William G. Gale, "The Effects of Pensions on Household Wealth: A Reevaluation of Theory and Evidence," *Journal of Political Economy* vol. 106, no. 4 (August), pp. 70–123; Orazio Attanasio and Susan Rohwedder, "Pension Wealth and Household Saving: Evidence from Pension Reforms in the UK," The Institute for Fiscal Studies Working Paper W01/21, September 2001.

[34] A recent study that controls for biases in previous work shows that contributions from households with income below $40,000 tend to represent net additions to saving, whereas contributions from households with higher income tend to represent substitution of other saving, existing assets, or debt for increased tax-preferred 401(k) balances. In recent years, however, households with income below $40,000 held between 10 and 20 percent of 401(k) assets, suggesting that only a small share of 401(k) contributions to date has represented new saving. Eric M Engen and William G. Gale, "The Effects of 401(k) Plans on Household Wealth: Differences Across Earnings Groups," The Brookings Institution, August 2000. Other studies that find small effects of 401(k)s on wealth accumulation include Eric M. Engen, John Karl Scholz, and William G. Gale, "Do Saving Incentives Work?" *Brookings Papers on Economic Activity* 1994(1), pp. 85-151; Eric M. Engen, William G. Gale, and John Karl Scholz, "The Illusory Effect of Saving Incentives on Saving," *Journal of Economic Perspectives* Vol. 10 No. 4 (Fall 1996), pp. 113–38; Daniel Benjamin, "Does 401(k) Eligibility Increase Saving? Evidence from Propensity Score Subclassification," Mimeo, London School of Economics, 2001; Gary V. Engelhardt, "Have 401(k)s Raised Household Saving? Evidence from the Health and Retirement Survey," Aging Studies Program Paper No. 24, Center for Policy Research, Maxwell School of Citizenship and Public Affairs, Syracuse University, June 2001; and Karen M. Pence, "401(k)s and Household Saving: New Evidence from the Survey of Consumer Finances," Federal Reserve Board of Governors, December 2001. Studies that find significant effects of 401(k)s on wealth accumulation include James Poterba, Steven Venti, and David Wise, "Do 401(k) Contributions Crowd Out Other Personal Saving?" *Journal of Public Economics* Vol. 58, No. 1 (September 1995), pp. 1–32; and James Poterba, Steven Venti, and David Wise, "How

recent studies have found that contributions to 401(k) plans by lower- and middle-income households represent net additions to saving, while contributions by high-income households tend to represent asset reshuffling, rather than new saving.

These studies examined the effects of pensions and tax-preferred accounts on private saving and did not account for the loss of public saving from reduced tax collections, which would offset some or all of any positive effect on private saving.[35]

The results regarding the effects of pensions on saving match up in an interesting way with findings on the adequacy of individual retirement saving. Higher-income households are generally saving adequately for retirement and are most likely to have pensions, but their pension contributions represent less new saving and more asset shifting (and, hence, tax avoidance) than do the pension accumulations of lower earners. Conversely, lower-income households are less likely to be saving adequately for retirement and are less likely to have pensions than are higher earners, but their pension contributions are more likely to represent net additions to saving.

These findings indicate problems with the current pension system as well as opportunities for reform. The problem is that pension benefits accrue disproportionately to high-income households with little improvement in the adequacy of saving for retirement and little increase in national saving. By contrast, lower- and middle-income households gain less from the pension system, but these benefits—where they exist—appear both to increase saving and to help

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Retirement Saving Programs Increase Saving," *Journal of Economic Perspectives*, Vol. 10 No. 4 (Fall 1996), pp. 91–112.

[35] Tax subsidies for pensions result in lower revenues at the time the contribution is made and higher revenues when the funds are cashed in and income taxes are paid. Because of the value of deferral and the shift of funds to lower tax rates, the congressional committees and the Department of the Treasury consider the effect on revenue to be negative. Some have argued that under certain circumstances the net revenue effect is positive. See Brianna Dusseault and Jonathan Skinner, "Did Individual Retirement Accounts Actually *Raise* Revenue?" *Tax Notes* (February 7, 2000), pp. 851–56; and Martin Feldstein, "The Effects of Tax-Based Saving Incentives on Government Revenue and National Saving," *The Quarterly Journal of Economics*, Vol. 110, No. 2 (May 1995), pp. 475–94.

households who would otherwise save inadequately for retirement. The goal of reform should be to encourage expanded pension coverage and participation among low- and middle-income households, a step that would boost national saving and build wealth for households, many of whom are currently saving too little.

Risk

Distributing the risks associated with retirement saving fairly and efficiently is as important as increasing saving. Workers in DC plans face two main sources of risk: investment returns on their asset balances over their career and the possibility of outliving their resources. In DB plans, companies bear the direct investment risk, but workers face some risk because benefits depend on future wage growth and job tenure, and because companies can alter plan features.

Investment risks are central to both DC and DB plans. In DC plans, workers typically decide how to invest the assets and therefore bear the burden of uncertain asset returns. Most individual workers do not appear well equipped to deal with these risks. Only half of Americans know the difference between a stock and a bond. Only 12 percent know the difference between a load and a no-load mutual fund. Only 16 percent understand the details of an IRA.[36] At an even more basic level, only 20 percent of adults can correctly determine change using prices from a menu.[37] Such financial naiveté fosters investment blunders, such as the failure to diversify investment portfolios or to annuitize an accumulated balance on retirement.

Given most workers' lack of financial sophistication, the historic shift toward DC plans creates serious risks. Not the least is the shift of financial risk-bearing from employers to

[36] Arthur Levitt, "The SEC Perspective on Investing Social Security in the Stock Market," John F. Kennedy School of Government, October 19, 1998.

workers. The booming stock market of the 1980s and 1990s obscured these risks, but recent stock price declines and financial collapses have revealed them. The Enron controversy also highlighted the practice at many large firms of encouraging employees to hold much of their pension assets in stock of the same company that employs them. Workers invested almost 20 percent of 401(k) assets in their own employers' stock in 2000.[38] This failure to diversify is unwise because if the company fails, the workers lose not only their jobs, but also much of their savings. Even if the firm does not fail, the worker will have taken on excessive risk by concentrating so much wealth in one asset. Precisely because many of these concentrated holdings are due to the decisions of workers rather than the plan sponsors, the misallocation of assets raises concerns about the soundness of worker-determined investment allocations.

In DB plans, companies rather than workers bear the direct financial risks. The drop in stock prices and interest rates during 2001 and 2002 caused DB pension funds among S&P 500 companies to become underfunded at the end of 2002 for the first time since 1993. The shortfall exceeded $200 billion.[39] The share of U.S. plans with assets below a common measure of their liabilities rose from 18 percent in 1999 to 31 percent in 2001 and to 62 percent in early 2002.[40]

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[37] B. Douglas Bernheim, "Financial Illiteracy, Education, and Retirement Saving," in Olivia Mitchell and Sylvester Schieber, eds., *Living with Defined-Contribution Pensions* (Philadelphia: University of Pennsylvania Press, 1998), p. 42.

[38] Sarah Holden and Jack VanDerhei, "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2000," Investment Company Institute *Perspective* vol. 71, no. 5 (November 2001). The 20 percent share results primarily from heavy concentrations of employer stock at large firms. Alicia H. Munnell and Annika Sundén, "401(k)s And Company Stock: How Can We Encourage Diversification?" Center for Retirement Research, Issue in Brief no. 9, Boston College (July 2002).

[39] David Zion and Bill Carcache, "The Magic of Pension Accounting," Credit Suisse First Boston (September 27, 2002), p. 13.

[40] The measure of liabilities is the so-called current liability, which represents an estimate of the benefits that would be paid from the plan if it were immediately terminated. The figures in the text are based on a survey conducted by Watson Wyatt Worldwide, and they do not reflect the effects of the Job Creation and Worker Assistance Act. See Watson Wyatt, "Pension Plans and Interest Rates: Short-Term Relief, Long-Term Uncertainty," available at http://www.watsonwyatt.com/us/news/featured/usmarkets.asp. In response, the Job Creation and Worker Assistance

These changes have dramatically increased companies' minimum funding requirements for their defined benefit plans.[41] Some analysts suggest that the increase in funding requirements—whether from a drop in equity prices or as a result of falling interest rates—together with increased annual contribution rates required as work forces age could prove to be the "death knell" for DB plans.[42]

Although employers bear the direct risk of fluctuating investment returns in DB plans, they can shift some risk to workers by freezing the current plan and replacing it with another plan, possibly a cash balance plan. To be clear, firms may not renege on accrued benefits. But the rate of accrual under DB plans rises with age and job tenure, while the contribution rate under DC or cash balance plans benefits is determined by the employer. This difference means that shifting from a traditional DB plan to a cash-balance plan normally reduces future benefit accrual for many workers. Without special transitional provisions, therefore, workers in their fifties and to some extent those in their forties may be penalized by a switch to a cash balance plan.[43]

Act of 2002 temporarily raised the interest rate that firms could use to compute their pension liabilities; the increase in the allowable interest rate reduces the plan's liabilities for this purpose, but does not change the underlying reality. For a discussion of why this change was unwarranted, see Peter Orszag and David Gunter, "Note On Proposed Change in Assumed Interest Rate For Defined-benefit Pension Plans," Brookings Institution, February 2002.

[41] For further discussion of potential future problems in funding defined benefit plans, see Sylvester Schieber and John Shoven, "The Consequences of Population Aging," in Sylvester Schieber and John Shoven, eds., *Public Policy towards Pensions* (New York: Twentieth Century Fund, 1997).

[42] Sylvester Schieber, "The Employee Retirement Income Security Act: Motivations, Provisions, and Implications for Retirement Security," paper prepared for the conference "ERISA after 25 Years: A Framework for Evaluating Pension Reform," September 1999.

[43] A related controversy has arisen because some firms have converted their traditional defined benefit pension plan to a cash balance plan in a manner that creates "wear-aways," which have been the subject of much criticism by unions and other employee groups. Under a wear-away, the pension benefit provided by the new plan is initially lower than the accrued benefit provided under the old plan, so that a worker's total accrued pension benefit does not increase as he or she continues working. The accrued benefit under the old plan, which is higher than the cash

The financial difficulties faced by companies with DB plans starting in 2002 and the drop in asset prices for workers with DC plans underscore the investment risk inherent in a pension plan which, by its very nature, entails commitments that span many decades. Someone has to bear those risks. Because corporations have unlimited lives and can pool risks over time more easily and cheaply than most individuals, having individual workers bear these risks may be more costly than having firms bear them.[44] The question for public policy is how much of these risks should be borne by companies through defined benefit plans, by individual workers through defined contribution plans, or by society.

The uncertainty of future wage growth and job tenure is another source of pension risk for workers under defined benefit plans. Under the typical DB formula, benefits accrue slowly when workers are young and more rapidly at the end of their careers. The benefit from working at one job for forty years is typically much greater than the combined benefits from working at four jobs for ten years each. For this reason, losing or changing jobs lowers pension benefits under traditional DB plans more than under DC or cash balance plans.

Retirees face other pension risks. DC plans typically provide a lump sum at retirement. This practice is increasing among DB plans, but it is still less common than in DC plans. Retirees who do not use the lump sum to buy an annuity risk outliving their retirement savings. Few retirees buy annuities, however, for at least five reasons. First, annuities are expensive. Because those who buy annuities tend to live longer than average, insurance companies can avoid losses only by pricing annuities 10–15 percent higher than would be necessary if every customer had

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balance value during the wear-away period, is legally protected. Therefore, if the worker left the firm during the wear-away period, he or she would be entitled to a higher pension than the cash balance account would suggest.

[44] Because we are focusing on private pensions, we do not explore the more difficult question of whether the government is better able to handle these risks through social insurance than are individual workers or their employers.

average life expectancy. Second, private insurers typically do not offer inflation-adjusted annuities. Instead, the purchasing power of annuities, which are normally fixed in nominal terms, falls as prices rise. Third, some workers appear not to understand the insurance aspect of an annuity, and others may place an unduly high value on lump sums relative to a flow of income over time. Fourth, some workers may want to use their accumulated retirement funds to leave bequests for their children. Finally, workers already are partially annuitized through Social Security and Medicare and may prefer to keep some of their existing assets in liquid form. The reluctance to purchase annuities in the private market, combined with the ongoing relative shift away from DB plans and toward DC plans, raises important issues about how well retirees will insure themselves against poverty in very old age.[45]

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[45] Lump-sum payouts from 401(k) plans may become even more common in the future, because the IRS has recently changed the relevant regulations to allow lump sums as the sole withdrawal option in a 401(k) plan. On the high cost of annuities, see Olivia Mitchell, James Poterba, Mark Warshawsky, and Jeffrey R. Brown, "New Evidence on the Money's Worth of Individual Annuities," *American Economic Review*, vol. 89, no. 5 (December 1999), pp. 1299–1318; and Mamta Murthi, J. Michael Orszag, and Peter Orszag. "The Value for Money of Annuities in the UK: Theory, Experience, and Policy," in Robert Holzmann and Joseph E Stiglitz, eds., *New Ideas about Old Age Security* (Washington, D.C.: World Bank, 2001). Many insurers now offer so-called variable annuities, which are backed by common stocks, real estate, or other assets that can increase in value as the economy grows. Such annuities also carry a significant risk of falling in value, possibly sharply, if the value of underlying assets declines. For this reason, they are unsuitable investments for people who must depend on the annuity income to support their basic living standard. For a discussion of preferences for lump-sum payments, see Richard H. Thaler, "Some Empirical Evidence on Dynamic Inconsistency," as reprinted in Richard H. Thaler, *Quasi-Rational Economics* (New York: Russell Sage Foundation, 1994); and David Fetherstonhaugh and Lee Ross, "Framing Effects and Income Flow Preferences," in Henry J. Aaron, ed., *Behavioral Dimensions of Retirement Economics* (Washington, D.C.: Brookings Institution Press, 1999), p. 203. The relative shift toward defined contribution plans also raises questions about gender equity: Under defined benefit plans, which are governed by the antidiscrimination standards in federal labor law, the annuities provided to a male and a female with the same earnings history are equal despite the longer life expectancies (on average) for females. The annuities that can be purchased with the proceeds from a 401(k), however, are governed by state insurance laws, which generally allow different annuity prices for males and females. Sheila Campbell and Alicia H. Munnell, "Sex and 401(k) Plans," Center for Retirement Research, Just the Facts on Retirement Issues, no. 4, Boston College (May 2002). In effect, the annuities provided under defined benefit plans subsidize females, on average; the movement from defined benefit plans to 401(k) plans removes this subsidy and thus, all else being equal, involves redistribution from females to males.

Retirement

Employers have frequently structured DB plans to encourage early retirement by making the lifetime, present value of pension payments decline if workers delay retirement after a specified age. In 1993–94, almost 75 percent of private-sector workers in medium- and large-scale enterprises with defined benefit plans could claim benefits as early as age 55. The monthly benefit is typically smaller if benefits are claimed before a standard retirement age, often age 65, but the present value of *lifetime* benefits is often higher the sooner benefits are claimed, because the reduction in each payment is more than offset by the longer period of payment. Several studies have suggested that such provisions cause earlier retirement than would otherwise be the case.[46]

DC plans contain no such incentive for early retirement. Some evidence suggests that the shift from DB to DC plans has delayed retirement by one to two years.[47] The shift to cash balance plans should also reduce the incentive for early retirement, as cash balance plans are also

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[46] Ann C. Foster, "Early Retirement Provisions in Defined Benefit Pension Plans," *Compensation and Working Conditions*, Department of Labor (December 1996), pp. 12–17. For example, in 1993–94, the average uniform percentage reduction per year of early retirement among those plans with a uniform percentage reduction formula was 4.8 percent, which is lower than the roughly actuarially fair reduction factor applied to Social Security benefits. See Ann C. Foster, "Early Retirement Provisions in Defined Benefit Pension Plans," Table 2, p. 14. Other plans include provisions such as a "30 and out" rule, under which a worker with 30 years of service can receive the full retirement annuity from the plan regardless of age. See Kyle Brown and others, "The Unfolding of a Predictable Surprise" (Watson Wyatt Worldwide, 2000), p. 2. Lawrence Kotlikoff and David Wise, "The Incentive Effects of Private Pension Plans," in Zvi Bodie, John Shoven, and David Wise, eds., *Issues in Pension Economics* (Chicago: University of Chicago Press, 1987); Lawrence Kotlikoff and David Wise, "Employee Retirement and a Firm's Pension Plans," in David Wise, ed., *The Economics of Aging* (Chicago: University of Chicago Press, 1989); and Robin Lumsdaine, James Stock, and David Wise, "Retirement Incentives: The Interaction Between Employer Provided Pensions, Social Security, and Retiree Health Benefits," NBER Working Paper No. 4613, 1994.

[47] Leora Friedberg and Anthony Webb, "The Impact of 401(k) Plans on Retirement," University of California at San Diego, Economics Discussion Paper 2000-30 (November 2000).

neutral regarding the timing of retirement. Companies that convert traditional DB plans to cash balance plans have often removed early retirement subsidies at the same time.[48]

Complexity

Pension rules are notoriously complex. Needless complexity raises the costs for employers sponsoring pensions and hampers worker understanding of plan provisions, reducing coverage and participation rates. The source of much of this complexity is the multiplicity of conflicting pension objectives. There is an inherent tension between encouraging people to save adequately, which suggests that their choices would otherwise be sub-optimal, and giving workers choices regarding their pensions, which is a more successful strategy if workers do make optimal choices. Policymakers seek to ensure that the tax breaks that encourage pensions are used equitably across income and demographic groups and do not create tax shelters that erode the tax system. A government agency, the Pension Benefit Guaranty Corporation, insures DB pensions, so the government also has an interest in keeping plans actuarially sound and prudently invested. Since the programs are voluntary, policymakers need to keep the rules as simple as possible.

Because the goal of pensions is adequate retirement saving, rather than unlimited all-purpose saving, DC plans have maximum contribution limits and DB plans have maximum benefit levels to hold down the revenue costs. To focus the subsidy on retirement saving, rather than bequests, participants face minimum distribution rules in retirement. Companies that offer DB plans are subject to both minimum funding requirements—to ensure that the plans are adequately financed—and maximum contribution limits—to ensure that companies do not pile

[48] Robert L. Clark and Sylvester J. Schieber, "Taking the Subsidy Out of Early Retirement: The Story Behind the Conversion to Hybrid Pensions," in Olivia S. Mitchell et al., eds., *Innovations in Retirement Financing* (Philadelphia: University of Pennsylvania Press, 2002), pp. 149–74.

up deductible contributions in years when tax rates are high.[49] Employers face complicated nondiscrimination rules intended to ensure that low-income workers receive a fair share of the tax benefits.[50]

These well-intentioned provisions collectively conflict with the need to keep pensions simple. Congress has sought to ameliorate excessive complexity in recent years by providing "safe harbors" and other exceptions from the complicated rules that apply to pensions in general.[51] The provisions relieve the administrative burden for some and substitute "rough justice" for finely tuned equity. Unfortunately, they also inject more letters into the alphabet soup of the pension system.

Reform Options

It is easy to say that pension reform should increase individual and national saving, improve the allocation of risk, rationalize retirement incentives, and promote simplicity. But achieving those goals is difficult. Because pensions serve conflicting objectives, changes often involve trade-offs among alternative, desirable goals. Measures to increase saving by lower- and middle-income households, for example, are likely to increase complexity. Because the pension

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[49] The rules regarding how DB plans may calculate pension liabilities are also split between trying to ensure adequate funding—which generally militates toward more contributions sooner—and limiting tax avoidance—which generally suggests contributions be limited and come later in the worker's career.

[50] In practice, the rules contain a variety of loopholes. For example, the "permitted disparity" rules allow integration of the employer's pension plan with Social Security. By integrating the plan with Social Security, the firm is allowed to provide higher contributions to high-income workers without triggering the nondiscrimination rules that normally apply. (In effect, the pension component of the integrated plan discriminates in favor of high earners, but that regressivity is considered to be compensated by the progressivity of the Social Security system.) As another example, the "cross-testing" rules allow a defined contribution plan to be evaluated for nondiscrimination purposes as if it were a defined benefit plan. The effect is often to allow older, higher-paid executives to enjoy a larger share of overall pension contributions in the plan. See Peter Orszag and Norman Stein, "Cross-Tested Defined-Contribution Plans: A Response to Professor Zelinsky," *Buffalo Law Review*, vol. 49 (2001), pp. 628–74 for further discussion of the cross-testing rules.

[51] Examples include the Simplified Employee Pension (SEP) and the Savings Incentive Match Plan for Employees (SIMPLE), as well as the safe-harbor nondiscrimination rules for 401(k)s.

system is voluntary, onerous administrative burdens may cause employers to drop pension plans altogether. Finally, regardless of whether the employer or employee makes the contributions to a pension, workers ultimately bear the burden of pension contributions. Increased pension saving thus corresponds to a reduction in current take-home pay, and that inevitable cost can undermine efforts to improve the pension system.

The Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) included a series of important changes to the pension and IRA laws. Among other things, the Act raised the contribution limits on IRAs and 401(k) plans, increased the maximum benefit payable under defined benefit plans, and increased the maximum amount of compensation that could be considered in determining pension benefits. The Act also created a new Roth 401(k), modeled after the Roth IRA. Under a Roth 401(k), contributions would be made on an after-tax basis, would accumulate tax-free, and then could be withdrawn without tax. With few exceptions, the changes do not score highly when ranked against the goals described above. The provisions are disproportionately aimed at higher earners, and are therefore unlikely to boost retirement income adequacy or raise national saving. The legislation also allows defined benefit plans to provide even larger subsidies for early retirement than under previous law. The impact on simplicity is mixed. One bright spot is that EGTRRA also created a "saver's credit" that provides saving incentives for households with moderate income, as discussed further below.

Over the past several years, pension experts have proposed various basic structural reforms of the pension system. We describe two.

The Groom-Shoven Plan

Theodore Groom of the Groom Law Group and John Shoven of Stanford University propose to eliminate the detailed requirements and limits on contributions applying to qualified

pension plans.[52] They would raise the limits on tax-deductible contributions by employers to both DB and DC pension plans.[53] Under current law, contributions and benefits under a qualified plan can be based on compensation only up to $200,000. Groom and Shoven would eliminate this cap, allowing much higher current contributions and benefits for those earning more than $200,000.[54] They would also replace current rules that prevent employers from giving disproportionate benefits to highly compensated employees with a simple requirement that each feature of a plan be effectively available to all workers, though not all workers would have to use them. They would also remove the minimum distribution requirements that retirees withdraw specified proportions of accumulated pension balances starting at a specific age.

The Groom-Shoven plan scores well on simplification. By increasing potential contributions and removing the minimum distribution rules, it would move the tax system substantially toward a consumption tax and would likely increase pension contributions among high-income households. However, the plan would have little effect on private saving because higher-income households could simply shift assets from currently taxable accounts into the expanded tax-preferred accounts, which does not raise private saving. The asset shifts, moreover, would lower government revenue, which would increase government borrowing, a drain on

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[52] Theodore Groom and John Shoven, "How the Pension System Should be Reformed," paper prepared for the conference "ERISA after 25 Years: A Framework for Evaluating Pension Reform," September 1999.

[53] At the time Groom and Shoven drafted their plan, EGTRRA had not yet been passed. Many of the Groom-Shoven provisions, however, would raise benefit and contribution limits even relative to the new, higher levels embodied in EGTRRA.

[54] The elimination of the compensation limit would also affect the amount of funding that companies are allowed under the tax code. Currently, for the purposes of computing their funding requirements for tax purposes, companies are not allowed to take into account future indexation of the compensation limit. As a result, workers with wages well below the compensation limit may be projected to earn wages in the future that exceed the nonindexed level of the limit. Addressing this problem does not require increasing the real value of the compensation limit, however. It would be better addressed by allowing firms to project the expected indexation of the compensation limit for the purposes of computing their funding requirements.

national saving. Furthermore, by loosening the nondiscrimination rules, the proposal could reduce participation among lower- and middle-income households.

In short, the Groom-Shoven proposal would exacerbate the fundamental problems with the current pension system—it provides expensive and substantial benefits to households who do not need them and do not use them to increase their own saving, and it affords small incentives and small benefits to households who can and do use pensions to increase their own retirement income to adequate levels and to increase national saving.

The Halperin-Munnell Plan

Daniel Halperin of Harvard Law School and Alicia Munnell of Boston College would also expand tax incentives for higher earners, but only as part of a comprehensive plan meant to increase the participation and benefits for rank-and-file employees at companies that offer pension plans.[55] Halperin and Munnell note that pension income is now taxed less heavily than are other forms of saving and that higher earners already receive the bulk of these tax advantages. They also note that increased pension coverage and participation is needed most for lower- and middle-income households, but that traditional pension incentives are least effective in that income range.

To remedy this situation, Halperin and Munnell propose a progressive, government-sponsored, matched savings program aimed at lower-income workers who face low or zero marginal income tax rates and therefore receive little if any benefit from the current tax-preferred status of pensions.

[55] Daniel I. Halperin and Alicia H. Munnell, "How the Pension System Should Be Reformed," paper prepared for the conference "ERISA after 25 Years: A Framework for Evaluating Pension Reform," September 1999.

Because Social Security and the new accounts would provide sufficient retirement income for most lower-income workers, Halperin and Munnell would exclude workers earning less than $20,000 a year from employer-sponsored pension plans and the nondiscrimination rules. For other workers, this proposal would substantially tighten non-discrimination rules by requiring each company to provide uniform coverage and benefits to all full-time employees; current rules allow employers to exclude a significant share of full-time rank-and-file workers.[56] The plan would require sponsors of 401(k) plans to make substantial contributions for all participants. Halperin and Munnell would also eliminate so-called "integration" provisions, under which companies link private pensions to Social Security benefits so that company plans replace a smaller fraction of low earnings than of high earnings (Social Security benefits do the opposite).

They would also encourage certain types of defined benefit plans, including cash balance plans, and provide incentives for annuitization. Finally, they would finance these changes with a 5 percent tax on the investment earnings of pension plans.[57]

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[56] For example, under current law, the allowable degree of disparity between contributions for higher-income executives and rank-and-file workers is defined by two mathematical tests: the "ratio percentage" test and the "average benefit" test. A pension plan must generally conform to one of these tests to meet the nondiscrimination rules and thereby qualify for pension tax preferences. Under the ratio percentage test, the firm calculates the percentage of highly compensated employees (defined essentially as those earning more than $90,000) covered by the pension plan. To pass the ratio percentage test, the plan's coverage rate for *non*-highly compensated employees must be at least 70 percent as high as the percentage for the highly compensated workers. In other words, if 80 percent of the highly compensated workers are covered, at least 56 percent (70 percent of 80 percent) of rank-and-file workers also must be covered. If a plan fails the ratio percentage test, it still qualifies if it passes the average benefit test. The average benefit test requires that the plan include and exclude employees under a reasonable business classification system, that the classification be nondiscriminatory (which is determined by a much weaker version of the ratio percentage test), and that the average benefit of the rank-and-file workers (measured as a percentage of pay) be at least 70 percent of the average benefit (as a percentage of pay) of the highly compensated employees.

[57] This part of the Halperin-Munnell plan resembles the universal savings account plan proposed by the Clinton administration.

Many features of the Halperin-Munnell proposal would increase national saving. By raising coverage of and participation by lower- and middle-income households, it would concentrate incentives to save on those least likely to shift assets from taxable to tax-sheltered accounts and to those most in need of increased retirement wealth accumulation. The plan would also promote a shift from traditional DB to cash balance plans, which would improve retirement incentives. But it would complicate, rather than simplify, the pension system, as new rules would be required for the government-sponsored savings accounts, and it would allow companies to exclude workers earning less than $20,000 a year. Furthermore, its proposed tax on the investment earnings of pension plans is not politically viable at the current time. In the absence of that tax, the plan would reduce government revenue and its effects on national saving would therefore be less clear.

Incremental Reforms

In the absence of sweeping reforms, certain incremental changes could move the pension system in the right direction. The reforms listed here deal primarily with improving defined contribution plans and cash balance plans.

Create Progressive Saving Credits. Current tax incentives for saving are weak or absent for low- and middle-income workers whose income is taxed either at a low rate or not at all. A direct government subsidy that supplements saving at a higher rate for low-income than for high-income savers could encourage saving by people who now save little for retirement. EGTRRA created a "saver's credit" of up to 50 percent of up to $2,000 in contributions to IRAs and 401(k) plans made by married couples earning less than $30,000 and single filers earning less than $15,000. The credit phases out for filers with higher incomes. Unfortunately, the saver's credit is likely to be of limited value because it is not refundable and therefore provides no saving

incentive to families with no income tax liability after other deductions and credits.[58] Furthermore, the credit phases out at modest incomes. For example, a married couple with combined earnings of $45,000 a year receives only a $200 tax credit for depositing $2,000 into a retirement account. Finally, the credit is scheduled to terminate in 2006. To have much effect on saving, the incentives should be refundable, permanent, and available to filers with modestly higher incomes.[59]

Change the Default Choices in 401(k) Plans. A seemingly minor change in rules governing 401(k) plans could massively increase savings. Richard Thaler of the University of Chicago and Shlomo Benartzi of UCLA have suggested that people will save more if they are asked to commit a portion of future pay raises to saving than if asked to cut current spendable income to save more immediately. To implement this insight, they persuaded a mid-sized manufacturing company in 1998 to adopt a plan, "Save More Tomorrow" (SMT), under which employees commit to allocate a part of future pay raises to saving. The contribution rate is automatically increased with each pay raise until it reaches a preset maximum (such as the legally allowable maximum). Employees may withdraw from the plan at any time. The first

[58] For example, a married couple with two children who claimed the standard deduction in 2002 started owing income tax (after the child credit) at an adjusted gross income of $31,850, which is *above* the $30,000 threshold for the 50 percent credit rate. Furthermore, the income threshold is not indexed to inflation, meaning that fewer and fewer families could even potentially benefit from the nonrefundable credit.

[59] The Clinton administration proposed universal savings accounts (USAs) in 1999. The USA program would have provided an automatic tax credit to taxpayers between 18 and 70 years old who had at least $5,000 in earnings and adjusted gross income below $80,000 for married filers ($40,000 for single filers). The program would also have provided a matching, refundable tax credit for voluntary contributions to the account. The retirement savings account (RSA) proposal, put forward in 2000, would have provided a matching credit for contributions made to retirement savings accounts by workers between the ages of 25 and 60 with earnings of at least $5,000 and adjusted gross incomes of less than $80,000 a year for married filers ($40,000 for single filers).

implementation of the SMT plan caused contribution rates to more than triple, from 3.5 percent to 11.6 percent, over the course of 28 months.[60]

Expand Financial Education. Measures to improve financial education and investment advice provided to workers are overdue. The Employee Retirement Income Security Act (ERISA) requires employers to ensure that workers have "sufficient information to make informed decisions" about pensions, but prohibits plan sponsors from providing specific investment advice to participants. Unfortunately, the general financial education allowed under ERISA is too abstract to be of much use for many workers. We believe that a measure, considered by the Senate after the Enron debacle, to allow third-party financial advisors to provide such advice, merits early adoption.[61]

Diversify. Employee decisions were largely responsible for the excessive concentration of pension investments in shares of their own employers, although the problem arose in part because of restrictions imposed by employers on sales of shares. ERISA limits employer stock to no more than 10 percent of assets of DB plans, but exempts DC plans from these rules. In fact, many companies use company stock as their employer match in the 401(k) plan and some then restrict sales of such stock by the employee.[62] Congress in 2002 considered a bill that would have forced employers to let workers sell employer stock after three years (by which point the law

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[60] Richard H. Thaler and Shlomo Benartzi, "Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving," *Journal of Political Economy*, forthcoming. Almost all workers (98 percent) continued with the plan through two pay raises; the vast majority (80 percent) remained through three pay raises. Even those who withdrew from the plan did not cut their contribution rates back to the original levels; instead, they froze their contribution rates rather than allowing future increases. One problem with expanding the SMT plan is that it is unclear whether such automatic escalations are allowed under extant regulation. Some Treasury Department officials have informally indicated that such plans are indeed allowed, but there has been no official confirmation, and there is at least some concern in the private sector about the lack of clarity.

[61] The House considered an alternative that would permit the plan sponsor to provide investment advice. We believe that this alternative is inferior, as it creates a conflict of interest that is subject to abuse.

[62] Munnell and Sunden, "401(k)s and Company Stock: How Can We Encourage Diversification?"

generally requires that the employee be vested with the matched funds).[63] In addition to this provision, workers should at least have the option to diversify their portfolios after they have vested. A stronger measure—to prohibit employer shares as the default option for matching funds—merits serious consideration, although it would be strongly opposed by employers. Under this option, employers would not be allowed to use their own shares to provide matching funds, although, of course, workers would be free to buy company stock with their own contributions.[64]

Simplify Pension Rules. Two of the most complicated areas of the pension tax code are the minimum distribution rules and the nondiscrimination rules. The minimum distribution rules require that workers begin to draw down their accumulated pensions by age 70 and a half, or when they retire, whichever is later.[65] These rules are intended to ensure that the tax incentives provided for pensions and IRA contributions are actually used to finance retirement rather than to accumulate estates.

Progress has recently been made in simplifying the minimum distribution rules.[66] Some have argued that policymakers should either eliminate (as in Groom-Shoven) or drastically loosen (as in a bill reported out of the House Committee on Ways and Means in 2002) the

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[63] After the passage of EGTRRA, employer matches must vest with workers in full after three years or vest on a sliding scale between years two and six.

[64] This more aggressive approach would pose difficult problems with regard to Employee Stock Ownership Plans (ESOPs), a form of retirement plan designed to concentrate holdings in company stock. For further discussion of the role of employee stock ownership plans and the views of corporations, see Olivia S. Mitchell and Stephen P. Utkas, "Company Stock and Retirement Plan Diversification," Pension Research Council Working Paper 2002-4, Wharton School, University of Pennsylvania (March 2002).

[65] The rules for distributions from traditional IRAs are slightly different. Distributions from IRAs are required to begin by age 70 and a half regardless of whether the owner is retired. No minimum distribution rules apply to Roth IRAs until the death of the owner. For further discussion of the minimum distribution rules and various proposals to loosen them, see Jay A. Soled and Bruce A. Wolk, "The Minimum Distribution Rules and Their Critical Role in Controlling the Floodgates of Qualified Plan Wealth," *Brigham Young University Law Review* (2000); and Jeffrey R. Brown et al, "Taxing Retirement Income: Nonqualified Annuities and Distributions from Qualified Accounts," *National Tax Journal*, Vol. 52 No. 3 (September 1999), pp. 563–92.

[66] See United States Department of Treasury, *Internal Revenue Bulletin*, 2001-11 (March 12, 2001), p. 865.

minimum distribution rules. A better alternative—to exempt a modest amount per individual, say $25,000 or $50,000 from the rules—would allow most retirees to avoid the rules altogether without creating an overwhelming incentive to use retirement tax incentives primarily as an estate-building mechanism, since the exemption would be relatively modest compared with the estate desired by many high-income individuals.

The nondiscrimination rules are intended to ensure that the generous tax incentives granted to qualified pension plans benefit low- and moderate-income workers as well as highly compensated workers. In practice, however, the rules allow significant disparities. They are also complex and costly to administer, and it is not obvious that they achieve their intended effect. As an alternative, a minimum contribution regime could reduce administrative costs while still ensuring that lower earners shared in the benefits provided to qualified plans. Under one proposal, for 401(k) plans, employers would be required to contribute a flat percentage of earnings for all employees, and workers would be permitted, but not required, to contribute up to some multiple of the employer's contribution. This rule would both simplify regulation and ensure some contribution for all earners, including those who make no voluntary contributions.[67]

Expand Cash Balance Plans. In principle, cash balance plans offer several advantages over traditional DB plans and 401(k) plans. Unlike traditional DB plans, they do not penalize workers who switch jobs, and they do not encourage early retirement.[68] As with DC plans,

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[67] For example, elective deferrals by workers could be limited to three times the employer's uniform percentage contribution for all workers. If the employer contributed 5 percent of earnings, each employee could deposit up to 15 percent of compensation, which would be subtracted from taxable income in the year of the deposit. See Orszag and Stein "Cross-Tested Defined Contribution Plans."

[68] In addition, cash balance plans redistribute pension benefits from workers with relatively steep earnings profiles to those with relatively flat earnings profiles (for any given present value of lifetime wages), compared with a traditional defined benefit plan. In particular, for any given level of lifetime wages and overall pension costs, workers with wages rising more steeply over their careers would receive a relatively larger benefit from a traditional defined benefit plan and workers with flatter earnings profiles over their careers would receive a relatively larger benefit from a cash balance plan. The intuition is that the interest credits in a cash balance plan raise the importance

changing jobs does not reduce pension accumulation, and the timing of retirement does not affect the value of lifetime benefits. Unlike 401(k) plans, however, the rate of return is guaranteed in the short term, and direct financial market risk falls on the company—and on the Pension Benefits Guaranty Corporation, if the pension plan becomes insolvent. Because workers have less access before retirement to accumulations in cash balance plans than to those in 401(k) plans, funds are more likely to be available to support retirement consumption. Furthermore, participation rates are usually higher in cash balance plans than in 401(k) plans because enrollment is automatic in the former and voluntary in the latter. For all of these reasons, cash balance plans seem particularly attractive based on several of our principles.

A number of practical problems have arisen with cash balance plans, however.[69] Not only have some companies used cash balance plans to reduce their pension obligations, other companies have reduced or even suspended accruals, sometimes for extended periods.[70] Some employers have provided workers with inadequate explanations of what shifts to cash balance plans mean.[71] Finally, cash balance plans are not typically indexed to inflation, potentially exposing participants to significant inflation risk.

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of wages early in a career; the final pay aspect of a traditional defined benefit plan raises the importance of wages later in a career. The available evidence suggests that more educated workers tend to have steeper earnings profiles than less educated workers; see Barry Bosworth, Gary Burtless, and C. Eugene Steuerle, "Lifetime Earnings Patterns, the Distribution of Future Social Security Benefits, and the Impact of Pension Reform," Center for Retirement Research, Working Paper 1999-06, Boston College (December 1999).

[69] One controversial issue not examined in the text is whether cash balance plans violate the age discrimination rules in ERISA, the Internal Revenue Code, or the Age Discrimination in Employment Act. See Patrick J. Purcell, "Pension Issues: Cash Balance Plans," Congressional Research Service (November 1, 2002), p. 12.

[70] This problem occurs through the creation of "wear-aways," which have been the subject of much criticism by unions and other employee groups.

[71] EGTRRA included a limited provision requiring that firms disclose amendments (including conversions to cash balance plans) that reduce the rate of future accruals of benefits. The provision is less aggressive than others that had been considered at the time; the version of the tax legislation that passed the Senate, for example, would have required firms to provide examples illustrating the effects on classes of employees and to provide a benefit

Legislated disclosure rules and restrictions on transitional changes could reduce current worker suspicion about employers' motives in shifting to cash balance plans. These rules should limit the period after the switchover when workers do not accrue additional pensions. These no-accrual periods frequently arise because cash balance plans do not have subsidies for early retirement. Elimination of such subsidies is actually a socially attractive feature of cash balance plans, as pensions should not subsidize early retirement, but their withdrawal is unpopular with directly affected workers.[72]

Minimize Unnecessary Leakage from Lump-Sum Distributions. Reducing the withdrawal of assets from pension funds before retirement could boost both national saving and retirement security. Currently, unless a departing worker affirmatively asks for a cash distribution, pension rules require that companies roll over accounts of more than $1,000 but less than $5,000 into an IRA established by the company on behalf of the worker. In addition, the employee may direct that the account balance be rolled over to another employer plan or to a specified IRA.[73] This provision encourages rollovers and could help broaden pension coverage if businesses establish IRAs for the millions of workers who change jobs. An increase in the withholding and penalty taxes applied to distributions from pension plans would encourage rollovers. These desirable

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estimation tool kit to workers to allow them to compute more personalized estimates of the effects. These provisions were contained in S. 896, the Restoring Earnings to Lift Individuals and Empower Families (RELIEF) Act of 2001.

[72] A separate question involves the transition to the new rules. It may be necessary to perpetuate early retirement subsidies during a transition to the cash balance plan in order to be fair to the current workers and to improve the political viability of the cash balance approach. Robert Clark and Sylvester Schieber, "Taking the Subsidy Out of Early Retirement: The Story behind the Conversion to Hybrid Pensions," in Mitchell and others, eds., *Innovations in Retirement Financing* (Philadelphia: University of Pennsylvania Press, 2002), pp. 149–74.

[73] The Treasury Department had earlier issued administrative guidance that authorized (but did not require) plans to roll over distributions of accounts up to $5,000 to an IRA established by the plan sponsor on behalf of an employee who does not express a preference regarding the disposition of the funds. See Revenue Ruling 2000-36.

effects should be balanced against the legitimate reasons some workers have to withdraw funds before retirement.

Conclusion

As the baby boomers near retirement, the nation's pension system is wobbling. It covers only half the work force at any point in time. It is complex. Its impact on national saving and the adequacy of retirement saving are suspect, despite the substantial costs it imposes on the federal treasury. Even those who end up with a pension frequently receive meager benefits. The rules provide significant tax incentives to households who would save sufficiently for retirement even in the absence of such incentives. The shift of the pension system from DB plans to DC plans has provided workers with more choice and flexibility. But it has also exposed individual workers, who often lack the financial education necessary to make informed decisions, to more pension risks.

Recent policy shifts have exacerbated these shortcomings. A change of course is necessary to enlarge the number of workers who reach retirement with sufficient assets to sustain the living standards to which they have become accustomed. Major reforms may be desirable, but they require a measure of political consensus that is as scarce in pension policy as it is elsewhere in American political life. Incremental reforms—from improving the default options under 401(k) plans to encouraging the responsible growth of cash balance plans, encouraging diversification and financial education, and expanding the low-income saver's credit—would be important steps in the right direction.

Table 1: Scheduled Replacement Rates from Social Security for Workers Retiring at 65

Year attaining age 65	Low earner	Medium earner	High earner	Maximum earner
2002	53.6	39.9	32.5	24.8
2010	53.1	39.4	32.6	25.1
2020	52.4	38.9	32.2	25.5
2040	49.1	36.5	30.1	24.0

Source: 2002 OASDI Trustees Report, Table V1.E11.

Note: In 2003, the low earner is assumed to earn $16,474; the average earner is assumed to earn $36,608, the high earner is assumed to earn $58,574; and the maximum earner is assumed to earn $89,700.

Table 2: Characteristics of Employer Pension Plans

	Traditional defined benefit	Defined contribution/ 401(k)	Cash balance plan
Funding	Employer	Employee and employer	Employer
Financial Market Risk Borne by	Employer	Employee	Employer
Benefits Determined by	Years of service and final or highest average pay	Contributions (based on current wages) and investment returns on those contributions	Pay credits (based on current wages) and interest credits
How Benefits Are Typically Paid at Retirement	Annuity	Lump-sum	Annuity or lump-sum
Access to Funds for Current Workers prior to Retirement	No	Yes (through loans and hardship withdrawals)	No
Guaranteed by PBGC	Yes	No	Yes

Table 3: Shift of Pension System toward Defined Contribution Plans

	1975			1998		
	DB	DC	DB share of total	DB	DC	DB share of total
Number of plans	103,346	207,748	33.2%	56,405	673,626	7.7%
Active participants	27,214	11,217	70.8%	22,994	50,335	31.4%
Plan assets, 1998 $ million	$563,429	$224,259	71.5%	$1,936,600	$2,085,250	48.2%
Contributions, 1998 $ million	$73,453	$38,842	65.4%	$34,985	$166,900	17.3%

Sources: Department of Labor (1999), Department of Labor (2002), and authors' calculations. Nominal figures for 1975 were converted into 1998 dollars using the CPI-U.

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