

March 2011

# PRIVATE PENSIONS

## Some Key Features Lead to an Uneven Distribution of Benefits



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## Why GAO Did This Study

Despite sizeable tax incentives, private pension participation has remained at about 50 percent of the workforce. For those in a pension plan, there is concern that these incentives accrue primarily to higher income employees and do relatively little to help lower income workers save for retirement. The financial crisis and labor-market downturn may have exacerbated these difficulties. Therefore, we examined (1) recent trends in new private pension plan formation, (2) the characteristics of defined contribution plan participants contributing at or above statutory limits, (3) how suggested options to modify an existing credit for low-income workers might affect their retirement income, and (4) the long-term effects of the recent financial crisis on retirement savings.

To answer these questions, GAO reviewed reports, federal regulations, and laws, and interviewed academics, agency officials, and other relevant experts. We also analyzed Department of Labor and 2007 Survey of Consumer Finance (SCF) data, and used a microsimulation model to assess effects of modifying tax incentives for low-income workers.

We incorporated technical comments from the departments of Labor and Treasury, the Internal Revenue Service, and the Pension Benefit Guaranty Corporation as appropriate.

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## What GAO Found

Net new plan formation in recent years has been very small, with the total number of single employer private pension plans increasing about 1 percent from about 697,000 in 2003 to 705,000 in 2007. Although employers created almost 180,000 plans over this period, this formation was largely offset by plan terminations or mergers. About 92 percent of newly formed plans were defined contribution (DC) plans, with the rest being defined benefit (DB) plans. New plans were generally small, with about 96 percent having fewer than 100 participants. Regarding the small percentage of new DB plans, professional groups such as doctors, lawyers, and dentists sponsored about 43 percent of new small DB plans, and more than 55 percent of new DB plan sponsors also sponsored DC plans. The low net growth of private retirement plans is a concern in part because workers without employer-sponsored plans do not benefit as fully from tax incentives as workers that have employer-sponsored plans. Furthermore, the benefits of new DB plans disproportionately benefit workers at a few types of professional firms.

Most individuals who contributed at or above the 2007 statutory limits for DC contributions tended to have earnings that were at the 90<sup>th</sup> percentile (\$126,000) or above for all DC participants, according to our analysis of the 2007 SCF. Similarly, consistent with findings from our past work, high-income workers have benefited the most from increases in the limits between 2001 and 2007. Finally, we found that men were about three times as likely as women to make so-called catch-up contributions when DC participants age 50 and older were allowed to contribute an extra \$5,000 to their plans.

We found that several modifications to the Saver's Credit—a tax credit for low-income workers who make contributions to a DC plan—could provide a sizeable increase in retirement income for some low wage workers, although this group is small. For example, under our most generous scenario, Saver's Credit recipients who fell in the lowest earnings quartile experienced a 14 percent increase in annual retirement income from DC savings, on average.

The long-term effects of the financial crisis on retirement income are uncertain and will likely vary widely. For those still employed and participating in a plan, the effects are unclear. Data are limited, and while financial markets have recovered much of their losses from 2008, it is not fully known yet how participants will adjust their contributions and asset allocations in response to market volatility in the future. In contrast, although data are again limited, the unemployed, especially the long-term unemployed, may be at risk of experiencing significant declines in retirement income as contributions cease and the probability of drawing down retirement accounts for other needs likely increases. The potential troubling consequences of the financial crisis may be obscuring long standing concerns over the ability of the employer-provided pension system in helping moderate and low-income workers, including those with access to a plan, save enough for retirement.

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## **Abbreviations**

AGI	adjusted gross income
DB	defined benefit
DC	defined contribution
EGTRRA	Economic Growth and Tax Relief Reconciliation Act of 2001
IRA	individual retirement account
Labor	Department of Labor
PBGC	Pension Benefit Guaranty Corporation
PENSIM	Pension Simulator
PSG	Policy Simulation Group
SCF	Survey of Consumer Finances

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United States Government Accountability Office  
Washington, DC 20548

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March 30, 2011

The Honorable Sander M. Levin  
Ranking Member  
Committee on Ways and Means  
House of Representatives

The Honorable Richard E. Neal  
Ranking Member  
Subcommittee on Select Revenue Measures  
Committee on Ways and Means  
House of Representatives

The Honorable Charles B. Rangel  
Committee on Ways and Means  
House of Representatives

For nearly a century, qualified pension and retirement plans meeting certain qualifications have received favorable federal tax treatment with deferral of taxes on contributions and investment earnings until benefits are received in retirement. Today, these pension tax incentives are the second largest tax expenditure and the associated income tax revenue losses are estimated to amount to approximately \$105.1 billion in fiscal year 2011 and a total of \$602.2 billion from fiscal years 2012 to 2016.<sup>1</sup> The purpose of favoring private pensions through the tax code is to encourage employers to form new plans or maintain existing plans for their employees and to encourage workers to save for retirement. At the same time, the favorable tax treatment includes requirements to help ensure that the accrual of benefits would be broadly based among their workforce and not accrue solely to higher income employees.<sup>2</sup>

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<sup>1</sup>Office of Management and Budget, Executive Office of the President, *Budget of the United States Government, Fiscal Year 2012* (Washington, D.C., February 2011). The tax expenditure is measured as the tax revenue that the government does not currently collect on contributions and earnings amounts, offset by the taxes paid on pensions by those who are currently receiving retirement benefits. For fiscal year 2011, the revenue loss estimate includes \$62.9 billion for 401(k) defined contribution plans and \$42.2 billion for defined benefit plans. In fiscal year 2011, the federal government will also forgo \$15 billion due to Keogh plans and \$13.9 billion for individual retirement accounts.

<sup>2</sup>26 U.S.C. § 401 et. seq.

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Yet, there has been growing concern that many millions of working Americans remain largely outside the private pension system. The percentage of workers participating in employer-sponsored plans has peaked at about 50 percent of the private sector workforce for most of the past two decades. Many employers—often those of lower income workers—continue to choose not to offer a pension or other retirement savings plan to their employees. For those fortunate enough to be covered by a pension, there is a concern that much of the tax benefits flow to higher income employees, and in many instances the financial constraints on lower wage workers limit their ability to contribute to tax-qualified plans and thus, to benefit from those subsidies.

Since 2001, additional tax-related incentives have been enacted that could help encourage retirement savings and address these distributional issues, including a tax credit—the Saver’s Credit—to encourage those with low earnings to contribute to a retirement plan or an individual retirement account (IRA) and a “catch-up” provision permitting those employees more than 50 years of age to make additional tax-deferred contributions. Also enacted were provisions increasing the limits on the annual contribution to qualified defined contribution (DC) plans that are tax deferrable, a step that some hoped might spur employers to form new plans.

The distributional issues concerning the pension tax expenditure have become more salient in light of the recent financial crisis, subsequent recession, and continued high unemployment. These difficult economic conditions have heightened worries as to whether workers, particularly lower income workers, will have the resources they need to save for retirement. Thus, given the limits of private pension coverage, the cost of tax incentives to promote retirement saving, and the effects of the recent recession on long term retirement security, this report addresses the following questions:

1. What has been the trend in new private pension plan formation in recent years?
2. What are the characteristics of DC participants contributing at or above the statutory DC contribution limits and how might this have changed as the limits have increased?
3. How might incentives to increase retirement saving by low-income workers through modifications of the Saver’s Credit affect retirement income?

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4. What might be the long-term effect of the recent financial crisis on retirement savings for U.S. workers?

To address our objectives we employed a variety of methods, including interviewing pension and retirement experts, reviewing and analyzing databases, and reviewing relevant studies. We used the Department of Labor's data from the Form 5500<sup>3</sup> as well as published data from the Pension Benefit Guaranty Corporation (PBGC) on plan formation. We also used data from the 2007 Survey of Consumer Finances (SCF) to examine characteristics of DC participants.<sup>4</sup> We used a microsimulation model to assess the possible effects of modifying existing tax incentives for low-income workers.<sup>5</sup> To evaluate the effects of the financial crisis on retirement savings, we reviewed and synthesized recent studies and interviewed retirement and financial experts. We also reviewed relevant federal laws and regulations.

We conducted our work from February 2010 to March 2011 in accordance with all sections of GAO's Quality Assurance Framework that are relevant to our objectives. The framework requires that we plan and perform the engagement to meet our stated objectives and to discuss any limitations in our work. We believe that the information and data obtained, and the analysis conducted, provide a reasonable basis for any findings and conclusions in this product.

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<sup>3</sup>The Employee Retirement Income Security Act of 1974 and the Internal Revenue Code require administrators of pension and welfare benefit plans (collectively referred to as employee benefit plans) to file annual reports concerning, among other things, the financial condition and operation of plans. The Department of Labor, Internal Revenue Service, and Pension Benefit Guaranty Corporation jointly developed the Form 5500 so employee benefit plans could satisfy annual reporting requirements.

<sup>4</sup>See appendix I for detailed description of the analyses of Form 5500 and SCF data.

<sup>5</sup>Policy Simulation Group's Pension Simulator (PENSIM) is a pension policy simulation model that has been developed for the Department of Labor to analyze lifetime coverage and adequacy issues related to employer-sponsored pensions in the United States. See appendix I for detailed information about the projections and input assumptions used to produce the results in this report.

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## Background

Pension tax preferences are structured to provide incentives for employers to start and maintain voluntary, tax-qualified pension plans and to ensure that participants receive an equitable share of the tax-favored benefits. The tax treatment for DC and defined benefit (DB) plans are similar.<sup>6</sup> However, DC plan contributions are subject to specific limits and DB plans allow deductions<sup>7</sup> for contributions to fund future benefits (plus a cushion amount<sup>8</sup>), which may total several times the DC tax-deferred contribution dollar limit. Importantly, such benefits cannot exceed the maximum yearly benefit—which is \$195,000 per participant per year<sup>9</sup>—and the allowable contribution in any year also depends on a variety of actuarial factors, including the ages of the participants and the funded status of the plan. (See table 1 for a summary of DC contribution limits.)

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<sup>6</sup>Pension contributions that fall within certain statutory limits, as well as investment earnings on pension assets, are not taxed until benefits are paid to participants. DB plans typically provide benefits as periodic payments over a specified period beginning at retirement age. These benefits are generally based on employees' salaries and years of service. DB plan sponsors are required to offer participants benefit payments in the form of an annuity. Typically, DB annuity payments are received on a monthly basis by the retired participant and continue as long as the recipient lives. DC plans are individual accounts to which employers and employees can make contributions. DC plan benefits are thus based on the contributions and investment returns in those individual accounts. For each participant, typically the plan sponsor may periodically contribute a specific dollar amount or percentage of pay into each participant's account.

<sup>7</sup>Deductions are limited by Internal Revenue Code Sections 404 and 4972.

<sup>8</sup>The cushion amount allows deductible contributions for a year (to the extent not funded by plan assets) up to 150 percent of the funding target plus an amount for future compensation increases.

<sup>9</sup>This limit is actuarially adjusted for pensions commencing before age 62 or after age 65, as well as for certain optional forms of payment. Both the DB and DC dollar limits are indexed for inflation.

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**Table 1: Select Statutory Limits for Defined Contribution Plans, 2001, 2007, and 2011**

<b>Statutory limit</b>	<b>2001</b>	<b>2007</b>	<b>2011</b>
§ 402(g)(1) Limit on elective deferrals made by employees	\$10,500	\$15,500	\$16,500
§ 415(c)(1)(A) Limit on combined employer and employee contributions	35,000	45,000	49,000
§ 414(v)(2)(B)(i) Limit on catch-up contributions for DC participants aged 50 and older	n/a <sup>a</sup>	5,000	5,500

Source: Internal Revenue Service publications.

Notes: Section 415 of the Internal Revenue Code provides for dollar limitations on contributions and benefits under qualified retirement plans. Section 415(d) requires that the Commissioner of Internal Revenue annually adjust these limits for cost of living increases in perpetuity. Other limitations applicable to deferred compensation plans are also affected by these adjustments under section 415. Under section 415(d), the adjustments are to be made pursuant to adjustment procedures which are similar to those used to adjust benefit amounts under section 215(i)(2)(A) of the Social Security Act.

<sup>a</sup>There was no catch-up contribution provision in 2001. N/a means not applicable.

One important requirement for tax-qualified pension plans of private employers is that contributions or benefits be apportioned in a nondiscriminatory manner between highly compensated employees or other workers.<sup>10</sup> There are standard off-the-shelf plan designs, termed “safe harbors,” which allow employers to easily comply with this requirement. Alternatively, employers can develop a custom-tailored plan design and apply general testing methods (as required by law) to a plan’s apportionment of contributions or benefit accruals each year. These methods for custom-tailored plan designs are complex, but they generally require the employer to provide both coverage and contributions or benefits for employees other than the most highly compensated at rates that do not differ too greatly from the rates at which the employer

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<sup>10</sup>26 U.S.C. §§ 401(a)(4), 401(a)(5), 414(q).

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provides coverage and contributions or benefits for its most highly compensated employees.<sup>11</sup>

The purpose of the legal limits that constrain tax-deferred contributions to tax-qualified retirement plans is to prevent tax preferences from being used to subsidize excessively large pension benefits. Tax-deferred pension contributions are also limited by the application of other statutory limits.<sup>12</sup> In addition to the legal limits, some plans set their own limits on contributions. In DC plans with plan-specific contribution limits, tax-deferred contributions are limited to the statutory limit or the plan specific limit, whichever is smaller. Employers set plan-specific limits, in part, to ensure that the plans they sponsor pass statutory and regulatory requirements, such as the requirement that contributions or benefits not be skewed too heavily in favor of highly compensated employees.

The Employee Retirement Income Security Act of 1974<sup>13</sup> imposed dollar and percentage-of-compensation limitations on combined employer and employee tax-deferred contributions.<sup>14</sup> Subsequently, the Revenue Act of

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<sup>11</sup>In addition, plans that adopt automatic enrollment may be exempt from required annual testing to ensure that the plan does not discriminate in favor of highly compensated employees. To obtain such safe harbor protection, plans must adopt automatic enrollment as well as other plan features and policies. For example, the plan must notify affected employees about automatic contributions; defer at least 3 percent of pay in the first year; automatically increase contributions by 1 percent each subsequent year to a minimum of 6 percent and a maximum of 10 percent; invest savings in a type of investment vehicle identified in Department of Labor regulations as a Qualified Default Investment Alternative (QDIA); and match 100 percent of the first 1 percent of employee contributions and 50 percent of contributions beyond 1 percent, up to 6 percent of wages. Final regulations issued by the Department of Labor specify four categories of QDIAs. 29 C.F.R. § 2550.404c-5(e)(4). For more information see GAO, *Retirement Savings: Automatic Enrollment Shows Promise for Some Workers, but Proposals to Broaden Retirement Savings for Other Workers Could Face Challenges*, [GAO-10-31](#) (Washington, D.C.: Oct. 23, 2009) and *Defined Contribution Plans: Key Information on Target Date Funds as Default Investments Should Be Provided to Plan Sponsors and Participants*, [GAO-11-118](#) (Washington, D.C.: Jan. 31, 2011).

<sup>12</sup>For example, there is a statutory limit on the amount of compensation (\$245,000 for 2011) that can be taken into account in determining qualified pension plan contributions or benefits (26 U.S.C. § 401(a)(17)). There is also a statutory limit on the total amount of tax-deductible contributions that an employer may make to certain types of plans (26 U.S.C. §§ 404 and 4972).

<sup>13</sup>Pub. L. No. 93-406, 88 Stat. 829.

<sup>14</sup>26 U.S.C. § 415(c)(1). The dollar limit was initially indexed for inflation but was reduced during the early 1980s and did not increase again until 2001.

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1978<sup>15</sup> included a provision that became Internal Revenue Code section 401(k), under which employees are not taxed on the portion of income they elect to receive as deferred compensation. The Tax Reform Act of 1986 introduced a dollar limitation (i.e., a maximum dollar contribution) on employees' tax-deferred contributions to DC plans.<sup>16</sup> In 2001, the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA)<sup>17</sup> permitted greater contributions to such tax-advantaged savings plans beginning in 2002. The scheduled increases were to be fully implemented by 2006 and expire at the close of 2010.<sup>18</sup> At the time, some asserted that increasing these limits would enhance employer incentives to start new plans and improve existing plan coverage, especially for employees of small businesses.

EGTRRA also allowed a so-called catch-up provision, where persons aged 50 or older are permitted to make additional tax-deferred contributions, in excess of other applicable statutory limits, to 401(k) and similar DC plans.<sup>19</sup> The provision is intended to encourage older workers who had not previously been able to save sufficiently to make larger catch-up contributions in order to reach more adequate levels of retirement savings. (See table 1.) However, these EGTRRA provisions had also been scheduled to expire on December 31, 2010. In 2006, the Pension Protection Act<sup>20</sup> made permanent the higher benefit limits in DB plans, higher contribution limits for IRAs and DC plans, and catch-up contributions for workers 50 and older that were included in EGTRRA.

Additionally, in order to encourage low- and middle-income individuals and families to save for retirement, EGTRRA authorized a nonrefundable

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<sup>15</sup>26 U.S.C. § 401(k). Pub. L. No. 95-600, 92 Stat. 2763.

<sup>16</sup>26 U.S.C. § 402(g)(1). The Tax Reform Act of 1986 limited employees' tax-deferred contributions to a dollar amount that is indexed for inflation. In addition, the act limited deductions for Individual Retirement Account contributions by high earners. Pub. L. No. 99-514, 100 Stat. 2085.

<sup>17</sup>26 U.S.C. § 402(g). Pub. L. No. 107-16, 115 Stat. 38.

<sup>18</sup>The Worker, Retiree and Employer Recovery Act of 2008 extended and increased the 402(g) limits for 2009 and thereafter, Pub. L. No. 110-458, 122 Stat. 5092.

<sup>19</sup>26 U.S.C. § 414(v). This provision was designed to help workers with brief or intermittent work histories, such as nonworking spouses.

<sup>20</sup>26 U.S.C. §§ 402(g)(2), 415(c)(1), and 414(v). Pub. L. No. 109-280, 120 Stat. 780.

tax credit<sup>21</sup> (the Saver's Credit) of up to \$1,000 against federal income tax.<sup>22</sup> Eligibility for the Saver's Credit is based on workers' adjusted gross income (AGI) and contributions to 401(k) and other retirement savings plans and IRAs. The Saver's Credit phases out as AGI increases so that eligible tax filers with higher AGI receive a lower credit rate (see table 2). The credit amount is equal to the amount of contributions to a qualified retirement plan or IRA (up to \$2,000 for individuals and \$4,000 for households) multiplied by the credit rate. Federal revenue losses for the Saver's Credit are estimated to amount to \$1.4 billion in fiscal year 2011 and \$6.5 billion for fiscal years 2012–2016.<sup>23</sup>

**Table 2: Saver's Credit Rates and AGI limits in 2010 by Tax Filing Status**

Credit rate	AGI limit	Maximum available credit
<i>Single, married filing separately, or widow(er)</i>		
50%	\$16,750	\$1,000
20	18,000	400
10	27,750	200
<i>Head of household</i>		
50	25,125	1,000
20	27,000	400
10	41,625	200
<i>Married filing jointly</i>		
50	33,500	2,000
20	36,000	800
10	55,500	400

Source: Department of the Treasury, Internal Revenue Service, Form 8880.

<sup>21</sup>A nonrefundable tax credit can reduce tax owed to zero, but it cannot be used to generate a refund payment to the filer in excess of taxes paid. Internal Revenue Code § 25B.

<sup>22</sup>The retirement savings credit became available in 2002 and allowed eligible taxpayers who contributed to an IRA or to an employer-sponsored plan qualified under § 401, § 403, or governmental § 457(b) of the tax code to receive a nonrefundable tax credit of up to \$1,000. As enacted in 2001, the credit would have expired after the 2006 tax year, however the Pension Protection Act made the retirement savings tax credit permanent. The Pension Protection Act also provided that for years after 2006, the eligible income brackets will be indexed to inflation in increments of \$500. 26 U.S.C. § 25B.

<sup>23</sup>Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2012*.

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Over the last three decades, DC plans have replaced DB plans as the dominant type of private-sector employer pension plan and, by almost any measure, have taken on a primary role in how workers save for retirement.<sup>24</sup> By 2007 (the most recent year with available data), DC plans comprised 93.1 percent of all plans and active DC participants in the private sector outnumbered those in DB plans 66.9 million to 19.4 million.

Meanwhile, participation in employer-sponsored plans has stayed fairly constant in the past few years. Data from the Department of Labor's Current Population Survey<sup>25</sup> show that in 2008 about 53 percent of private-sector wage and salary workers, aged 25–64, worked for employers that sponsored a retirement plan and about 44 percent participated in a plan.<sup>26</sup> The Current Population Survey data show that while each of those percentages were about 2 percentage points lower than in 2007, they are indicative of the overall decline in plan coverage and participation since 2000. For instance, the percentage of private-sector wage and salary workers, aged 25–64, who worked for employers that sponsored a retirement plan in 2008 was more than 8 percentage points lower than it had been in 2000 (about 61 percent). Likewise, the percentage of private-sector wage and salary workers, aged 25–64 participating in a plan fell from more than 50 percent in 2000 to 44 percent in 2008.

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<sup>24</sup>For instance, in 1995 assets in all DB plans exceeded those in DC plans, but by 2009 assets in private DC plans totaled \$3.4 trillion, while private DB plans had \$2.1 trillion and 2009 IRA assets were about \$4.3 trillion.

<sup>25</sup>John J. Topoleski, *Pension Sponsorship and Participation: Summary of Recent Trends*, Congressional Research Service (Washington, D.C., September 2009). The Current Population Survey does not ask respondents about type of pension plan, thus the data reflect both DC and DB plans. For DB plans, coverage and participation are usually synonymous, whereas for DC plans participation is voluntary, so coverage and participation rates often vary.

<sup>26</sup>In order to encourage greater participation by employees with access to an employer-sponsored pension plan, provisions of the Pension Protection Act of 2006 and subsequent regulations have facilitated the adoption of automatic enrollment policies in DC plans by providing incentives for doing so and by protecting plans from fiduciary and legal liability if certain conditions are met. With such policies, new hires and existing employees who are not contributing to their 401(k) plan would be automatically enrolled and contributing unless they affirmatively take action to stop those contributions. Although some experts expect automatic enrollment to significantly increase plan participation, the long term behavior of auto enrolled employees is not yet known. Further, automatic enrollment will have no effect on the many millions of employees who work for firms that do not offer any retirement plan. Also, while automatic enrollment is growing, it is unclear what is happening with automatic escalation, thus many employees simply put in the minimum defaulted contribution.

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Similar trends are evident when looking at such percentages by full- and part-time employment status. The Current Population Survey data also show that full-time workers are more likely than part-time workers to have access to and participate in a pension plan. Moreover, the data indicate there is substantial disparity in sponsorship of retirement plans between large and small employers. Workers at establishments with fewer than 100 employees are much less likely to have access to an employer-sponsored retirement plan than workers at larger establishments.

The U.S. economy went into recession in December 2007 and major stock indexes fell more than 50 percent from their peaks in October of that year until hitting their lows in March 2009. These economic conditions have not been beneficial to retirement savings, particularly given the fact that stocks have been a major type of investment for pension plans.

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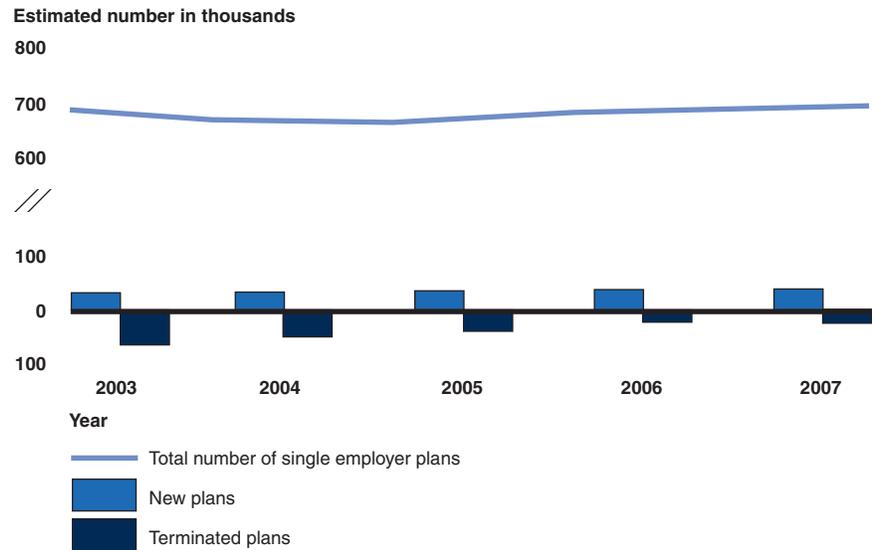
## Total Number of Tax-Qualified Plans Remains Relatively Unchanged as Plan Terminations Largely Offset New, Mostly Small Plan Formation

Each year, from 2003 to 2007 (the most recent data available), private employers created thousands of new retirement plans.<sup>27</sup> However, the total number of private employer-sponsored retirement plans has increased only slightly because the gains from these newly formed plans were largely offset by other plan terminations. Even though employers created more than 179,000 new plans from 2003 to 2007, the Department of Labor estimates a slight increase overall in the total number of plans from about 697,000 to only about 705,000 in the same period (see fig.1). It is important to note that some plan formations and terminations are linked as sponsors may terminate plans because of company mergers or acquisitions, and then cover the participants with other newly started or existing plans.

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<sup>27</sup>Our analysis is based on Form 5500 filings, which private plan sponsors are required to submit. For our analysis, we only included single employer plans and multiple-employer noncollectively bargained plans. Additionally, we do not include employer-sponsored retirement plans not required to file a Form 5500, such as simplified employee pension, Savings Incentive Match Plan for Employees of Small Employers, and excess benefit plans, which are not tax-qualified. Please see appendix I for more information on our methodology. The Department of Labor released 2008 Form 5500 datasets as we completed our work.

**Figure 1: The Estimated Number of All, New, and Terminated Plans, 2003–2007**



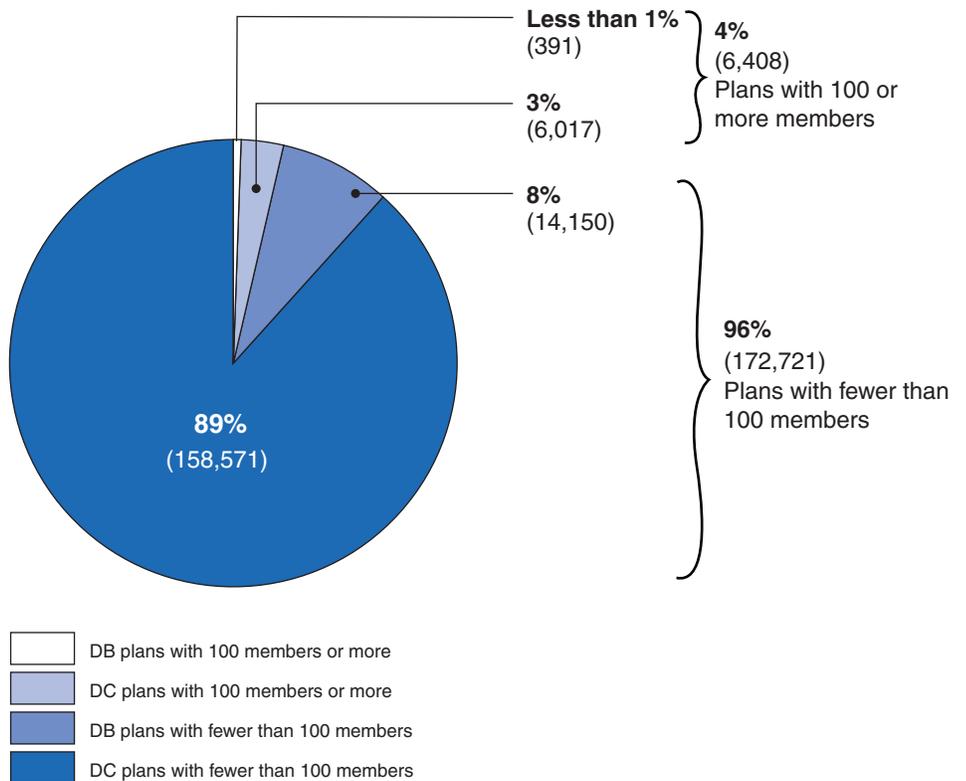
Source: Department of Labor *Private Pension Plan Bulletin* and GAO analysis of Form 5500 filings.

Notes: The estimated total number of single employer plans is based on published Department of Labor estimates in the *Private Pension Plan Bulletin Historical Tables and Graphs* derived from the number of filers and historical estimate of nonfilers. New plans are based on our analysis of Form 5500 filings; see appendix I for more information. The estimated number of terminated plans is based on our calculation: the estimated total number of plans in a given year subtracted from estimated total number of plans in the previous year plus the new plans in the current year. This estimate of terminated plans is higher than the count of plans that submit a final filing indicating they were terminating or merging their plan, which may be because some sponsors of terminated plans fail to submit a final Form 5500 filing. While at least 174,000 sponsors terminated a plan and submitted a plan termination, we estimate that about 205,000 plans were actually terminated from 2003 to 2007.

Most of the new plans private employers created were small—about 173,000 new plans had fewer than 100 participants (about 96 percent of plans) and only about 6,000 plans had 100 participants or more (see fig. 2).<sup>28</sup> Most new DB plans were even smaller than new DC plans. The median number of participants for new DB plans was just four, compared to eight members for new DC plans. However, some larger DB plans raised the average size of new DB plans (about 43 participants) above that of the average size of new DC plans (about 34 participants).

<sup>28</sup>The Department of Labor generally defines plans with fewer than 100 participants as small and these plans have different filing requirements. Participants consist of active, retired, and separated plan members. The total number of plan participants includes employees that are *eligible* to contribute to a DC plan even if they do not contribute.

**Figure 2: Newly-Formed Private Plans by Size and Type, 2003–2007**



Source: GAO analysis of Form 5500 filings.

Note: The percent of DB plans with fewer than 100 members and percent of DC plans with fewer than 100 members adds up to slightly more than the total percent of plans with fewer than 100 members because of rounding.

Despite the approximately 173,000 new plans with fewer than 100 members, the total number of these small plans actually declined slightly from about 630,000 in 2003 to about 626,000 in 2007, according to Department of Labor estimates.<sup>29</sup> Over that time period, many plans with fewer than 100 members either terminated or, in some cases, grew to 100 or more members. However, about 98 percent of sponsors that indicated they were terminating their plans in official filings from 2003 to 2007 terminated plans with fewer than 100 members.

<sup>29</sup>These numbers may overstate the decline because the Department of Labor excluded participants that were eligible but did not contribute to DC plans prior to 2005. This change means that some plans might qualify as small using the 2004 methodology but would not qualify as small using the 2005 methodology.

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Moreover, workers at small companies are much less likely to have an employer-sponsored pension plan than workers at large employers.<sup>30</sup> In 2008, only 45 percent of employees working at private employers with fewer than 100 employees were offered retirement plans, while 79 percent of employees working at private employers with 100 or more employees were offered a retirement plan, according to the Bureau of Labor Statistics' National Compensation Survey. In surveys, small employers have cited uncertain revenue, company contributions that are too expensive, and employees that prefer higher wages or other benefits instead of a retirement plan as key reasons for not offering a plan.<sup>31</sup> As small employers become more stable and grow, they may be more likely to begin to offer benefits, including retirement plans.

With respect to the 8 percent of new plans that were small DB, many were sponsored by just four kinds of professional businesses—doctor's offices, dentist's offices, lawyer's offices, and noncategorized professional services (see fig. 3)<sup>32</sup>—and many of these new DB plan sponsors also offered a DC plan. Together, these four business types sponsored 43 percent of new DB plans with fewer than 100 participants. Furthermore, more than 55 percent of new DB plan sponsors from 2003 to 2007 and about 62 percent of the sponsors from the four business types also sponsored a DC plan.<sup>33</sup>

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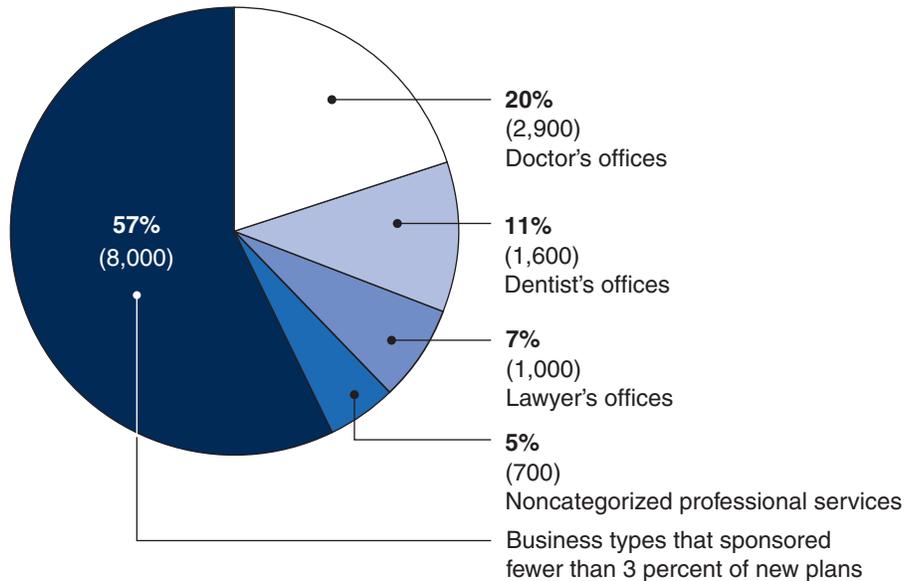
<sup>30</sup>The size of a plan may not be a reliable indicator of the exact size of a business for comparative purposes. However, employers may not exclude most types of employees per Internal Revenue Service rules. Therefore, small plans are likely sponsored by small businesses.

<sup>31</sup>GAO, *Private Pensions: "Top Heavy" Rules for Owner-Dominated Plans*, [GAO/HEHS-00-141](#) (Washington, D.C.: Aug. 31, 2000), 27–28.

<sup>32</sup>Of the remaining business types that sponsored a new DB plan, none sponsored more than 3 percent of new DB plans over that time period. Business types used as classifications on the Form 5500 are based on the North American Industry Classification System and include a range of businesses from art dealers to taxi services to wineries. The top sponsors of new DB plans appear to be over-represented relative to firms generally, as doctor's offices make up about 3 percent of all U.S. firms, dentist's offices about 2 percent, and lawyer's offices about 3 percent, according to the U.S. Census 2008 Statistics of U.S. Businesses.

<sup>33</sup>The business may have previously offered a DC plan or may have started the DC plan the same year as the DB plan.

**Figure 3: New Small DB Plans Sponsored by Different Business Types, 2003–2007**



Source: GAO analysis of Form 5500 filings.

Notes: "Small" indicates plans with fewer than 100 participants. Amounts have been rounded to the nearest hundreds.

Survey evidence and expert interviews suggest that many firms start new DB plans principally because of the tax benefits for workers. A majority of the sponsors of newly formed DB plans reported that they set up their plans to make large tax-deductible contributions, according to a PBGC inquiry.<sup>34</sup> This may indicate that the employer and employees are using a DB plan as a mechanism to contribute additional money with taxes deferred. Additionally, comments from officials at the Department of Labor and PBGC, as well as from other experts, suggest that most new DB plans were started by highly paid, middle-aged professionals who run small businesses and were looking for ways to put as much tax-deferred income aside for retirement as possible.

In the few instances where employers created new large DB plans, these plans were probably not unique plans that covered new participants, but

<sup>34</sup>Sixty-six of 126 respondents cited the ability to contribute more to a DB than a DC as a reason they created a DB plan. More than two-thirds of respondents also cited the ability to contribute a large amount of money as the most important reason they created the DB plan. The survey was based on a probability sample and had about a 31.5 percent response rate.

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instead likely replaced existing DB plans. These plans may have been the result of a company merger or acquisition or of a plan sponsor changing a plan's benefit structure by freezing an old plan and starting a new one. For example, a PBGC study found that of the 116 new DB plans in 2006 with more than 100 participants, 105 had ties to previous DB plans.<sup>35</sup> Furthermore, the same study found that every new DB plan with 1,000 or more members had ties to a previous plan. In contrast, most plans with fewer than 100 members did not have ties to previous plans.

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<sup>35</sup>See, Pension Benefit Guaranty Corporation, *Pension Insurance Data Book 2008* (Washington, D.C., Summer 2009), 3–16.

**Advantages to a Small Employer of Sponsoring a DB Plan**

In a small business with one or a few highly paid principal owners there may be an advantage to starting a DB instead of, or in addition to, a DC plan. If the principal owners of a small firm wanted to contribute more than the DC limits allow to a retirement plan, they could personally see a large tax benefit by designing their total compensation package to include contributions to a DB plan in lieu of a higher salary. Although tax-qualified plans must be designed to ensure that lower income rank and file employees also receive benefits from a firm's retirement plan, the tax benefit for principal employees of a DB plan at a small firm with a few highly paid employees and a few lower-paid employees could still make it desirable to the principals to set up a DB plan. (For more information on these nondiscrimination rules, see 26 U.S.C. § 401 et. al.)

The tax advantages for contributions to a tax-qualified plan compared to taxable compensation can be large because contributions and investment growth are tax-deferred, and hence the earnings compound tax-free, although benefits paid in retirement are taxed. In contrast, if an employee received compensation as salary, he or she would pay taxes on the income before investing it and would pay taxes on investment gains. For example, assuming a rate of return of 5 percent on a 10 year investment and a 35 percent tax rate on salary, a worker could see an 18 percent increase in retirement income for every dollar he or she received from a retirement plan instead of as normally taxed wages invested and later used during retirement, see table below.

**Advantage for Investment in a Tax Deferred Retirement Plan Compared to Regular Compensation**

	<b>Compensation as regular salary</b>	<b>Compensation in tax deferred retirement plan</b>
Tax rate	35%	35%
After-tax contribution for every dollar	\$0.65	\$1
Annual investment growth	5%	5%
Increase in value for tax-deferred plan (after final taxes)		
10 year investment		18%
20 year investment		40%

Notes: For the purposes of this analysis we assume the worker's tax rate does not change over the period of time of the investment, nor once the worker begins retirement. We also assume that the money is invested in assets whose growth is taxed at the same rate as income. Altering these assumptions could lead to different results. For example, although interest income is taxed at the marginal income tax rate, the tax rate is generally lower for capital gains, reducing the advantage of an investment in a tax-deferred retirement plan. We only show a one-time investment of \$1 held for 10 or 20 years, and not the participant making contributions over multiple years.

Therefore, if a firm had reached the maximum contribution for a DC plan and set up a DB plan in order to allow additional tax-deferred contributions, the firm's employees could continue to receive the substantial benefit of a tax-qualified retirement plan.

Source: GAO analysis.

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## DC Participants with High-Incomes and Other Assets Benefited the Most from Increases in Contribution Limits

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### High Earners More Likely to Make DC Contributions above Statutory Limits

Based on the 2007 SCF, about 5 percent of more than 40 million DC participants contributed at or above the statutory limits for tax deferred contributions.<sup>36</sup> Most of these participants whose contributions were at or above the limits were high-earners (see fig. 4). We estimated that about 72 percent of them had individual earnings at the 90th percentile (\$126,000) or above for all DC participants.<sup>37</sup> In comparison, only 7 percent of the DC

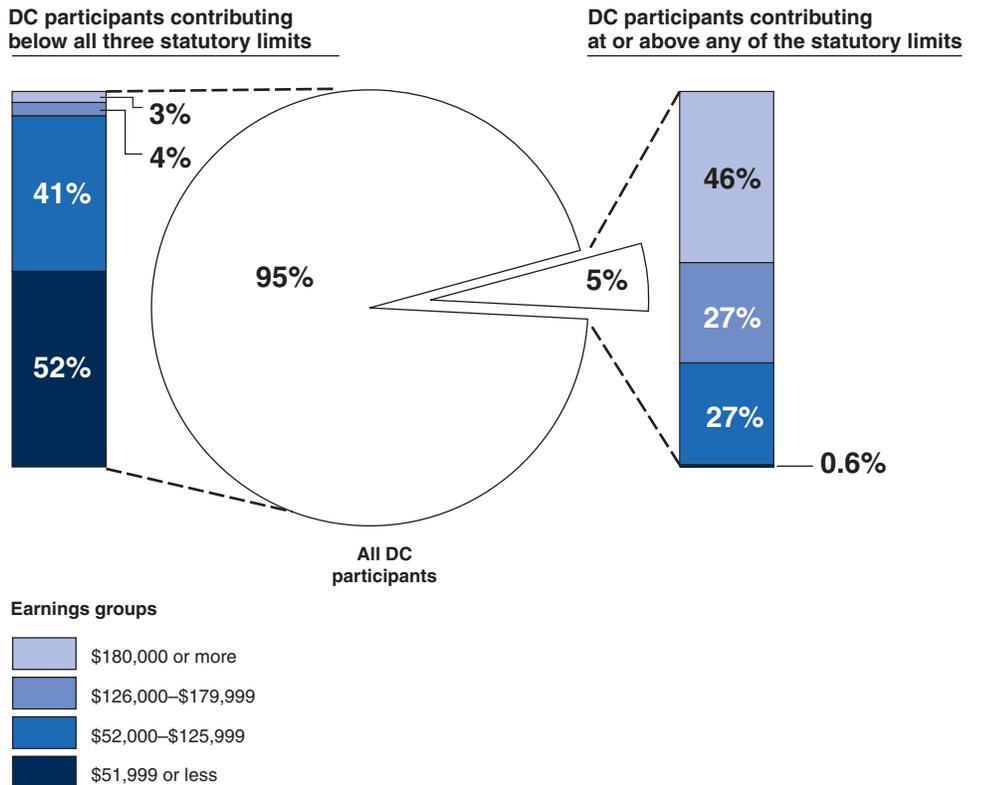
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<sup>36</sup>We analyzed (1) the 402(g) limit on individual employee contributions, (2) the 415(c) limit on combined employee and employer contributions and (3) the 414(v) limit on catch-up contributions for workers aged 50 and older. Tax-deferred DC plan contributions may also be limited by the application of other statutory or plan-specific limits that we did not analyze in this report because of data limitations in the 2007 SCF (see app. I). DC participants whose contributions exceed statutory limits on tax-deferred contributions are subject to tax on amounts contributed in excess of the limits. Estimates of characteristics of participants of DC plans in this report are based on the 2007 SCF. The most recently available SCF data are from 2007 and, therefore, do not reflect the financial crisis and recent recession. To protect the privacy of survey respondents, the Board of Governors of the Federal Reserve System rounds reported dollar amounts in the public SCF dataset. This rounding scheme makes precisely estimating whether certain survey respondents are at or above the statutory limits difficult. Therefore, when we say “at or above the limit” in this report, we mean “approximately at or above the limit.” For more information, see appendix I. Because these estimates are based on a probability sample, they are subject to sampling error. We are 95 percent confident that the total number of DC participants exceeds 40 million. The 95 percent confidence interval for the percentage of DC participants contributing at or above the limits is 4 to 6 percent. Unless otherwise noted, all SCF percentage estimates based on all DC participants have 95 percent confidence intervals within plus or minus 1 percentage point of the estimate itself.

<sup>37</sup>The 95 percent confidence interval for this estimate is from 62 to 83 percent. Unless otherwise noted, all SCF percentage estimates based on DC participants at or above the limit have 95 percent confidence intervals within plus or minus 12 percentage points of the estimate itself.

participants contributing below the limits had individual earnings at the 90th percentile or above.<sup>38</sup>

**Figure 4: Earnings of DC Participants Contributing below and at or above the Statutory Limits**



Source: GAO analysis of 2007 SCF.

Notes: Earnings categories are based on the median (\$52,000), 90th percentile (\$126,000), and 95th percentile (\$180,000) of earnings for all DC participants. Analysis based on the 402(g), 415(c), and 414(v) limits on contributions to DC plans. DC participants may be limited by other statutory limits or rules specific to their plan. Estimated percentages based on all DC participants have 95 percent confidence intervals of plus or minus 1 percentage point or less. Percentage estimates based on participants contributing below the limits have 95 percent confidence intervals within plus or minus 3 percentage points of the percentage estimate itself. Percentages based on participants at or above the limits have confidence intervals within plus or minus 12 percentage points of the estimate itself.

<sup>38</sup>The 95 percent confidence interval for this estimate is from 5 to 8 percent. Unless otherwise noted, all SCF percentage estimates based on DC participants below the contribution limit have 95 percent confidence intervals within plus or minus 3 percentage points of the estimate itself.

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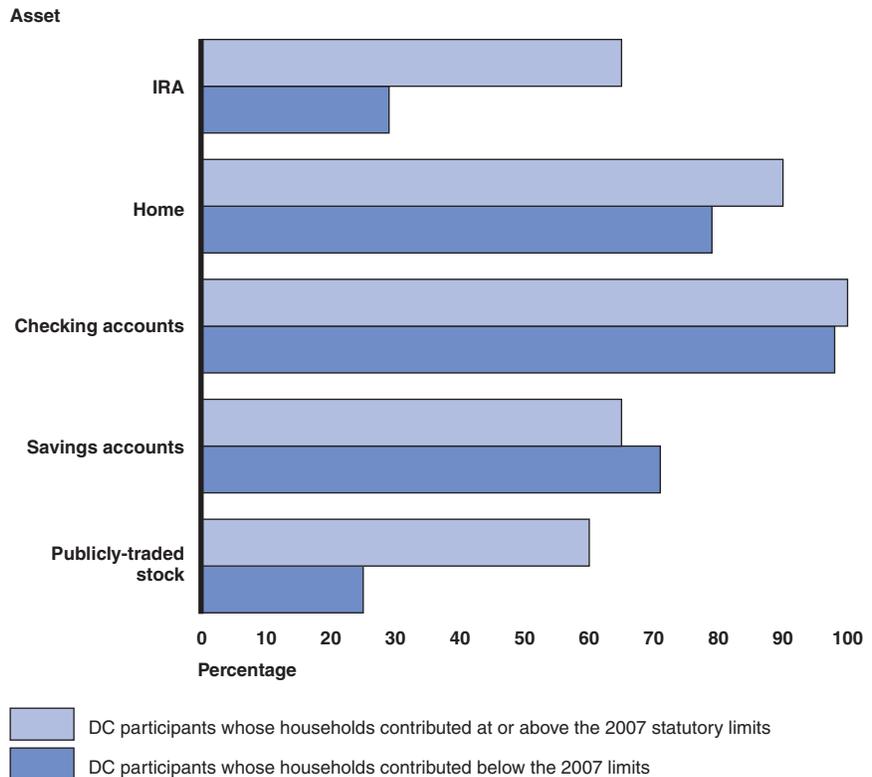
We also found that most DC participants who made contributions at or above the 2007 statutory limits came from households with other assets in addition to their DC accounts.<sup>39</sup> Assets commonly held by the households of such participants included checking accounts, savings accounts, houses, IRAs, and stocks (see fig. 5).<sup>40</sup> For example, 90 percent of these participants came from households that owned a home and 60 percent came from households holding stocks. DC participants contributing at or above the limits were more likely to come from households holding these assets than were DC participants contributing below the limits. For example, 65 percent of those contributing at or above the limits lived in households with an IRA, compared to only 29 percent of those contributing below the limits.

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<sup>39</sup>With the exception of a few assets, such as pension plans and IRAs, the SCF reports asset holdings for the household rather than the individual survey respondent.

<sup>40</sup>Our analysis considers the market value of DC participants' houses.

**Figure 5: Estimated Percentage of DC Participants Whose Households Own Various Assets**



Source: GAO analysis of 2007 SCF.

Notes: The difference for savings accounts is not statistically significant at the 5 percent level. Percentage estimates based on participants contributing below the limits have 95 percent confidence intervals within plus or minus 2 percentage points of the percentage estimate itself. Percentages based on participants at or above the limits have confidence intervals within plus or minus 10 percentage points of the estimate itself.

In addition, according to our estimates, the value of household assets for DC participants contributing at or above the 2007 statutory limits tended to be higher, on average, than the value of household assets for participants contributing below the limits (see table 3). For example, the average value of stock for the former was about \$228,000 in 2007, compared to about \$32,000 for the latter. Further, participants contributing at or above the limits lived in households with an aggregate savings account balance of around \$59,000, on average, while those contributing below the limits lived in households with an average aggregate savings account balance of about \$15,000.

**Table 3: Estimated Mean Value of Household Assets by Contribution Levels**

<b>Financial asset</b>	<b>Households of DC participants contributing at or above the statutory limits</b>	<b>Households of DC participants contributing below the statutory limits</b>
IRA or Keogh	\$103,000	\$21,000
Home	729,000	260,000
Checking accounts	37,000	8,000
Savings accounts	59,000	15,000
Publicly-traded stock	228,000	32,000

Source: GAO analysis of 2007 SCF.

Notes: Dollar amounts have been rounded to the thousands. Assets of households containing a DC participant contributing at or above the limit and a participant contributing below the limit are reflected in averages of both columns above. Estimates for households of DC participants contributing at or above the limit have 95 percent confidence intervals that are within plus or minus 39 percent of the estimate itself. Estimates for households of DC participants contributing below the limit have 95 percent confidence intervals that are within plus or minus 26 percent of the estimate itself.

## **Increases in the Limits Have Primarily Benefited High-Income Workers**

High-income workers have been the primary beneficiaries of recent increases in the limits on both individual employee contributions and combined employer and employee contributions, as well as the introduction of the catch-up contribution provision. When we compared 2007 contributions to the lower 2001-level limits, we found that about 14 percent of all DC participants would have been contributing at or above the 2001-level limits.<sup>41</sup> In comparison, about 5 percent of DC participants made contributions that were at or above the limits in 2007. Thus, about 8 percent of all DC participants made contributions that were below the actual 2007 limits but would have been at or above the limits if the 2001 limits had still been in place.<sup>42</sup> Therefore, these participants likely benefited from the increases in the limits because all of their 2007 contributions would have been tax-deferred while only a portion of their contributions would have been tax deferred had the 2001 limits been in

<sup>41</sup>We compared the nominal 2001 402(g) limit on individual employee contributions and the 415(c) limit on combined employer and employee contributions to the actual contributions made by DC participants in 2007. The 414(v) provision allowing catch-up contributions did not exist in 2001. We did not account for any behavioral response that increases in the limits between 2001 and 2007 may have created. The increases in the limits may have encouraged DC participants to contribute more. For more details on our methodology, see appendix I.

<sup>42</sup>Estimate of 8 percent, rather than 9 percent, is due to rounding.

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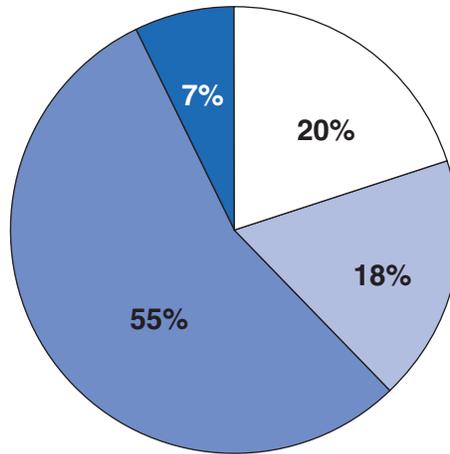
place.<sup>43</sup> Thirty-eight percent of these participants had individual earnings at the 90th percentile (\$126,000) or above and 20 percent had individual earnings at the 95th percentile or above (\$180,000).<sup>44</sup> (See fig. 6.)

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<sup>43</sup>Any DC participant whose contributions in 2007 were above the 2001-level limits may have benefited from the increase in the limits because, given the higher limits, at least some portion of their contributions above the 2001 limits may now be tax-deferred. Our analysis focused on DC participants whose contributions were approximately below the 2007 402(g), 415(c), and 414(v) limits. We say that these DC participants have likely benefited because we do not know if they were making contributions to a tax-qualified plan nor do we know if they were subject to any other statutory limits.

<sup>44</sup>These findings are similar to those in a 2001 report where we used the 1998 SCF to estimate likely direct beneficiaries of increasing the 402(g) and 415(c) statutory limits. We found that about 8 percent of all DC participants were likely direct beneficiaries of an increase in the statutory contribution limits. We also found that higher earners were more likely than low or moderate earners and men were more likely than women to benefit directly from such an increase. See GAO, *Private Pensions: Issues of Coverage and Increasing Contribution Limits for Defined Contribution Plans*, [GAO-01-846](#) (Washington, D.C.: Sept. 17, 2001).

**Figure 6: Estimated Percentage of DC Participants by Earnings for Participants Whose Total Contributions Were below the 2007 Limits but Would Have Been at or above the Limits If the 2001 Limits Were Applied to 2007 Contributions**



**Earnings groups**

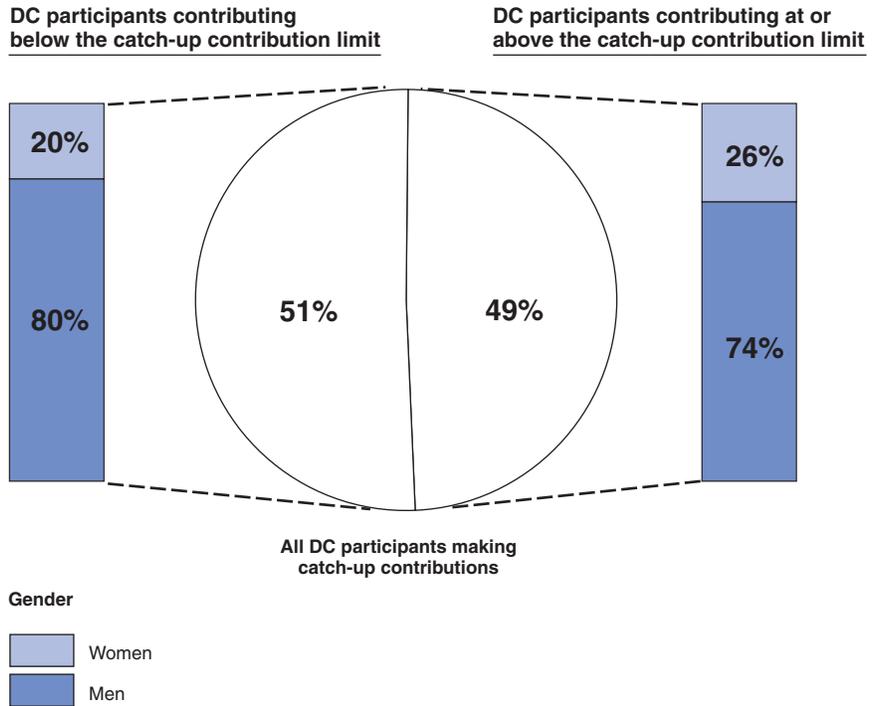
- \$180,000 or more
- \$126,000–179,999
- \$52,000–125,999
- \$51,999 or less

Source: GAO analysis of 2007 SCF.

Notes: Earnings categories are based on the median (\$52,000), 90th percentile (\$126,000), and 95th percentile (\$180,000) of earnings for all DC participants. Analysis based on the 402(g), 415(c), and 414(v) limits on contributions to DC plans. DC participants may be limited by other statutory limits or rules specific to their plan. Percentage estimates have 95 percent confidence intervals that are within plus or minus 8 percentage points of the percentage itself.

Regarding the catch-up contribution provision of EGTRRA, although it was intended to help older workers, particularly women, catch up in saving for retirement, a higher percentage of men than women made catch-up contributions. Further, a higher percentage of men also contributed at or above the statutory limit on these contributions. Specifically, among the 10 percent of eligible DC participants making catch-up contributions in 2007, 77 percent were men and 23 percent were women. Further, men made up 74 percent of those contributing at or above the catch-up contribution limit, while women made up only 26 percent (see fig. 7).

**Figure 7: DC Participants Making Catch-Up Contributions by Gender and Compared to the Limits**



Source: GAO analysis of 2007 SCF.

Notes: Analysis based on the 414(v) limit on catch-up contributions to DC plans. DC participants aged 50 and older are eligible to make catch-up contributions. These participants may be limited by other statutory limits or rules specific to their plan. Estimated percentages have 95 percent confidence intervals within plus or minus 18 percentage points of the percentages themselves.

In addition, many participants making catch-up contributions at or above the statutory limit already had relatively high account balances. The median account balance for those contributing at or above the catch-up contribution limit in 2007 was \$340,000.<sup>45</sup> In comparison, the median

<sup>45</sup>The 95 percent confidence interval for this estimated median is between \$174,000 and \$506,000.

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account balance for all DC participants aged 50 and older was about \$51,000.<sup>46</sup>

When we looked at total DC savings, we found that the savings of those who made contributions at or above the limits represented a substantial portion of all savings among DC participants, regardless of whether the 2001 or 2007 limits are applied to 2007 contributions. When we compared 2007 contributions to the 2001 limits, we found that an estimated 14 percent of participants in 2007 contributed at or above the 2001 limits and these participants held an estimated 41 percent of all DC savings in 2007.<sup>47</sup> Under the 2007 limits, although a smaller percentage of participants (5 percent) contributed at or above the limits, these participants still held a substantial portion of all DC savings, about 23 percent.<sup>48</sup> In addition, according to our estimates, the median account balance for those contributing at or above either the 2001 or 2007 limits was significantly higher than the median account balance for those contributing below the limits (see table 4).

**Table 4: Median Account Balances for DC Participants by Whether Their 2007 Contributions were below, and at or above the Statutory Limits We Analyzed**

DC participants	2001 limits	2007 limits
Contributions were below the limits	\$19,000	\$23,000
Contributions were at or above the limits	150,000	175,000

Source: GAO analysis of 2007 SCF.

Notes: Analysis based on the 402(g), 415(c), and 414(v) limits on contributions to DC plans. Dollar amounts have been rounded. Estimated medians have 95 percent confidence intervals that are within plus or minus 11 percent of the estimates themselves.

Some industry groups have suggested that the increases in the contribution limits could motivate employers to sponsor new pension plans, according to our past work.<sup>49</sup> While the number of new plans

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<sup>46</sup>The 95 percent confidence interval for this estimated median is between \$46,000 and \$56,000. Some of these findings are similar to those discussed in our 2001 report on likely direct beneficiaries of increasing the contribution limits. For example, in 2001, we found that few DC participants—about 11 percent—would benefit from catch-up contributions. In 2007, only 10 percent of eligible DC participants made catch-up contributions. See [GAO-01-846](#).

<sup>47</sup>The 95 percent confidence interval for this estimate is 31–52 percent.

<sup>48</sup>The 95 percent confidence interval for this estimate is 14–31 percent.

<sup>49</sup>See [GAO-01-846](#).

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formed has risen since 2003—the year after the new higher limits began—the rate of increase has been small overall, and the total number of plans actually declined from 2003 to 2005 (see fig. 2). Further, from 2003 to 2007, the total number of pension plans has remained relatively constant at about 700,000 plans, suggesting that there is no net increase in plans.<sup>50</sup> Other factors may have been at work, but at a minimum, the number of pension plans and the number of workers covered by pension plans has remained relatively steady. It is possible that the higher limits may have had little or no effect. However, it would be hard to disentangle the possible effects of the financial crisis and recent recession on plan formation in recent years.

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## Modifications to the Saver's Credit Could Improve Retirement Income for Some Low-Income Workers

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### Incentives to Help Low-Income Workers That Could Be Implemented through the Saver's Credit

Experts we spoke with cited several options that could further encourage low-income workers to save for retirement, although each of them would create additional cost for the federal government. We found that most of these options could be implemented by modifying the existing Saver's Credit.

**Provide a refundable tax credit.** Expert commentary indicates that providing a refundable Saver's Credit would allow low-income workers to receive the full amount of the credit for which they qualify, providing more of an incentive for them to save for retirement. Expert commentary also indicates that not only might this increase saving by those already taking advantage of the credit, but it might also encourage more individuals to utilize the credit. While eligible tax filers may qualify for the credit based on their AGI, they may gain little or no tax benefit from the credit because their tax liabilities are low. For example, if a household earned \$20,000 in 2010 and contributed \$2,000 to an IRA or DC plan, the household qualified for a \$1,000 tax credit. However, the household will only receive the full

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<sup>50</sup>Data for 2008 and 2009 were not available at the time of our analysis.

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amount of the credit if its federal tax liability is \$1,000 or more. Several studies have found that low-income workers with limited tax liability may not be able to take full advantage of the current Saver's Credit because it is nonrefundable.<sup>51</sup> One study concluded that as little as 14 percent of taxpayers eligible for the 50 percent rate could benefit from the credit because of its nonrefundable nature.<sup>52</sup> Further, a 2005 study estimated the take-up rate for the Saver's Credit to be only 66 percent.<sup>53</sup>

**Provide a credit that covers all low-income and some middle-income workers.** Some experts told us that more low- and middle-income workers should be offered a tax credit for retirement savings. They suggested that the limits on AGI under the current Saver's Credit could be increased to make more workers eligible and could have a larger effect on retirement saving. The Retirement Security Project and recent presidential budget proposals have called for increasing the AGI limits so that more low- and middle-income households would qualify for the credit.<sup>54</sup>

**Eliminate the phase-out of the credit and apply the full credit rate for all eligible income levels.** Some experts have suggested that all recipients of the Saver's Credit should receive the 50 percent credit rate to better motivate low- and middle-income households to save for retirement. They explained that under the current structure of the Saver's Credit,

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<sup>51</sup>Benjamin H. Harris and Rachel M. Johnson, *Automatic Enrollment in IRAs: Costs and Benefits*, Tax Notes Special Report (Aug. 31, 2009); William G. Gale, Jonathan Gruber, and Peter R. Orszag, *Improving Opportunities and Incentives for Saving by Middle- and Low-Income Households*, The Brookings Institution, Discussion Paper 2006-02 (Washington, D.C., April 2006); Gary Koenig and Robert Harvey, "Utilization of the Saver's Credit: An Analysis of the First Year," *National Tax Journal*, vol. 58 no. 4 (December 2005), 787-806; William G. Gale, J. Mark Iwry, and Peter R. Orszag, *The Saver's Credit: Expanding Retirement Savings for Middle- and Lower-Income Americans*, Retirement Security Project, no. 2005-2 (Washington, D.C., March 2005); and William G. Gale, J. Mark Iwry, and Peter R. Orszag, *The Saver's Credit: Issues and Options*, Brookings Institution and Retirement Security Project (Washington, D.C., April 2004).

<sup>52</sup>Gale, Iwry, and Orszag, *The Saver's Credit: Expanding Retirement Savings for Middle- and Lower-Income Americans*.

<sup>53</sup>Koenig and Harvey, "Utilization of the Saver's Credit: An Analysis of the First Year."

<sup>54</sup>Office of Management and Budget, *Budget of the U.S. Government: Fiscal Year 2011* (Washington, D.C., Feb. 1, 2010) and *A New Era of Responsibility: Renewing America's Promise*, (Washington, D.C., Feb. 26, 2009); and Gale, Iwry, and Orszag, *The Saver's Credit: Issues and Options*. The fiscal year 2011 budget proposed expanding the Saver's Credit by making the credit refundable and providing a 50 percent match on retirement contributions of up to \$1,000 for families earning \$85,000 or less. The estimated cost of this expansion was \$323 million for fiscal year 2011 and \$29.8 billion for fiscal years 2011-2020.

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which phases out the credit rate as AGI increases, the 10 and 20 percent credit rates that some Saver's Credit recipients receive may not be sufficient motivation to save for retirement. For joint filers in 2010, the 50 percent credit applied to those with AGI of \$33,500 or less, the 20 percent credit applied to those with AGI between \$33,501 and \$36,000, and the 10 percent credit applied to those with AGI between \$36,001 and \$55,000. Further, several experts said that eliminating the different crediting rates could improve the understanding and appeal of tax incentives for low-income workers, making it more likely that they would take advantage of the credit. Some believe that the current phase-out is difficult to understand and can make the credit difficult to use. A 2005 analysis of the Saver's Credit found that one-third of those eligible for the credit failed to take advantage of it.<sup>55</sup>

**Deposit any tax credit directly into retirement savings accounts.** One expert we spoke with said that depositing a tax credit for retirement saving directly into an IRA or DC account would encourage retirement saving for all ages and income levels because direct deposit provides a tangible reinforcement since workers can see their accounts grow. The current Saver's Credit, in comparison, either reduces the amount of tax owed or is part of the household's tax refund. Because the money does not go directly into a retirement account, the recipient can use the money for any purpose and the credit might not provide the same benefits as it would if deposited directly into a retirement account. Additionally, the expert we spoke with said a credit directly deposited into an account could replace the employer match and provide additional flexibility to meet future needs because saving has increased. This could be particularly effective for young workers because it encourages them to start saving for retirement early.

**Provide a government match for employees' retirement contributions.** A government match for retirement contributions could be another option for increasing retirement saving among low-income workers, according to the Retirement Security Project, President's Economic Recovery Advisory Board, and Economic Policy Institute.<sup>56</sup>

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<sup>55</sup>Koenig and Harvey, "Utilization of the Saver's Credit: An Analysis of the First Year."

<sup>56</sup>The President's Economic Recovery Advisory Board, *The Report on Tax Reform Options: Simplification, Compliance, and Corporate Taxation* (Washington, D.C., August 2010); Gale, Gruber, and Orszag, *Improving Opportunities and Incentives for Saving by Middle- and Low-Income Households*; and Teresa Ghilarducci, *Guaranteed Retirement Accounts: Toward Retirement Income Security*, Economic Policy Institute (Washington, D.C., Nov. 20, 2007).

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Researchers have found that presenting the Saver's Credit as a match, rather than a credit, improves the take-up rate.<sup>57</sup> A match could replace the existing Saver's Credit or it could be implemented as part of a broader reform proposal.<sup>58</sup>

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## Saver's Credit Modifications Could Increase Retirement Income for Some Workers

Several options for revising the Saver's Credit could provide a sizable increase in retirement savings for some low-income workers. (See Modeling Scenarios and Assumptions and appendix I for detailed descriptions of the scenarios and assumptions.) We simulated the effects on retirement income from DC accounts using three policy scenarios (see table 5). Each of these options would have a tradeoff in that they would increase federal costs for the Saver's Credit. For information on the potential cost of these scenarios to the federal government, see appendix I.

- *Policy scenario 1: refundable Saver's Credit.* On average, Saver's Credit recipients would receive \$322 more in annual retirement income than they would have without a Saver's Credit. Saver's Credit recipients in the second-lowest earnings quartile would receive the greatest benefit from the credit, with an additional \$411 in annual income. We projected that 52 percent of those receiving annuity income from a DC plan at age 70 would have received the credit at some point over their career.<sup>59</sup>
- *Policy scenario 2: refundable Saver's Credit with an increase in the AGI limits.* Saver's Credit recipients would receive an additional \$491 in annual income, on average. Saver's Credit recipients in the second-lowest earnings quartile would experience the biggest increase in income, \$591 a year. We projected that the percentage of DC annuitants who would have received the Saver's Credit at some point over their career increased to 72 percent.

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<sup>57</sup>Esther Duflo, William Gale, Jeffrey Liebman, Peter Orszag, and Emmanuel Saez, "Saving Incentives for Low- and Middle-Income Families: Evidence from a Field Experiment with H&R Block," *The Quarterly Journal of Economics*, vol. CXXI no. 4 (November 2006), 1311–1346.

<sup>58</sup>For example, the Economic Policy Institute's Guaranteed Retirement Accounts proposal calls for replacing all existing tax incentives for pension plans with a flat \$600 refundable credit for contributions to a new retirement savings vehicle, called a guaranteed retirement account. See Ghilarducci, *Guaranteed Retirement Accounts: Toward Retirement Income Security*. For GAO analysis of this proposal, see GAO, *Private Pensions: Alternative Approaches Could Address Retirement Risks Faced by Workers but Pose Trade-offs*, [GAO-09-642](#) (Washington, D.C.: July 24, 2009).

<sup>59</sup>For more information on the percentage of DC annuity recipients who had received the Saver's Credit at some point over their working years, see appendix I.

- *Policy scenario 3: refundable Saver's Credit with an increase in the AGI limits, and automatic enrollment.* Under this scenario, the average increase in annual income for Saver's Credit recipients would be \$917. Saver's Credit recipients in the highest earnings quartile would receive the biggest increase in income, experiencing an increase in annual income of \$1,181. As with scenario 2, we projected that 72 percent of DC annuitants would have received the Saver's Credit at some point over their career.

### Modeling Scenarios and Assumptions

#### Policy scenarios

Since many of the options experts suggested could be implemented through modifying the Saver's Credit, we modeled three potential modifications to the Saver's Credit for a cohort of workers born in 1995. These three scenarios do not reflect any one particular proposal but incorporate some of the options experts suggested. We compared retirement income for workers by earnings quartile under the three scenarios, assuming that workers have access to a DC plan only and that they fully annuitize their DC accounts at retirement. Because we were unable to model the current scenario of a nonrefundable Saver's Credit given the structure of the microsimulation model, we used a scenario of no Saver's Credit as our baseline. Although these assumptions reflect stylized scenarios, they illustrate the potential effect of such changes on retirement income for workers with low lifetime earnings.

- Refundable Saver's Credit. Introduced a refundable Saver's Credit starting in 2011 for up to \$1,000 of DC contributions per person. All tax filers eligible for the Saver's Credit received a 50 percent credit rate. Credits were automatically deposited into the recipient's DC account. AGI limits remained as they were in 2010. The AGI limits were \$27,750 for individuals with a filing status of single, married filing separately, or widow(er); \$41,625 for individuals with a filing status of head of household, and \$55,500 for individuals with a filing status of married filing jointly.<sup>a</sup> Limits in subsequent years were indexed to inflation.
- Refundable Saver's Credit with an increase in the AGI limits. In addition to a refundable Saver's Credit, AGI limits were increased to include all low- and some middle-income workers. The 2011 AGI limits were \$50,000 for individuals with a filing status of single, married filing separately, or widow(er); \$75,000 for individuals with a filing status of head of household; and \$100,000 for individuals with a filing status of married filing jointly. Limits in subsequent years were indexed to inflation, as under current law.
- Refundable Saver's Credit with an increase in the AGI limits and automatic enrollment.<sup>b</sup> In addition to a refundable Saver's Credit and an increase in the AGI limits, all employers automatically enrolled all workers eligible to participate in the employer's DC plan, unless the worker chose to opt-out.

#### Assumptions

We used the 1995 birth cohort for our simulation so that the reform scenarios would be effective for this cohort's entire working life. Our projections assume that 100 percent of tax filers for the Saver's Credit take the credit and the credit is automatically deposited into a recipient's DC account. Research suggests that the aggregate utilization rate for the current nonrefundable Saver's Credit may be closer to two-thirds. In an alternate simulation, we assume an aggregate utilization rate of 67 percent (see app. I, table 8). Our projections also assume an annual nonstochastic real rate of return of 6.4 percent for stocks and 2.9 percent for government bonds. We also ran an alternate simulation in which we assumed the real rate of return for both stocks and government bonds was 2.9 percent (see app. I, table 7). Using different rates of return reflects assumptions used by the Social Security Administration's Office of the Chief Actuary in some of its analyses of trust fund investment. We held stock returns for employee and employer contributions to DC plans constant. Low-income workers are those whose steady lifetime earnings fall in the lowest lifetime earnings quartile for all workers.

Source: GAO analysis.

Note: For information on the potential cost of these scenarios to the federal government, see appendix I.

<sup>a</sup>At the time of our analysis, the 2011 limits had not been announced, so we maintained the 2010 limits.

<sup>b</sup>We have previously reported that automatic enrollment can have a significant effect on the participation rates of lower income workers. See [GAO-10-31](#).

**Table 5: Projected Mean DC Annuity Payments for Saver’s Credit Recipients under Different Scenarios, by Earnings Quartiles**

(In 2010 dollars)

	Mean for Saver’s Credit recipients by earnings quartiles for all workers				Mean for all Saver’s Credit recipients
	\$200–25,933	\$25,935–50,438	\$50,439–98,231	\$98,242–2,203,300	
<b>Refundable Saver’s Credit</b>					
Percent change in annuity equivalent <sup>a</sup>	8.7%	4.4%	1.3%	0.4%	1.8%
Change in annuity equivalent	\$348	\$411	\$267	\$204	\$322
Annuity equivalent	\$4,327	\$9,687	\$21,342	\$50,280	\$18,483
<b>Refundable Saver’s Credit with an increase in the AGI limits</b>					
Percent change in annuity equivalent	10.7%	6.4%	2.5%	0.7%	2.3%
Change in annuity equivalent	\$425	\$591	\$530	\$379	\$491
Annuity equivalent	\$4,376	\$9,784	\$21,637	\$52,214	\$22,319
<b>Refundable Saver’s Credit with an increase in the AGI limits and automatic enrollment</b>					
Percent change in annuity equivalent	14.0%	9.5%	4.6%	2.3%	4.2%
Change in annuity equivalent	\$559	\$876	\$965	\$1,181	\$917
Annuity equivalent	\$4,549	\$10,083	\$22,075	\$53,021	\$22,989

Source: GAO calculations of PENSIM simulation.

Notes: Some of the model assumptions include: (1) workers use all accumulated DC plan balances to purchase an inflation-adjusted annuity at retirement, between ages 62 and 70; (2) participants invest all plan assets in target-date funds; (3) the credit(s) are directly deposited into a DC participant’s account; (4) stocks earn an average 6.4 percent real return; and (5) 100 percent of workers eligible for the Saver’s Credit take it. Earnings quartiles are calculated based on a measure of steady earnings over a worker’s lifetime. No default or minimum contribution rates were defined for the scenario with automatic enrollment, rather the contribution rates are produced by PENSIM. We have no evidence on what contribution rates new participants would choose under automatic enrollment, but it may be lower than the contribution rates chosen by those that voluntarily participate. We compared each of the scenarios to a baseline scenario of no Saver’s Credit. Our analysis includes only those people who both received the Saver’s Credit at some point during their lifetime and have positive DC annuity income at age 70. See appendix I for more details.

<sup>a</sup>Annuity equivalents are our projection of annual income produced by an individual’s DC savings. Annuity equivalents are calculated by converting DC-derived account balances at retirement into inflation-indexed retirement annuity payments using annuity prices that are based on projected mortality rates for the 1995 birth cohort and annuity price loading factors that ensure that the cost of providing these annuities equals the revenue generated by selling them at those prices.

Under our three scenarios, the average increases for all Saver’s Credit recipients were not substantial. For example, for all of the scenarios, the average replacement rate provided by income from annuitizing DC savings

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at retirement does not increase by more than about 3 percentage points.<sup>60</sup> In addition, under our most generous scenario, on average, Saver's Credit recipients could only expect to see an additional \$17,562 in income over their lifetime, which is an increase of slightly more than 4 percent.

Nevertheless, for some low-income workers, the increase in income due to any Saver's Credit could be sizeable given their relatively low level of income from DC savings in retirement. For example, Saver's Credit recipients in the lowest earnings quartile would experience, on average, an 8.7 percent increase in their annuity under the first scenario and an increase of 14 percent under the third scenario. This amounts to an additional \$348–559 of retirement income, on average, each year. For low-income workers, this could be an important increase in income. Further, these numbers reflect averages; some low-income workers will experience an even greater increase in annual income.

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<sup>60</sup>The replacement rate generally refers to the ratio of retirement income to preretirement income, but specific calculations of replacement rates can vary. Our projection of preretirement income is based on a "steady earnings" index. This index reflects career earnings, calibrated to the Social Security Administration's age-65 average wage index. In addition, our analysis only considers DC annuities in calculating the replacement rate. DB benefits and Social Security will be an important source of retirement income for many workers and taking these two sources of income into account will increase the replacement rate for many workers. Social Security benefits, in particular, can replace a large amount of preretirement income for low-income workers.

**Examples of Two Individuals Who Benefit from the Saver's Credit**

We profiled two hypothetical low-income men who work full-time at ages 21 and 25 and take the Saver's Credit. At retirement, they both converted their DC savings into lifetime annuities. We compared their annuity equivalent under a scenario with no Saver's Credit and one with a refundable Saver's Credit, an increase in the AGI limits, and all employers automatically enrolling those eligible to participate in a DC plan. Individual 1 had very low steady lifetime earnings, received more from Saver's Credit than individual 2, retired 7 years later, and experienced a large increase in retirement income after the Saver's Credit modifications were implemented. Individual 2 had slightly higher steady lifetime earnings, received less from the Saver's Credit than individual 1, and only received a modest benefit increase.

**Amount of Saver's Credit Received and Retirement Income for Two Individuals from the 1995 Cohort**

	Individual 1	Individual 2
<b>Demographic characteristics at age 70</b>		
Highest level of education achieved over lifetime	high school graduate	high school graduate
Retirement age	69	62
Steady lifetime earnings at age 70	\$24,318	\$35,374
<b>Annual earnings and Saver's Credit at age 21</b>		
Annual earnings (2010 dollars)	\$22,890	\$12,252
Saver's Credit received (2010 dollars)	\$860	\$180
<b>Annual earnings and Saver's Credit at age 25</b>		
Annual earnings (2010 dollars)	\$18,392	\$11,719
Saver's Credit received (2010 dollars)	\$770	\$180
Retirement income at age 70		
<b>Total amount of Saver's Credit received over working years (2010 dollars)</b>	<b>\$12,300</b>	<b>\$5,100</b>
<i>Annuity equivalent (2010 dollars)</i>		
No Saver's Credit	\$13,615	\$18,977
Refundable Saver's Credit with an increase in AGI limits and automatic enrollment	\$17,403	\$19,970
<i>Replacement rate at age 70</i>		
No Saver's Credit	56%	54%
Refundable Saver's Credit with an increase in AGI limits and automatic enrollment	72%	56%

Source: GAO calculations of PENSIM simulation.

There are several possible explanations for why the additional annual income provided by the Saver's Credit would be small for many workers. First, we projected that Saver's Credit recipients tended to make lower dollar contributions to their DC plans over their working years than higher-income workers. Because contributions were lower, account balances also tended to be lower, even with the Saver's Credit. The lower

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the account balance, the more likely the account would be cashed-out when a worker changed jobs, decreasing DC savings.<sup>61</sup> Second, we found that, for some workers, the Saver's Credit would make the difference between having and not having savings at retirement. Therefore, the annuity for these individuals would be low, pulling down the average dollar increase in income that resulted from the Saver's Credit. Third, our scenarios did not account for any behavioral effects that may result from modifying the Saver's Credit and having all employers offer automatic enrollment. For example, a more generous credit might motivate more workers to save more because they would receive a larger credit. We did not include this possibility in our projections. Further, automatically enrolling employees would increase the number of people eligible for the credit because more workers would be participating in DC plans and some would be eligible to claim the Saver's Credit. Finally, in our projections, we assumed that annuities were inflation-adjusted. Inflation-adjusted annuities are initially smaller than nonadjusted annuities of the same account balance because they are more costly.

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## The Long-Term Effects of the Recent Financial Crisis on Retirement Income Security Remain Uncertain and Will Vary Widely Among Individuals

The long-term effects of the recent financial crisis on retirement income security are uncertain, but research suggests that the effects will vary widely for individuals based on factors such as age, type of pension plan, and employment status. Relevant and up-to-date data on the effect of the financial crisis on retirement saving are limited and analyses to date have drawn varied conclusions. For those who have been able to participate in an employer-sponsored pension plan throughout the financial crisis and recession, their benefit or accounts at retirement may or may not be significantly affected. However those who are out of work for any significant length of time are much more likely to have reduced retirement savings. The current slow recovery further adds to the uncertainty. Many economists project only modest economic growth in the near term and some remain concerned that unemployment will remain high for years to come.

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<sup>61</sup>When employees leave their jobs, employers may cash-out DC participants' account balances under \$5,000 without the participants' consent. They may compel cash-outs of balances under \$1,000, but are required to roll over cash-outs between \$1,000 and \$5,000 into an IRA. Generally, if the account balance exceeds \$5,000, then the participants' consent must be obtained before the account can be cashed-out.

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## Impact on DC Plans

While both stock markets and many DC plan account balances have regained some of their value since 2008, there is no consensus among analysts as to the ultimate effect of the financial crisis on retirement savings. The decline in the major stock market indexes in 2008 significantly reduced the value of many DC plan accounts. According to the Board of Governors of the Federal Reserve System, total assets held in DC plans fell from \$3.81 trillion at the end of 2007 to \$2.7 trillion at the end of 2008. However, as of January 2011 the major stock market indexes have regained more than 80 percent of their value from the October 2007 peak. As for plan balances, the Employee Benefits Research Institute (EBRI) reported that the average 401(k)<sup>62</sup> account balance rose by 31.9 percent in 2009.<sup>63</sup> Some plan managers we interviewed suggested that given these recent gains, there would not be a significant effect on retirement savings from the market decline. Others, however, assert that the prior losses ultimately will have a negative effect on the retirement income of many.

Plan managers we spoke with conclude that the relative stability they saw in both employee deferral rates and asset allocations has helped fuel the regrowth in plan balances for many DC plan participants. Fidelity Investments reports that in the first quarter of 2010 the percentage of participants who have decreased their deferrals was 3.5 percent. While this was higher than in the prior three quarters, it was down almost 50 percent from its peak of 6.4 percent in the first quarter of 2009.<sup>64</sup> In addition, plan managers told us that most of their participants have maintained the same asset allocation that they had prior to the financial crisis, including allocations of assets in equities.<sup>65</sup> These findings are consistent with past

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<sup>62</sup>401(k) plans are not the only type of DC plan, but, according to the Congressional Research Service, they hold about two-thirds of all DC plan assets. According to ICI, 401(k) plans held assets worth \$2.9 trillion at the end of September 2010. Other DC plans include 403(b) plans for nonprofit employers, 457 plans for state and local governments, and miscellaneous other private DC plans, such as money purchase plans.

<sup>63</sup>Jack Vanderhei, Sarah Holden, and Luis Alonso, "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2009," *EBRI Issue Brief*, no. 350 (Washington, D.C., November 2010), and the *Investment Company Institute Perspective*, vol. 16, no. 3 (Washington, D.C., November 2010).

<sup>64</sup>Fidelity Investments,  *Holding Ground Improves Likelihood of Yielding Positive Outcomes* (Smithfield, R.I., May 2010).

<sup>65</sup>For example, Fidelity Investments reported that the percentage of participants who dropped their equity allocation to 0 in the fourth quarter of 2008 or first quarter of 2009 was quite small at fewer than 2 percent. Fidelity Investments,  *Holding Ground Improves Likelihood of Yielding Positive Outcomes*.

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research that indicates that households rarely rebalance retirement savings portfolios. Nevertheless, the degree to which subsequent gains due to continued contributions and investment returns can offset earlier losses depends in part on the value of the account prior to the crisis and the number of years a worker has to restore the wealth lost. Consequently, some analyses have found that older workers with substantial investment in equities may be more negatively impacted as they were more likely to have had higher account balances prior to the downturn and thus to have suffered greater absolute losses than younger workers. Further, with fewer years left in the workforce they may be unable to recoup these losses through additional saving and investment.

Other research, however, suggests that portfolio reallocations may have been more frequent during the last several years than otherwise believed. Data from a February 2009 household survey found that 21 percent of those with retirement savings reported that they had made “active changes to how retirement savings are invested” since a prior survey the previous November. A follow-up survey in May 2009 found that 28.6 percent of those with retirement savings had made a change in the investment of new funds or the allocation of old balances since October 2008.<sup>66</sup> Although estimates differ on the number of participants who have not maintained their prior deferral rates and asset allocations, the effects such changes can have on retirement saving could be harmful, especially for those who reduce or cease contributions. Plan managers report that stopping contributions even temporarily can adversely impact account balances. In addition to the account losses suffered when the market declined, those who reduce or stop deferrals will forgo both the amount of the contribution and any associated employer matching contributions, as well as the investment income that would have been earned on those contributions. Besides concerns about the safety of the market, job loss, a reduction in pay or hours, or other financial shocks are all events that could induce an individual to reduce contributions to a pension plan.

As a result of the financial crisis and economic downturn some plan sponsors reduced or suspended employer matching contributions and a large number of employees have been affected by these reductions. In addition to losing the matching contributions, a participant forgoes the

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<sup>66</sup>Michael D. Hurd and Susann Rohwedder, “Effects of the Financial Crisis and Great Recession on American Households,” *National Bureau of Economic Research*, Working Paper 16407 (Cambridge, Mass., September 2010).

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investment income on those contributions. Surveys of plan sponsors indicate that between 40–50 percent of plans that had previously suspended employer matching contributions, particularly those at large firms, have more recently reinstated their matches, and a report from the Center for Retirement Research at Boston College concluded that to the extent that the match is quickly restored, little harm may have been done—especially compared with the alternative of laying off workers.<sup>67</sup> However, for those employees still not receiving a matching contribution or receiving a reduced match, the long-term impact is difficult to measure as it is unclear whether the employer suspensions are temporary or permanent. Furthermore, everything else equal, unless the reinstated match is larger than it had been previously, a reduced or suspended match means lower contributions now and lower account balances at retirement.<sup>68</sup>

The primary effects of the economic recession on individuals and families—unemployment or reduced wages—could induce plan participants to use retirement assets for nonretirement related purposes. Retirement plan participants can often access accrued assets by borrowing against plan assets, by taking hardship withdrawals from the plan prior to retirement, or even by cashing out plan assets upon separation from employment. The impact of this leakage on retirement savings can be costly. We have previously reported that retirement assets can be eroded as a result of loans or withdrawals.<sup>69</sup> Data, including some plan data, indicate that while the percentage of participants taking out

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<sup>67</sup>Alicia H. Munnell and Laura Quinby, “Why Did Some Employers Suspend Their 401(k) Match?,” *Center for Retirement Research at Boston College*, no. 10-2 (Chestnut Hill, Mass., February 2010).

<sup>68</sup>The purpose of the employer match is to encourage participation and to encourage employees to contribute at the limit as they receive additional compensation from the employer. Research has shown that in many cases employer matches do result in increased participation and contributions; therefore, in addition to reducing total plan contributions, a reduced or suspended match could also lead to a reduction in employee contributions.

<sup>69</sup>In 2009, we reported on the long-term effects of leakage on workers’ retirement savings. See GAO, *401(k) Plans: Policy Changes Could Reduce the Long-term Effects of Leakage on Workers’ Retirement Savings*, [GAO-09-715](#) (Washington D.C.: Aug. 28, 2009).

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loans or hardship withdrawals from DC plans remains relatively small, it has increased in the past couple of years since the financial crisis.<sup>70</sup>

While the rates of loans and hardship withdrawals may not have increased sharply after the financial crisis, if the economy is slow to recover and unemployment stays high, this type of leakage may increase if participants experiencing reduced wages or facing other personal difficulties need access to any available financial resources. Participants may view loans or withdrawals as a necessity to help meet critical preretirement financial needs when faced with serious personal financial catastrophes, even if it may mean a potential reduction in future retirement income. Furthermore, in addition to eroding retirement savings, withdrawals from a DC plan or other retirement account prior to age 59 ½ generally incur a tax penalty, an additional financial burden to bear.<sup>71</sup> A study published by the Urban Institute found that withdrawals can represent a significant loss to retirement savings.<sup>72</sup> Finally, we have previously reported that DC plan loans may affect retirement savings balances less than withdrawals, as borrowers must pay the loan amount and interest back to the plan account; however, not all plans permit loans.<sup>73</sup>

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## Impact on DB Plans

The effects of the financial crisis and recession are different for DB plan participants than for DC plan participants, but also pose challenges to retirement security. DB plan assets were also hit hard by the financial crisis. While data show that many DB plans entered the financial crisis

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<sup>70</sup>Fidelity Investments, *Holding Ground Improves Likelihood of Yielding Positive Outcomes*; Investment Company Institute, *DC Plan Participants' Activities First Half 2010* (Washington, D.C., 2010); and Vanguard, *How America Saves 2010: A Report on Vanguard 2009 Defined Contribution Plan Data* (Valley Forge, Pa., July 2010). These reports are based on data from plan managers and surveys of plan administrators.

<sup>71</sup>26 U.S.C. § 72(t). The Internal Revenue Code exempts distributions from DC plans from an additional 10 percent tax if taken for certain purposes. 26 U.S.C. § 72(t)(2). For example, if the employee becomes disabled, needs funds for medical purposes, or if the distribution is taken upon separation of service at age 55, the additional tax does not apply.

<sup>72</sup>Barbara A. Butrica, Sheila R. Zedlewski, and Philip Issa, "Understanding Early Withdrawals from Retirement Accounts," Urban Institute (Washington, D.C., May 2010).

<sup>73</sup>See [GAO-09-715](#).

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more than sufficiently funded, a number of plans had very low funding ratios.<sup>74</sup>

For DB plans, the risk of declining asset values falls initially on employers,<sup>75</sup> as they bear the burden of funding the plan up to legal requirements. However, the combination of a weak economy and an underfunded pension plan can put greater pressure on a firm's financial resources, possibly leading the sponsor to freeze the plan, limiting the future benefit accruals of employees.<sup>76</sup> Additionally, these financial demands might lead firms that no longer wish to carry the burden of risk associated with a DB plan into freezing or terminating their plans.<sup>77</sup>

DB plan participants are somewhat sheltered from the impact of the decline in assets, as promised benefits—based on years of service and earnings—must be paid regardless of any decline in plan assets. Nevertheless, they still bear some risk for reduced pension income in retirement, for example, if they become unemployed or if the plan is terminated while underfunded and benefits exceed the PBGC guarantee limits.

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<sup>74</sup>Alicia H. Munnell, Jean-Pierre Aubry, and Dan Muldoon, "The Financial Crisis and Private Defined Benefit Plans," *Center for Retirement Research at Boston College*, no. 8-18 (Chestnut Hill, Mass., November 2008). State and local government pension plans were also affected by the financial crisis, declining asset values and recession. Also, many public employers face serious budgetary problems, making it difficult to make contributions to their underfunded plans. For more information see Alicia H. Munnell, Jean-Pierre Aubry, and Dan Muldoon, "The Financial Crisis And State/Local Defined Benefit Plans," *Center for Retirement Research at Boston College*, no. 8-19 (Chestnut Hill, Mass., November 2008).

<sup>75</sup>Significant secondary risks are borne by the PBGC, which insures benefits up to certain limits; by plan participants, to the extent that promised benefits exceed the PBGC limits; and by taxpayers, to the extent that additional resources ever have to be provided to the PBGC.

<sup>76</sup>If a plan is frozen participants are still entitled to accrued benefits based on current salary and service levels, but future benefits will be lower than they would have been otherwise. The effect of a plan freeze or termination may be less damaging to older workers. Older workers are often exempt from plan changes and, except in the case of a terminated underfunded plan with benefits that exceed PBGC guarantees, benefits cannot be reduced below the levels promised on the basis of work to date.

<sup>77</sup>An employer may voluntarily terminate its pension plan under certain circumstances depending on the funded status of the plan. A plan that has enough money to pay all benefits owed participants and beneficiaries may terminate in a standard termination. For more information see GAO, *Answers to Key Questions About Private Pension Plans*, [GAO-02-745SP](#) (Washington, D.C.: Sept. 18, 2002).

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## Unemployment and Retirement Savings

Although current and relevant data concerning the full impact of the financial crisis on retirement saving is limited, extended unemployment almost certainly has a negative effect on an individual's retirement income. The extent of the damage will vary, but whether through cessation of employee or employer contributions or even tapping into pension assets for near term needs, being out of work for any length of time is likely to affect a person's ability to save and perhaps even the ability to preserve accrued retirement savings. This is of increasing concern as unemployment has increased dramatically in the past few years. As of February 2011, the unemployment rate was 8.9 percent, representing nearly 14 million people out of work, and millions more have dropped out of the workforce—so called discouraged workers—or are working part-time involuntarily. Long-term unemployment has increased significantly as well. As of February 2011, the share of workers unemployed for 27 weeks or more was nearly 42 percent of the total unemployed population.

In addition to the loss of income, the unemployed will forgo additional contributions to, and the resultant investment gains from, employer-sponsored pension plans. To the extent that unemployed persons have retirement savings accounts, the longer they are out of work—possibly long enough to have exhausted unemployment insurance benefits—the greater the potential that they may tap into those assets. Though little data are currently available to assess the account behavior of terminated employees, Fidelity Investments has looked at the behavior of terminated employees over the course of a 1-year period and found that 7 in 10 kept their money in their workplace savings plan or rolled it over to another tax-deferred retirement savings vehicle. That means, however, that almost a third of participants cashed-out some or all of their DC plan assets.<sup>78</sup> With a significant number of workers being unemployed during the recession for more than 1 year, it is possible that such cash-outs might continue or even escalate. We have previously reported that cash-outs of any amount at job separation have a greater effect on an individual's account balance than loans or hardship withdrawals.<sup>79</sup> However, while loans may generally affect retirement saving balances less than withdrawals or cash-outs, if a borrower loses his or her job, the loan amount often becomes due immediately, creating either a burden to repay

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<sup>78</sup>Fidelity Investments, *Plugging the Leaks in the DC System: Bridging the Gap to a More Secure Retirement* (Smithfield, R.I., Summer 2010). Terminated in this case refers to anyone who is no longer employed by the plan sponsor for any reason.

<sup>79</sup>See [GAO-09-715](#).

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the loan at a dire financial time or, if the worker cannot pay the amount due, an unplanned drain on retirement savings.<sup>80</sup>

The biggest risk DB plan participants face with regard to retirement income is likely from unemployment. When a worker with a DB plan is laid off, accruals cease and the pension benefit they receive will be based on current salary levels and current service (rather than what salary and service would have been at the time of retirement), and future benefits will be lower than they would have been otherwise. To the extent that sponsors of underfunded DB plans go bankrupt and terminate their plans, participants of many plans will receive insured benefits from the PBGC, but some will not get their full benefit.<sup>81</sup> Additionally, the PBGC itself—and by extension insured beneficiaries or taxpayers—faces greater risks as the PBGC’s funding status has declined markedly in recent years, raising questions about its long term ability to insure promised benefits.<sup>82</sup>

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## Concluding Observations

Longstanding concerns about the current voluntary, tax subsidized framework for fostering private pension formation have been raised. On one hand, the existing system of tax preferences for pensions has played at least a supporting role in fostering current levels of pension plan coverage. Despite these tax incentives, private plan participation remains stalled at roughly 50 percent of the private sector workforce. Recent trends demonstrate that the slow growth in the number of retirement plans—as new plan formation barely exceeds plan terminations—may continue to lead to many workers continuing to work at employers that do not offer a plan and thus remain without access to the associated tax benefits of employer-sponsored pension plans. Furthermore, recent initiatives, such as automatic enrollment, may increase participation; however, even if this dramatically raises participation rates for those who

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<sup>80</sup>See [GAO-09-715](#).

<sup>81</sup>In the event of bankruptcy, PBGC would pay the benefits promised to plan participants up to about \$54,000 per year (2011 level) for a participant who retires at age 65, but with significantly reduced guarantees for early retirement. See GAO, *Pension Benefit Guaranty Corporation: More Strategic Approach Needed for Processing Complex Plans Prone to Delays and Overpayments*, [GAO-09-716](#) (Washington, D.C.: Aug. 17, 2009).

<sup>82</sup>We first designated the PBGC’s single-employer program as a high risk area in July 2003 because of concern about the program’s long-term net financial position. For more information see GAO, *High-Risk Series: An Update*, [GAO-09-271](#) (Washington, D.C.: Jan. 22, 2009).

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work for an employer that sponsors a plan, millions of prime age private-sector workers would remain without access to a plan.

Even for the 50 percent of the private sector workforce that does participate in a plan there are concerns about the distribution of pension tax benefits estimated to cost the federal government more than \$100 billion per year. For DC plans, a disproportionate share of these tax incentives accrues to higher income earners. While 72 percent of those who make tax-deferred contributions at the maximum limit earned more than \$126,000 annually in 2007, less than 1 percent of those who earned less than \$52,000 annually were able to do so. Also, even the additional \$5,500 contribution permitted to participants 50 and older may not allow moderate income workers to catch up anytime soon.

Some options have been proposed to narrow this disparity by enhancing the ability of low- and middle-income workers to save more for retirement. We have demonstrated that different Saver's Credit modifications could lead to improvements in retirement security for some lower income workers. However, we also illustrate the formidable challenge of achieving increased retirement income for this at risk group. For many American workers and their families, the challenges to retirement security are very real. Fostering retirement income security, especially for low- and middle-income workers, may require a serious review of current government efforts to assist workers in achieving adequate retirement income.

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## Agency Comments

We provided a draft of this report to the Department of Labor, the Department of the Treasury, the Internal Revenue Service, and the Pension Benefit Guaranty Corporation for review and comment. Each provided technical comments which we incorporated as appropriate.

As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution until 30 days after the date of this letter. At that time, we will send copies of this report to the Secretary of Labor, the Commissioner of Internal Revenue, the Secretary of the Treasury, the Director of the Pension Benefit Guaranty Corporation, appropriate congressional committees, and other interested parties. We will also make copies available to others on request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

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If you or your staff have any questions about this report, please contact me at (202) 512-7215 or [jeszeck@gao.gov](mailto:jeszeck@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made contributions to this report are listed in appendix II.



Charles A. Jeszeck  
Acting Director, Education, Workforce, and  
Income Security Issues

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# Appendix I: Methodology

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To analyze trends in new private pension plan formation in recent years, we analyzed Form 5500 filings, which the Internal Revenue Service, Department of Labor (Labor), and the Pension Benefit Guaranty Corporation require most private tax-qualified pension plan sponsors to file. Labor collects the Form 5500 filings and makes the filing data publicly available on their Web site. We used the five most recent years (2003–2007) of Form 5500 filing data available when we started our analysis.<sup>1</sup> For our analysis, we only included single employer plans and multiple-employer, noncollectively bargained plans. Additionally, we did not include employer-sponsored retirement plans not required to file a Form 5500, such as simplified employee pension, Savings Incentive Match Plan for Employees of Small Employers, and excess benefit plans, which are not tax-qualified. If a plan had more than one valid filing during the year, we picked the one that Labor identified as the “best” for the purpose of counting plans, participants, and end of year assets.<sup>2</sup>

To identify plans as new we used two information fields on the Form 5500: one in which sponsors report if the filing is the first for a given plan and one in which sponsors report the effective year of the plan. In general, we included a plan as new if it reported a first year as the same as the filing year or if it indicated that this was the first filing for the plan. However, to account for errors in the filings, we did not include any plan as new that had filed a Form 5500 in a previous year. We also eliminated any plan for which the sponsor indicated it was the first filing, but the effective year was more than 2 years prior. Note that new plans include plans created from mergers and acquisitions that do not cover new plan participants. To identify if a new defined benefit (DB) plan sponsor also offered a defined contribution (DC) plan, we used the plan sponsors’ employer identification numbers. To identify the total number of plans in any given year, we used a Labor publication, *Private Pension Plan Bulletin Historical Tables and Graphs*, which adjusts the number of plans upward from the total number of filings based on the historical number of nonfilers. Labor estimates the number of nonfilers based on historical experience with the number of plans that do not file in a particular year

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<sup>1</sup>After we started our analysis, Labor released 2008 Form 5500 datasets, but had not yet updated their estimates of the total numbers of plans in the *Private Pension Plan Bulletin*.

<sup>2</sup>These best filing tables from Labor generally pointed to publicly available filings, but in a small number of cases they pointed to filings that were excluded from publicly available data. Labor provided these filings separately.

but filed in the year prior and the year after and the number of sponsors that file a final return, indicating they are terminating their plan.

To assess the reliability of the Form 5500 dataset, we interviewed agency officials knowledgeable about the data and reviewed relevant documentation of their internal reliability checks as well as methodology for selecting “best” filings. We also conducted electronic data testing to assess missing data and other potential problems. We determined the data were sufficiently reliable for the purposes of this report.

To analyze contributions to DC plans, we used the Board of Governors of the Federal Reserve System’s Survey of Consumer Finances (SCF) to identify characteristics of individuals participating in DC plans and their households. This triennial survey asks extensive questions about household income and wealth components. We used the latest available survey from 2007. The SCF is widely used by the research community, is continually vetted by the Board of Governors of the Federal Reserve System and users, and is considered to be a reliable data source. The SCF is believed by many to be the best source of publicly available information on household finances. Because of the widespread reliance on SCF data and the assessments of others, we determined the SCF data to be appropriate for the purposes of this report. Further information about our use of the SCF, including sampling errors, as well as definitions and assumptions we made in our analysis are detailed below.

To analyze how suggested incentives to increase retirement saving by low-income workers might affect retirement income, we used the Policy Simulation Group’s (PSG) microsimulation models to run various simulations of workers saving in DC plans over a career, changing various inputs to model different scenarios for modifying the Saver’s Credit. PSG’s Pension Simulator (PENSIM) is a pension policy simulation model that has been developed for Labor to analyze lifetime coverage and adequacy issues related to employer-sponsored pensions in the United States. We, along with the Department of Labor, other government agencies, and private organizations, have used it to analyze lifetime coverage and adequacy issues related to employer-sponsored pensions in the United States.<sup>3</sup> We projected annuity income from DC accounts at age 70 for

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<sup>3</sup>See, for example, [GAO-09-642](#) and GAO, *Private Pensions: Low Defined Contribution Plan Savings May Pose Challenges to Retirement Security, Especially for Many Low-Income Workers*, [GAO-08-8](#) (Washington, D.C.: Nov. 29, 2007).

PENSIM-generated workers under different scenarios representing different pension features and market assumptions. We assessed the reliability of PENSIM and found it to be sufficiently accurate for our purposes. See below for further discussion of PENSIM and our assumptions and methodologies.

To analyze the long-term effect of the recent financial crisis on retirement savings for U.S. workers, we reviewed recent studies and interviewed retirement and financial experts. Among the studies we reviewed, several were conducted by large plan administrators that analyzed the records of their respective DC plan sponsors and participants. Additionally, we reviewed studies from an industry association based on survey data of plan administrators. While the findings of these studies provide valuable insight into the activities of many plan sponsors and plan participants, they are not necessarily representative of the universe of DC plans and, with regard to workers, they do not reflect the population as a whole.

We conducted interviews with officials at the departments of the Treasury and Labor and the Pension Benefit Guaranty Corporation, as well as academic experts from the Employee Benefits Research Institute, Brookings Institution, Heritage Foundation, New School for Social Research, Urban Institute, Center for Retirement Research at Boston College, and Syracuse University. We also interviewed plan administrators, providers, and consultants including Fidelity Investments, Vanguard, and Towers Watson. Finally we interviewed industry and research organizations such as the Investment Company Institute, AARP, and American Society of Pension Professionals and Actuaries. In addition, for this and all of the objectives we reviewed relevant federal laws and regulations.

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## 2007 Survey of Consumer Finances

The 2007 SCF surveyed 4,418 households about their pensions, incomes, labor force participation, asset holdings and debts, use of financial services, and demographic information. The SCF is conducted using a dual-frame sample design. One part of the design is a standard, multistage area-probability design, while the second part is a special over-sample of relatively wealthy households. This is done in order to accurately capture financial information about the population at large as well as characteristics specific to the relatively wealthy. The two parts of the sample are adjusted for sample nonresponse and combined using weights to make estimates from the survey data representative of households overall. In addition, the SCF excludes people included in the Forbes Magazine list of the 400 wealthiest people in the United States.

Furthermore, the 2007 SCF dropped four observations from the public data set that had net worth at least equal to the minimum level needed to qualify for the Forbes list.

Although the SCF was designed as a household survey, it also provides some detailed individual-level economic information about an economically dominant single individual or couple in the household (what the SCF calls a primary economic unit), where the individuals are at least 18 years old. We developed individual level estimates of this population consisting of the economically dominant individual and their partner or spouse in each household. We created an additional sample containing information on 7,368 individuals by separating information about the respondents and their spouses or partners and considering them separately. When we refer to all workers, we are referring to a population of adult workers that is comprised of no more than two persons from each household and whose earnings can be expressed as an annual amount. By definition, this will differ somewhat from the entire population of workers. In households where there are additional adult workers, beyond the respondent and the spouse or partner, who may also have earnings and a retirement plan, information about these additional workers is not captured by the SCF and is therefore not part of our analysis. Because of this, estimates of total workers based on the SCF would likely understate the actual population and such estimates are generally not included in this report. We do, however, report estimates of percentages and percentiles at the individual level.

Our analysis focused on estimating the characteristics of DC plan participants contributing at or above three statutory limits: (1) the 402(g) limit on individual employee contributions, (2) the 415(c) limit on combined employer and employee contributions, and (3) the 414(v) limit on catch-up contributions. Tax-deferred DC plan contributions may also be limited by the application of other statutory or plan-specific limits that we did not analyze in this report because of data limitations in the 2007 SCF. For example, there is a statutory limit on the amount of compensation that can be taken into account in determining the qualified pension plan contributions or benefits (26 U.S.C. § 401(a)(17)). There is also a statutory limit on the total amount of tax-deductible contributions that an employer may make to certain types of plans (26 U.S.C. §§ 404 and 4972). In addition, the SCF does not distinguish between tax-deferred and non-tax-deferred pension plan contributions or between qualified and nonqualified pension plans. Therefore, we were unable to identify DC participants whose tax-deferred contributions were equal to the statutory limits. DC plan contributions may also be subject to plan-specific limits.

We were not able to identify whether participants were in DC plans that allowed them to make tax-deferred contributions, nor were we able to identify DC plan participants whose contributions were limited by plan-specific rules.

We defined “workers” as individuals in the sample who were at least 18 years old, working at the time of the survey, and whose earnings could be expressed as an annual dollar amount. This definition included both public- and private-sector workers. We defined pension plan participants as workers who were included in any type of pension plan through their job. We defined eligible DC participants as workers who participated in a plan in which money is accumulated in an account. We did not include personal contributions to individual retirement accounts for any person in our sample, including persons who may be self-employed, nor did we consider Keogh plans in our analysis because of the scope of this report. Our definition of DC plans includes: 401(k), thrift or savings, profit-sharing, supplemental retirement annuity (including 403(b)s), or other account-based plans. We did not include Simplified Employee Pensions, Simplified Incentive Match Plans for Employers, or Salary Reduction Simplified Employee Pensions, as these plans are subject to different statutory limits.

We classified individuals by gender, individual earnings, and household assets. We defined earnings as the sum of wage and salary income from a worker’s job(s) and business income (if any) from that job. For workers who did not report their earnings as annual amounts, we used information about hours worked per week and weeks worked per year to express earnings as an annual amount. Our analyses excluded individuals whose earnings could not be expressed as an annual amount. For all analyses, we used four earnings categories: less than \$52,000 per year, \$52,000–125,999 per year, \$126,000–179,999 per year, and \$180,000 or more per year. We chose the income cutoffs that were the median (\$52,000), 90th percentile (\$126,000), and 95th percentile (\$180,000) for all DC participants in 2007.

The SCF is a probability sample based on random selections, so the 2007 SCF sample is only one of a large number of samples that might have been drawn. Since each sample could have provided different estimates, we express our confidence in the precision of our particular sample’s results as a 95 percent confidence interval (e.g., plus or minus 4 percentage points). This is the interval that would contain the actual population value for 95 percent of the samples we could have drawn. As a result, we are 95 percent confident that each of the confidence intervals in this report will include the true values in the study population.

In this report, all estimated percentages based on all DC participants have 95 percent confidence intervals of plus or minus 1 percentage point or less. Percentage estimates based on participants contributing below statutory limits have 95 percent confidence intervals within plus or minus 3 percentage points of the percentage estimate itself. Percentages based on participants at or above statutory limits have confidence intervals within plus or minus 12 percentage points of the estimate itself. Other numerical estimates (such as means, medians, or ratios) based on the 2007 SCF data are presented in this report along with their 95 percent confidence intervals.

The SCF and other surveys that are based on self-reported data are subject to several other sources of nonsampling error, including the inability to get information about all sample cases; difficulties of definition; differences in the interpretation of questions; respondents' inability or unwillingness to provide correct information; and errors made in collecting, recording, coding, and processing data. These nonsampling errors can influence the accuracy of information presented in the report, although the magnitude of their effect is not known.

As part of the effort to maintain the confidentiality of survey respondents, most dollar amounts reported in the SCF, including the dollar amount of DC plan contributions, are rounded. The rounding scheme is designed to preserve the population mean, on average, and rounds some estimates down and some estimates up. For example, if the survey respondent reported making monthly DC plan contributions of \$1,292, the contribution was rounded to either \$1,200 or \$1,300 based on the results of the rounding algorithm. This rounding scheme makes it difficult to precisely estimate whether survey respondents are at or above the statutory limits on DC plan contributions if annual contributions are close to the statutory limit. Therefore, our estimates of those contributing at or above the limit are approximate. Similarly, our estimates of those contributing below the limits are also approximate.

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## Methodology and Assumptions Using PENSIM Microsimulation Model

To project lifetime income from DC pensions and to identify the effects of certain changes in policies, we used the PENSIM microsimulation model.<sup>4</sup> PENSIM is a dynamic microsimulation model that produces life histories for a sample of individuals born in the same year.<sup>5</sup> The life history for a sample individual includes different life events, such as birth, schooling events, marriage and divorce, childbirth, immigration and emigration, disability onset and recovery, and death. In addition, a simulated life history includes a complete employment record for each individual, including each job's starting date, job characteristics, pension coverage and plan characteristics, and job ending date. The model has been developed by PSG since 1997 with funding and input by Labor's Office of Policy and Research at the Employee Benefits Security Administration and with recommendations from the National Research Council panel on retirement income modeling.

PENSIM simulates the timing for each life event by using data from various longitudinal data sets to estimate a waiting-time model (often called a hazard function model) using standard survival analysis methods. PENSIM incorporates many such estimated waiting-time models into a single dynamic simulation model. This model can be used to simulate a synthetic sample of complete life histories. PENSIM employs continuous-time, discrete-event simulation techniques, such that life events do not have to occur at discrete intervals, such as annually on a person's birthday. PENSIM also uses simulated data generated by another PSG simulation model, Social Security and Accounts Simulator, which produces simulated macro-demographic and macroeconomic variables.

PENSIM imputes pension characteristics using a model estimated with 1996—1998 establishment data from the Bureau of Labor Statistics Employee Benefits Survey (now known as the National Compensation Survey). Pension offerings are calibrated to historical trends in pension offerings from 1975 to 2005, including plan mix, types of plans, and employer matching. Further, PENSIM incorporates data from the 1996—

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<sup>4</sup>For more information on PSG microsimulation models, see <http://www.polsim.com> (accessed on March 18, 2011). For more details on PENSIM, see Martin Holmer, Asa Janney, and Bob Cohen, *PENSIM Overview*, available at <http://www.polsim.com/documentation.html> (accessed on March 18, 2011).

<sup>5</sup>While these models use sample data, our report, like others using these models, does not address the issue of sampling errors. The results of the analysis reflect outcomes for individuals in the simulated populations and do not attempt to estimate outcomes for an actual population.

1998 Employee Benefits Survey to impute access to and participation rates in DC plans in which the employer makes no contribution, which the Bureau of Labor Statistics does not report as pension plans in the National Compensation Survey. The inclusion of these “zero-matching” plans enhances PENSIM’s ability to accurately reflect the universe of pension plans offered by employers. The baseline PENSIM assumption, which we adopted in our analysis, is that 2005 pension offerings, including the imputed zero-matching plans, are projected forward in time.

PSG has conducted validation checks of PENSIM’s simulated life histories against both historical life history statistics and other projections. Different life history statistics have been validated against data from the Survey of Income and Program Participation, the Current Population Survey, Modeling Income in the Near Term, the Panel Study of Income Dynamics, and the Social Security Administration’s Trustees Report. PSG reports that PENSIM life histories have produced similar annual population, taxable earnings, and disability benefits for the years 2000 to 2080 as those produced by the Congressional Budget Office’s long-term social security model and as shown in the Social Security Administration’s 2004 Trustees Report. According to PSG, PENSIM generates simulated DC plan participation rates and account balances that are similar to those observed in a variety of data sets. For example, measures of central tendency in the simulated distribution of DC account balances among employed individuals is similar to those produced by an analysis of the Employee Benefit Research Institute-Investment Company Institute 401(k) database and of the 2004 SCF. We performed no independent validation checks of PENSIM’s life histories or pension characteristics.

In 2006, the Employee Benefits Security Administration submitted PENSIM to a peer review by three economists. The economists’ overall reviews ranged from highly favorable to highly critical. While the economist who gave PENSIM a favorable review expressed a “high degree of confidence” in the model, the one who criticized it focused on PENSIM’s reduced form modeling. This means that the model is grounded in previously observed statistical relationships among individuals’ characteristics, circumstances, and behaviors, rather than on any underlying theory of the determinants of behaviors, such as the common economic theory that individuals make rational choices as their preferences dictate and thereby maximize their own welfare. The reduced form modeling approach is used in pension microsimulation models and the feasibility of using a nonreduced form approach to build such a model may be questionable given the current state of economic research. The

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third reviewer raised questions about specific modeling assumptions and possible overlooked indirect effects.

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### Assumptions Used in Projecting DC Plan Balances at Retirement

PENSIM allows the user to alter one or more inputs to represent changes in government policy, market assumptions, or personal behavioral choices and analyze the subsequent impact on pension benefits. Starting with a 2 percent sample of a 1995 cohort, totaling 120,608 people at birth, our baseline simulation includes some of the following key assumptions and features:

- Workers accumulate DC pension benefits from past jobs in one rollover account, which continues to receive investment returns, along with any benefits from a current job. At retirement, these are combined into one account. Because we focus on DC plan balances only, we do not track Social Security benefits or benefits from DB plans. Our reported benefits and replacement rates therefore capture just one source of potential income available to a retiree.
- Plan participants invest all assets in their accounts in target-date funds, a type of life-cycle fund which adjusts the mix of assets between stocks and government bonds as the individual ages and approaches a target date in time. Stocks return an annual nonstochastic real rate of return of 6.4 percent and government bonds return a real rate of return of 2.9 percent.<sup>6</sup> In an alternate simulation, we assume that stocks and government bonds earn an equivalent annual nonstochastic rate of return of 2.9 percent and find similar effects for each scenario (see table 7).<sup>7</sup> Using different rates of return reflect assumptions used by the Social Security Administration's Office of the Chief Actuary in some of its analyses of trust fund investment.

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<sup>6</sup>The difference between the return on equities and Treasury bonds represents the compensation that individuals require for the higher risk of holding equities.

<sup>7</sup>Since our projections do not stochastically model stock returns, assuming a rate of return on assets equal to the historical return on stocks does not capture the risks associated with stock returns; we therefore also model DC savings under a scenario in which all assets return the government bond rate of return. For more discussion of the appropriate use in projections, see Congressional Budget Office, *Analysis of H.R. 3304, Growing Real Ownership for Workers Act of 2005* (Washington, D.C., Sept. 13, 2005), 63-65.

**Table 6: Projected Mean DC Annuity Payments for Saver’s Credit Recipients under Different Scenarios Using Alternate Rate of Return**

(In 2010 dollars)

	Mean for Saver’s Credit recipients by earnings quartiles for all workers				Mean for all Saver’s Credit recipients
	\$200–25,933	\$25,935–50,438	\$50,439–98,231	\$98,242–2,203,300	
<b>Refundable Saver’s Credit</b>					
Percent change in annuity equivalent <sup>a</sup>	8.4%	3.7%	0.8 %	0.1%	1.3%
Change in annuity equivalent	\$227	\$244	\$122	\$40	\$172
Annuity equivalent	\$2,940	\$6,759	\$15,197	\$36,614	\$13,238
<b>Refundable Saver’s Credit with an increase in the adjusted gross income limits</b>					
Percent change in annuity equivalent	10.3%	5.4%	2.1%	0.8%	2.0%
Change in annuity equivalent	\$280	\$353	\$326	\$297	\$318
Annuity equivalent	\$3,001	\$6,905	\$15,588	\$37,871	\$16,087
<b>Refundable Saver’s Credit with an increase in the adjusted gross income limits and automatic enrollment</b>					
Percent change in annuity equivalent	13.2%	8.3%	3.9%	2.1%	3.6%
Change in annuity equivalent	\$362	\$546	\$594	\$773	\$581
Annuity equivalent	\$3,112	\$7,110	\$15,860	\$38,372	\$16,532

Source: GAO calculations of PENSIM simulation.

Notes: Some of the model assumptions include the following: (1) workers use all accumulated DC plan balances to purchase an inflation-adjusted annuity at retirement, between ages 62 and 70; (2) participants invest all plan assets in target-date funds; (3) the credit(s) are directly deposited into a DC participant’s account; (4) stocks earn an average 2.9 percent real return; and (5) 100 percent of workers eligible for the Saver’s Credit take it. Earnings quartiles are calculated based on a measure of steady earnings over a worker’s lifetime. No default or minimum contribution rates were defined for the scenario with automatic enrollment, rather the contribution rates are produced by PENSIM. We have no evidence on what contribution rates new participants would choose under automatic enrollment, but it may be lower than the contribution rates chosen by those that voluntarily participate. Our analysis includes only those people who both received the Saver’s Credit at some point during their lifetime and have positive DC annuity income at age 70. We compared each of the scenarios to a baseline scenario of no Saver’s Credit.

<sup>a</sup>Annuity equivalents are our projection of annual income produced by an individual’s DC savings. Annuity equivalents are calculated by converting DC-derived account balances at retirement into inflation-indexed retirement annuity payments using annuity prices that are based on projected mortality rates for the 1995 birth cohort and annuity price loading factors that ensure that the cost of providing these annuities equals the revenue generated by selling them at those prices.

- Workers purchase a single, inflation-adjusted life annuity at retirement, which occurs between the ages of 62 and 70.<sup>8</sup> Anyone who becomes permanently disabled at age 45 or older also purchases an immediate annuity at their disability age.<sup>9</sup> We eliminated from the sample cohort members who: (1) die before they retire or before age 70, (2) immigrate into the cohort at an age older than 25, (3) emigrate prior to age 70, or (4) become permanently disabled prior to age 45.<sup>10</sup>
- Stock returns on employer and employee contributions to DC plans are constant across scenarios.
- Because we were unable to model the current scenario of a nonrefundable Saver's Credit given the structure of the microsimulation model, we used a scenario of no Saver's Credit as our baseline.

Starting with this baseline model, we vary key inputs and assumptions to see how these variations affect pension coverage and benefits at age 70. Policy scenarios we analyzed include:

- *Refundable Saver's Credit.* A refundable Saver's Credit was introduced in 2011 for up to \$1,000 of DC contributions per person. All eligible tax filers received a 50 percent credit rate and the credit was deposited directly into the worker's DC account. The adjusted gross income (AGI) limits remained as they were in 2010.<sup>11</sup> The AGI limits were \$27,750 for individuals with a filing status of single, married filing separately, or widow(er); \$41,625 for individuals with a filing status of head of household; and \$55,500 for individuals with a filing status of married filing jointly. Limits in subsequent years were indexed to inflation.

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<sup>8</sup>Annuity equivalents are calculated by converting DC-derived account balances at retirement into inflation-indexed retirement annuity payments using annuity prices that are based on projected mortality rates for the 1995 birth cohort and annuity price loading factors that ensure that the cost of providing these annuities equals the revenue generated by selling them at those prices.

<sup>9</sup>We classify as retired those workers who become disabled at or after age 62. We do not classify as disabled those workers who recover from disability prior to age 62.

<sup>10</sup>We drop cohort members who die before retiring because we assume annuitization at retirement, but someone who dies before retiring would never annuitize his DC savings. We apply the other conditions because such cohort members are likely to have fewer years in the workforce to accumulate DC plan savings.

<sup>11</sup>At the time of our analysis, the 2011 limits had not been announced, so we maintained the 2010 limits.

- *Refundable Saver's Credit with an increase in the AGI limits.* A refundable Saver's Credit was introduced in 2011 for up to \$1,000 of DC contributions per person. AGI increased to \$50,000 for individuals with a filing status of single, married filing separately, or widow(er); \$75,000 for individuals with a filing status of head of household; and \$100,000 for individuals with a filing status of married filing jointly. Limits in subsequent years were indexed to inflation, as under current law. All eligible tax filers received a 50 percent credit rate and the credit was deposited directly into the worker's DC account.
- *Refundable Saver's Credit with an increase in the AGI limits and automatic enrollment.* A refundable Saver's Credit was introduced in 2011 for up to \$1,000 of DC contributions per person. AGI increased to \$50,000 for individuals with a filing status of single, married filing separately, or widow(er); \$75,000 for individuals with a filing status of head of household; and \$100,000 for individuals with a filing status of married filing jointly. Limits in subsequent years were indexed to inflation, as under current law. All employers sponsoring a DC plan automatically enrolled workers eligible to participate in the plan. All eligible tax filers received a 50 percent credit rate and the credit was deposited directly into the worker's DC account.

For each of these scenarios, we assume the utilization, or take-up rate, for the Saver's Credit is 100 percent, presenting a best case scenario. In alternative simulations, we assume an aggregate take-up rate of 67 percent and find effects similar, but slightly lower, to those when the take-up rate is 100 percent (see table 8). One study found that the actual take-up rate may be about two-thirds because not all eligible tax filers are aware of the credit or choose to take it. In addition, studies have noted that tax filers are limited by the nonrefundable nature of the credit.

**Table 7: Projected Mean DC Annuity Payments for Saver’s Credit Recipients Under Different Scenarios Using Alternative Take-Up Rate**

(In 2010 dollars)

	Mean for Saver’s Credit recipients by earnings quartiles for all workers				Mean for all Saver’s Credit recipients
	\$200–25,933	\$25,935–50,438	\$50,439–98,231	\$98,242–2,203,300	
<b>Refundable Saver’s Credit</b>					
Percent change in annuity equivalent <sup>a</sup>	7.2%	3.6%	1.1%	0.4%	1.6%
Change in annuity equivalent	\$288	\$340	\$232	\$189	\$275
Annuity equivalent	\$4,295	\$9,703	\$21,397	\$50,145	\$17,820
<b>Refundable Saver’s Credit with an increase in the AGI limits</b>					
Percent change in annuity equivalent	8.4%	4.8%	1.8%	0.6%	1.8%
Change in annuity equivalent	\$332	\$444	\$389	\$301	\$374
Annuity equivalent	\$4,298	\$9,725	\$21,689	\$52,127	\$21,477
<b>Refundable Saver’s Credit with an increase in the AGI limits and automatic enrollment</b>					
Percent change in annuity equivalent	11.5%	7.8%	3.9%	2.2%	3.8%
Change in annuity equivalent	\$463	\$728	\$838	\$1,160	\$806
Annuity equivalent	\$4,486	\$10,001	\$22,153	\$52,814	\$22,132

Source: GAO calculations of PENSIM simulation.

Notes: Some of the model assumptions include the following: (1) workers use all accumulated DC plan balances to purchase an inflation-adjusted annuity at retirement, between ages 62 and 70; (2) participants invest all plan assets in target-date funds; (3) the credit(s) are directly deposited into a DC participant’s account; (4) stocks earn an average 6.4 percent real return; and (5) 67 percent of workers eligible for the Saver’s Credit take it. Earnings quartiles are calculated based on a measure of steady earnings over a worker’s lifetime. No default or minimum contribution rates were defined for the scenario with automatic enrollment, rather the contribution rates are produced by PENSIM. We have no evidence on what contribution rates new participants would choose under automatic enrollment, but it may be lower than the contribution rates chosen by those that voluntarily participate. Our analysis includes only those people who both received the Saver’s Credit at some point during their lifetime and have positive DC annuity income at age 70. We compared each of the scenarios to a baseline scenario of no Saver’s Credit.

<sup>a</sup>Annuity equivalents are our projection of annual income produced by an individual’s DC savings. Annuity equivalents are calculated by converting DC-derived account balances at retirement into inflation-indexed retirement annuity payments using annuity prices that are based on projected mortality rates for the 1995 birth cohort and annuity price loading factors that ensure that the cost of providing these annuities equals the revenue generated by selling them at those prices.

We projected the percent of DC annuity recipients who had received the Saver’s Credit at some point over their working years (see table 9). Overall, 52–72 percent of DC annuity recipients had received the Saver’s Credit under our three scenarios. For annuity recipients in the lowest earnings quartile, the range was 75–81 percent.

**Table 8: Percent of DC Annuity Recipients Who Had Received the Saver’s Credit**

Scenario	Percent of DC annuity recipients by earnings quartile				Percent of all DC annuity recipients
	\$200–25,933	\$25,935–50,438	\$50,439–98,231	\$98,242–2,203,300	
Refundable Saver’s Credit	75%	70%	51%	29%	52%
Refundable Saver’s Credit with an increase in the AGI limits	81	85	77	56	72
Refundable Saver’s Credit with an increase in the AGI limits and automatic enrollment	81	85	78	58	72

Source: GAO calculations of PENSIM simulation.

Notes: Some of the model assumptions include the following: (1) workers use all accumulated DC plan balances to purchase an inflation-adjusted annuity at retirement, between ages 62 and 70; (2) participants invest all plan assets in target-date funds; (3) the credit(s) are directly deposited into a DC participant’s account; (4) stocks earn an average 6.4 percent real return; and (5) 67 percent of workers eligible for the Saver’s Credit take it. Earnings quartiles are calculated based on a measure of steady earnings over a worker’s lifetime. No default or minimum contribution rates were defined for the scenario with automatic enrollment, rather the contribution rates are produced by PENSIM. We have no evidence on what contribution rates new participants would choose under automatic enrollment, but it may be lower than the contribution rates chosen by those that voluntarily participate. We compared each of the scenarios to a baseline scenario of no Saver’s Credit. Dollar amounts are reported in 2010 dollars.

We projected the aggregate cost to the federal government of providing the Saver’s Credit for the year 2016.<sup>12</sup> By this time, the modified credits in our scenarios would have been in place for 5 years and members of the 1995 cohort would be age 21, although our projection includes the cost for all eligible tax filers of any age—not simply those born in 1995. We found that the cost to the federal government of providing the credit for all qualified contributions to DC plans ranged from \$6.7 billion to \$14.8 billion under our three scenarios (see table 10). While the aggregate cost to the government of the refundable Saver’s Credit scenario was about \$6.7

<sup>12</sup>We were not able to include all of the key factors influencing the aggregate cost of the Saver’s Credit for any given year. Our estimate does not include any administrative costs that may be associated with the credit or the costs associated with taking the Saver’s Credit for contributions made to individual retirement accounts. Further, the cost will depend on the number of people who take advantage of the Saver’s Credit. How the modified Saver’s Credit would affect utilization is unknown. Our cost assumptions assume that 100 percent of those eligible for the credit take it.

billion, the cost more than doubled when the AGI limits were increased and automatic enrollment was added.

**Table 9: Aggregate Cost of the Saver’s Credit to the Federal Government, 2016**

(Billions of 2010 dollars)

Scenario	Aggregate cost of the Saver’s Credit to the federal government <sup>a</sup>
Refundable Saver’s Credit	\$6.7
Refundable Saver’s Credit with an increase in the AGI limits	13.8
Refundable Saver’s Credit with an increase in the AGI limits and automatic enrollment	14.8

Source: GAO calculations of PENSIM simulation.

Notes: Some of the model assumptions include the following: (1) participants invest all plan assets in target-date funds, (2) stocks earn an average of 6.4 percent real return, (3) 100 percent of workers eligible for the Saver’s Credit take it, and (4) stock returns on employee and employer contributions are constant across the scenarios. No default or minimum contribution rates were defined for the scenario with automatic enrollment; rather the contribution rates are produced by PENSIM. We have no evidence on what contribution rates new participants would choose under automatic enrollment, but it may be lower than the contribution rates chosen by those that voluntarily participate. Because we were unable to model the current scenario of a nonrefundable Saver’s Credit given the structure of the microsimulation model, we were not able to project the cost of the current, nonrefundable Saver’s Credit. Therefore, we compared the cost of each scenario to a baseline scenario of no Saver’s Credit.

<sup>a</sup>Aggregate cost sums the amount of Saver’s Credit received by DC participants. It does not include any administrative costs that may be associated with the credit or the costs associated with taking the Saver’s Credit for contributions made to individual retirement accounts.

**PENSIM Cohort Summary and Cross-Sectional Statistics**

Lifetime summary statistics of the simulated 1995 cohort’s workforce and demographic variables give some insight into the model’s projected income from DC plans we report (see tables 11 and 12). By restricting the sample to those who have some earnings, do not immigrate into the cohort after age 25, do not emigrate or die prior to age 70, and do not become disabled before age 45, we reduce the full sample of 120,608 individuals to a sample of 70,110 individuals.

**Table 10: Sample Summary Statistics at age 70, 1995 PENSIM Cohort**

Demographic variables	Full sample	By income quartile			
		\$200–25,933	\$25,935–50,438	\$50,439–98,231	\$98,242–2,203,300
Total at age 70	70,110	17,527	17,528	17,527	17,528
Percent female (average)	51%	75%	54%	46%	29%
Percent who work for at least one DC sponsor over their career	90	83	90	94	95
Percent whose longest-held job offered a DC plan	73	56	71	79	87

Source: GAO calculations of PENSIM simulation.

Note: Sample excludes cohort members who have no lifetime earnings, immigrate after age 25, emigrate or die prior to age 70, or become disabled prior to age 45. This table is for our baseline run of no Saver's Credit.

**Table 11: Medians at age 70, 1995 PENSIM Cohort**

Demographic variables	Full sample	By income quartile			
		\$200–25,933	\$25,935–50,438	\$50,439–98,231	\$98,242–2,203,300
Education	attended some college	high school graduate	high school graduate	attended some college	college graduate
Annual steady earnings (2010 dollars)	\$50,439	\$16,345	\$36,693	\$69,444	\$152,755
Years working full-time	29	16	29	31	34
Years working part-time	2	8	2	1	1
Number of jobs held over lifetime	5	5	5	5	5
Duration of longest job, years	17	14	17	18	19
Retirement age	62	62	62	62	62
Years eligible for a DC plan	19	9	17	21	25
Number of jobs on which eligible for a DC plan	2	2	2	2	1

Source: GAO calculations of PENSIM simulation.

Note: Sample excludes cohort members who have no lifetime earnings, immigrate after age 25, emigrate or die prior to age 70, or become disabled prior to age 45. This table is for our baseline run of no Saver's Credit.

Cross-sectional results of the sample cohort also provide some insights into the demographic, workforce, and pension participation characteristics of individuals in the 1995 cohort (see table 13). These

statistics describe characteristics for individuals at ages 21 and 25 in order to provide a snapshot of pension plan participation and contributions for most of the sample during their early working years. Given that younger workers are more likely to be low-income, they are also more likely to be eligible for the Saver's Credit.

**Table 12: Cross-Sectional Pension Characteristics of Sample**

(In 2010 dollars)

	Age 21		Age 25	
	Average	Median	Average	Median
Highest level of schooling	n/a	High school graduate	n/a	High school graduate
Percentage of sample employed	67.8%	n/a	72.5%	n/a
Percentage of workers who are working part-time	34.0%	n/a	27.7%	n/a
Percentage of workers who participate in a DC plan	21.3%	n/a	29.9%	n/a
Percentage of workers who actively participate in a DC plan	14.4%	n/a	24.4%	n/a
Among DC participants, employee's annual contributions to DC plan (percentage of earnings)	4.2%	3.4%	4.9%	4.5%
Among DC participants, employer's annual contributions to DC plan (percentage of earnings)	4.6%	2.0%	4.8%	2.0%
Among DC participants, total contributions (percentage of earnings)	8.8%	6.0%	9.8%	7.3%
Among DC participants, employee's annual contributions to DC plan	\$885	\$560	\$2,283	\$1,210
Among DC participants, employer's annual contributions to DC plan	\$848	\$300	\$1,772	\$590
Among DC participants, total contributions	\$1,733	\$1,000	\$4,055	\$2,190

Source: GAO calculations of PENSIM simulation.

Note: This table is for our baseline run of no Saver's Credit. N/a means not available.

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# Appendix II: GAO Contact and Staff Acknowledgments

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## GAO Contact

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## Staff Acknowledgments

Individuals making key contributions to this report include Michael Collins, Assistant Director; Melinda Bowman, Analyst-in-Charge; Jennifer Gregory; and Aron Szapiro. Joseph Applebaum, Susan Bernstein, Bethany Boland, Edward Nannenhorn, Mimi Nguyen, Jeremy Ollayos, Mark Ramage, Carl Ramirez, Roger Thomas, and Frank Todisco also provided valuable assistance. Michael Hartnett, Sharon Hermes, Dana Hopings, and Gene Kuehneman Jr. verified our report findings.

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