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Retirement Plan Participation and Contributions: Trends from 1998 to 2003

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October 12, 2005

Abstract. From February through May of 2003, the U.S. Census Bureau collected information on participation in employer-sponsored retirement plans among individuals in more than 29,000 U.S. households through the Survey of Income and Program Participation (SIPP). These data represent the most comprehensive source of information available on workers' participation in employer-sponsored retirement plans from a nationally representative sample of American households. The analysis in this report focuses on workers 18 and older with a paid job in the private sector. Public sector workers and the self-employed have been excluded from the analysis because neither group is covered by the Employee Retirement Income Security Act of 1974 (ERISA, P.L. 93-406), the federal law that governs many aspects of employer-sponsored pensions. According to the data collected by the Census Bureau, there were 97.7 million people age 18 and older with a paid job in the private sector in an average month in the first half of 2003. Of this number, 63.2 million (64.8%) worked for an employer that sponsored a pension or a retirement savings plan - such as a 401(k) plan - and 45.7 million (46.8%) participated in an employer-sponsored retirement plan.

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Summary

From February through May of 2003, the U.S. Census Bureau collected information about participation in employer-sponsored retirement plans among individuals in more than 29,000 U.S. households. These data are the most comprehensive source of information available on workers' participation in employer-sponsored retirement plans from a nationally representative sample of American households. A Congressional Research Service analysis showed that

- Between 1998 and 2003, the percentage of private-sector workers whose employer sponsored a retirement plan increased from 62.0% to 64.8%.
- The percentage of private-sector workers who participated in employer-sponsored retirement plans increased from 43.1% in 1998 to 46.8% in 2003.
- 56.4% of workers in the private sector worked for an employer that sponsored a defined contribution plan (DC), such as a §401(k) plan, in 2003, an increase of 4.1 percentage points over the sponsorship rate in 1998.
- 41.0% percent of private-sector workers participated in §401(k)-type plans in 2003, an increase of 5.6 percentage points over the participation rate in 1998.
- Among workers whose employers offered a DC plan in 2003, 72.6% participated in the plan, an increase of 4.9 percentage points over 1998.

The variables with the strongest positive relationship to the likelihood of participating in a plan are length of service with an employer and monthly earnings. Among workers whose employer sponsored a plan, men, those over age 35, married workers, college graduates, full-time workers, home owners, those at small establishments, and those whose employer contributed to the plan were more likely than others to have participated in a defined contribution plan. Neither the worker's race nor the presence of children in the family had a statistically significant relationship to employee participation. Many workers who did not participate in defined contribution plans believed that they were ineligible to participate. In 2003, 28% of respondents said that they had not worked for their current employer long enough to be eligible, 29% said that they did not work enough hours to be eligible, and 9% said that their particular job was not covered by the employer's plan. H.R. 1508 and H.R. 1960 of the 109th Congress would promote automatic enrollment.

In 2003, the median employee monthly salary deferral into §401(k)-type plans was $158, or $1,896 on an annual basis. Eighty-five percent of employees deferred less than $500 per month into these plans in 2003. Only 3% of participants contributed $1,000 per month to defined contribution plans, equivalent to the annual maximum of $12,000 in effect during 2003. Among all private-sector workers who participated in defined contribution plans in 2003, the mean total account balance was $34,757 and the median balance was $15,000. This report will not be updated.

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Trends in Retirement Plan Participation

From February through May of 2003, the U.S. Census Bureau collected information on participation in employer-sponsored retirement plans among individuals in more than 29,000 U.S. households through the *Survey of Income and Program Participation* (SIPP). These data represent the most comprehensive source of information available on workers' participation in employer-sponsored retirement plans from a nationally representative sample of American households.

The analysis in this report focuses on workers 18 and older with a paid job in the private sector. Public sector workers and the self-employed have been excluded from the analysis because neither group is covered by the Employee Retirement Income Security Act of 1974 (ERISA, P.L. 93-406), the federal law that governs many aspects of employer-sponsored pensions. According to the data collected by the Census Bureau, there were 97.7 million people age 18 and older with a paid job in the private sector in an average month in the first half of 2003. Of this number, 63.2 million (64.8%) worked for an employer that sponsored a pension or a retirement savings plan — such as a §401(k) plan — and 45.7 million (46.8%) participated in an employer-sponsored retirement plan.

The Survey of Income and Program Participation

The Census Bureau collects information on participation in employer-sponsored retirement plans through its SIPP. The households selected to participate in the SIPP are a nationally representative sample of the civilian, noninstitutionalized population of the United States. The SIPP is a *longitudinal* survey, meaning that it measures changes in the economic and demographic characteristics of individuals and households over time. Households participating in the 2001 panel of the survey were interviewed once every four months over a period of three years. At each interview, respondents were asked to provide information covering the four months since the previous interview. This four-month span is called the "reference period" for the interview. While it was designed as a longitudinal survey, data from the SIPP also can be used to study characteristics of the population at a point in time (*cross-sectional analysis*) by looking at the information from any particular four-month reference period. Periodically, special "topical modules" are included in the survey to ask questions about specific subjects. Topical Module 7, fielded in 1998 and again in 2003, asked questions about workers' participation in employer-sponsored retirement plans.

The SIPP is an important source of information about the demographic and economic status of American households. The large sample size of the SIPP allows it to be used to analyze the demographic and economic characteristics of various sub-populations of interest to policy makers. The 2001 panel of the SIPP began with 35,000 households. The seventh wave of the 2001 panel of the SIPP — on which the analysis in this report is based — included more than 29,000 households. By collecting data on labor force participation, sources of income, and participation in federal and state programs, the SIPP provides a wealth of information about government programs and their effects on the economic situations of families and individuals.

Two Kinds of Retirement Plans: Defined Benefit and Defined Contribution

Employer-sponsored retirement plans are legally classified as either *defined benefit* plans or *defined contribution* plans. In a defined benefit (DB) plan, the employer makes a commitment to prefund the worker's retirement benefit. The value of the benefit is usually based on the employee's salary and number of years of service. With each year of service, a worker accrues a benefit equal to either a fixed dollar amount per month or year of service or a percentage of his or her final pay or career-average pay.

Defined contribution (DC) plans — such as those authorized under §401(k) of the Internal Revenue Code — are much like savings accounts maintained by the employer on behalf of each participating employee. In a §401(k) plan, the employee defers receipt of current income to deposit it on a pre-tax basis into a retirement account. In many §401(k) plans, the employer also contributes to the plan, and the amount of the employer's contribution often depends on the amount the employee contributes to the plan. When the worker retires, the retirement benefit that he or she receives is the balance in the account, which is the sum of all the contributions that have been made plus interest, dividends, and capital gains (or losses). The worker sometimes has the option to take the accrued benefit in the form of an annuity — a series of fixed payments for the rest of his or her life — but most departing workers choose to receive a lump-sum distribution from the plan.

In recent years, many employers have converted their traditional defined benefit pensions to *hybrid plans* that have characteristics of both DB and DC plans. The most popular of these hybrids has been the *cash balance plan*. A cash balance plan looks like a DC plan in that the accrued benefit is defined in terms of an account balance. The employer makes contributions to the plan and pays interest on the accumulated balance. However, in a cash balance plan, the account balances are merely bookkeeping devices. They are not individual accounts that are owned by the participants. Because the employer is committed to paying a benefit that is no less than the sum of all contributions plus interest, cash balance plans are legally classified as defined benefit plans.

Participation in Employer-Sponsored Retirement Plans, All Types

Between 1998 and 2003, the percentage of private-sector wage and salary workers whose employers *sponsored* a retirement plan of any kind increased from 62.0% to 64.8% (**Table 1**). The percentage of private-sector wage and salary workers who *participated* in employer-sponsored retirement plans increased from 43.1% in 1998 to 46.8% in 2003. In **Table 1**, workers are shown as having been included in a retirement plan if they reported on the SIPP that they participated in either a defined benefit pension plan or a defined contribution plan, such as those authorized under §401(k) and §403(b) of the Internal Revenue Code. In most defined contribution plans, workers must elect to participate. In defined benefit plans, all eligible workers usually are included in the plan.[1] They do not have to enroll in the plan or contribute to the plan from their salaries.[2]

Table 1. Participation in Employer-Sponsored Retirement Plans of All Types

(Private-sector wage and salary workers, age 18 and older; in percent)

	1998		2003	
	Offered Any Type of Plan	Included in Any Plan	Offered Any Type of Plan	Included in Any Plan
Establishment size				
Under 25 workers	41.1	25.6	45.1	30.8
25 to 99 workers	62.6	41.1	67.2	45.6
100 or more workers	81.1	60.7	83.1	64.0
Employment				
Full-time	65.8	49.3	68.5	53.1
Part-time	52.4	27.7	56.0	32.1
Total	**62.0**	**43.1**	**64.8**	**46.8**

Source: Congressional Research Service analysis of the *Survey of Income and Program Participation*.

Note: Data represent 93.1 million workers in 1998 and 97.7 million in 2003.

Table 1 shows the rates of plan sponsorship and participation categorized by establishment size and full-time or part-time employment. Between 1998 and 2003, the percentage of workers whose employer sponsored a retirement plan increased at establishments of all sizes, but workers at small and medium business establishments

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[1] According to the Department of Labor, 97% of private-sector employees whose employers offered a DB plan in March 2005 were enrolled in the plan. In contrast, the participation rate among workers whose employer offered a defined contribution plan was 78%. See *National Compensation Survey: Employee Benefits in Private Industry in the United States, Mar. 2005*, U.S. Department of Labor, Bureau of Labor Statistics, Summary 05-01, Aug. 2005.

[2] Workers in the public sector usually are required to contribute to their defined benefit pension plan, but private-sector DB plans typically are funded exclusively by the employer.

were less likely than those at large establishments to work for an employer that sponsored a retirement plan. Consequently, workers at establishments with fewer than 25 employees were less than half as likely as workers at establishments with 100 or more employees to have participated in an employer-sponsored retirement plan in 1998 or 2003. While 64.0% of workers at establishments with more than 100 employees participated in an employer-sponsored retirement plan in 2003, just 45.6% of workers at establishments with 25 to 99 employees, and only 30.8% of workers at establishments with fewer than 25 employees, participated in retirement plans. Workers employed on a part-time basis were less likely than those employed full-time to work for an employer that sponsored a retirement plan or to have participated in a plan if it was offered. In 2003, 56.0% of part-time workers were employed at establishments that offered a retirement plan, compared to 68.5% of full-time workers, and only 32.1% of part-time workers participated in employer-sponsored retirement plans that year, compared to 53.1% of full-time workers. Thus, the "take-up rate" among part-time workers offered a retirement plan was 57.3%, compared to 77.5% among full-time workers.[3]

Participation in Defined Contribution Plans

The data displayed in **Table 1** show the percentage of workers participating in employer-sponsored retirement plans of any kind, whether defined benefit, defined contribution, or both types of plan. The number of defined benefit plans has been declining for the past 20 years. Defined contribution plans are now the most common form of employer-sponsored retirement plan in the United States. According to recent statistics from the Department of Labor's *National Compensation Survey*, 53% of workers in the private sector worked for employers that offered defined contributions plan in March 2005, while just 22% worked for employers that offered defined benefit plans.[4] Because participation in defined contribution plans usually requires the employee to elect to defer some of his or her salary into the plan, participation rates in DC plans depend on both the percentage of employers who offer a plan and the percentage of employees who elect to contribute. Policymakers who wish to adopt public policies that will maximize participation rates in these plans must therefore understand how employees who elect to participate differ from those who do not elect to participate.

Participation in Defined Contribution Plans in 1998 and 2003. Shown in **Table 2** is the percentage of private-sector workers whose employer sponsored a defined contribution plan, along with two measures of participation in defined contribution plans. The first column for each year shows the percentage of workers whose employer offered a DC plan in 1998 and 2003 and the second column shows the percentage of workers who were DC plan participants in those years. The participation rate in the second column of **Table 2** thus takes into account both

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[3] The take-up rate is the percentage of workers participating in a plan divided by the percentage offered a plan. Among part-time workers in 2003, the take-up rate was .321/.560=.573, while among full-time workers the take-up rate in 2003 was .531/.685=.775.

[4] See U.S. Department of Labor, Bureau of Labor Statistics, *National Compensation Survey: Employee Benefits in Private Industry in the United States, Mar. 2005*, Summary 05-01, Aug. 2005.

workers who were offered a plan and did not participate and workers who could not participate because they were not offered a plan.[5] Overall, 56.4% of workers in the private sector worked for an employer that sponsored a defined contribution plan in 2003, an increase of 4.1 percentage points over the sponsorship rate in 1998. Forty-one percent of private-sector wage and salary workers participated in DC plans in 2003, an increase of 5.6 percentage points over the participation rate in 1998. The third column for each year in **Table 2** shows the participation rate in DC plans among workers whose employer offered a plan. This is sometimes called the "take-up rate." Among workers whose employers offered a DC plan in 2003, 72.6% participated in the plan, an increase of 4.9 percentage points over the 67.7% take-up rate in 1998.

Table 2 shows rates of defined contribution plan sponsorship and participation categorized by several employee and employer characteristics. In both years, workers with less education, lower monthly earnings, and those who worked at small establishments were substantially less likely than other workers to have worked for an employer that sponsored a defined contribution retirement plan. In 2003, for example, while 70.1% of workers with a college degree worked for an employer that sponsored a defined contribution retirement plan, just 47% of high school graduates worked for an employer that sponsored a DC plan. Plan sponsorship also is strongly correlated with workers' earnings. While 69.7% of workers with monthly earnings of $2,000 or more worked for an employer that sponsored a defined contribution retirement plan, only 40.3% of workers with earnings under $2,000 worked for an employer that sponsored a DC plan. Similarly, workers at small and medium business establishments were less likely than those at large establishments to work for an employer that sponsored a defined contribution retirement plan in 2003. In 2003, 73.8% of workers at establishments with more than 100 employees worked for employers who sponsored defined contribution plans, but just 57.6% of workers at establishments with 25 to 99 employees and 38.6% of workers at establishments with fewer than 25 employees worked for employers that sponsored such plans.

Participation rates in defined contribution plans usually depend not only on the percentage of employees who worked for employers that sponsor plans, but also on the proportion of eligible employees who elect to defer some of their salary into the plan.[6] Take-up rates in defined contribution plans in 1998 and 2003 varied by a number of employee and employer characteristics. Workers under age 35, African-American workers, women, unmarried workers, those without a college degree, those with monthly earnings under $2,000, renters, part-time workers, and those who worked at establishments with fewer than 100 employees all had relatively low take-up rates. Also, workers whose employer did not contribute to the plan had a take-up rate of 62%, compared to 75% among workers whose employer contributed to the plan. (This is not shown in Table 2 because comparable data are not available for 1998.)

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[5] Not all workers whose employer offers a plan are eligible to participate. Federal law allows employers to exclude workers who have completed less than one year of service or who work fewer than 1,000 hours during the year.

[6] In a relatively small percentage of plans, the employer contributes regardless of whether the employee defers some of his or her pay into the plan. Even in these plans, however, the employer contribution is typically greater if the employee also chooses to contribute.

Table 2. Participation in Defined Contribution Plans in 1998 and 2003

(Private-sector wage and salary workers, age 18 and older; in percent)

	1998			2003		
	Offered a DC Plan	Participated in a DC Plan	Take-Up Rate	Offered a DC Plan	Participated in a DC Plan	Take-Up Rate
Age						
18 to 24	35.4	10.2	28.8	35.6	11.4	32.0
25 to 34	53.7	34.6	64.4	58.0	40.1	69.2
35 to 44	58.0	42.9	74.0	61.9	48.7	78.7
45 to 54	58.1	45.8	78.8	62.3	50.6	81.1
55 to 64	51.8	40.7	78.6	61.9	50.7	81.9
65 or older	32.3	15.9	49.1	33.7	19.3	57.3
Race/Ethnicity						
Caucasian	53.3	36.6	68.7	56.9	41.6	73.2
African American	45.8	27.1	59.1	53.1	36.4	68.6
Asian/Native	48.4	32.8	67.8	55.6	40.1	72.1
Sex						
Male	54.4	38.9	71.6	57.2	43.8	76.6
Female	49.8	31.4	62.9	55.6	37.7	67.9
Marital Status						
Married	56.5	41.9	74.1	60.9	48.2	79.2
Not Married	46.7	27.0	57.8	50.9	31.9	62.3
Education						
High School or less	43.8	28.0	63.9	47.0	32.0	68.2
Some college	54.4	35.5	65.3	58.1	40.5	69.7
College graduate	66.5	50.4	75.8	70.1	56.6	80.8
Monthly Earnings						
Under $2,000	37.2	17.8	47.8	40.3	21.7	54.0
$2,000-$2,999	57.2	39.4	68.9	62.2	46.0	73.9
$3,000-$4,999	66.9	52.9	79.1	71.7	59.4	82.9
$5,000 or more	76.0	65.7	86.4	79.0	70.6	89.4
Home owner						
Yes	55.5	40.3	72.6	59.6	45.9	77.1
No	45.5	25.3	55.5	49.3	29.8	60.5
Establishment Size						
Under 25 people	33.9	21.0	62.1	38.6	26.7	69.2
25 to 99 people	52.5	34.0	64.9	57.6	40.0	69.5
100 or more people	69.3	49.7	71.7	73.8	56.1	76.0
Employment						
Full-time	55.9	40.5	72.3	60.8	46.6	76.7
Part-time	43.1	22.8	53.0	46.3	27.8	60.0
Total	**52.3**	**35.4**	**67.7**	**56.4**	**41.0**	**72.6**

Source: Congressional Research Service analysis of the *Survey of Income and Program Participation*.

Notes: Monthly earnings in 1998 have been adjusted to 2003 dollars. Data represent 93.1 million workers and 33.0 million defined contribution plan participants in 1998 and 97.7 million workers and 40.1 million defined contribution plan participants in 2003.

Statistical Analysis of Participation Rates

The take-up rates shown in **Table 2** illustrate how participation rates vary according to the economic and demographic traits of workers. Nevertheless, these simple descriptive statistics have an important shortcoming in that they show the relationship between participation and only one other variable at a time. Whether a worker participates in a defined contribution plan is affected by many variables simultaneously. For example, workers with less education and those with lower monthly earnings have lower take-up rates than workers with a college degree and those with above-average earnings. However, workers with less education also are likely to have lower earnings. Which of these two variables has the stronger statistical relationship to plan participation? One way to answer this question is to study how participation rates vary among workers who have the same level of education but different monthly earnings and then to examine how participation rates vary among workers who have the same monthly earnings but different levels of education. Such an analysis can be conducted by employing a statistical technique called multivariate regression analysis.

To study the relationship between worker participation in defined contribution plans and a set of variables describing employee economic and demographic characteristics, the Congressional Research Service (CRS) developed a regression model in which the *dependent* (response) variable could have two possible values: (1) *true* if an employee whose employer sponsored a defined contribution plan participated in the plan, and (2) *false* if the worker did not participate. The *independent* variables CRS tested were the worker's age, race, sex, marital status, level of education, presence of one or more children in the family, home ownership, part-time or full-time employment, monthly earnings, establishment size, length of service with current employer, and whether the employer contributed to the plan. The model included only workers who reported that their employer sponsored a defined contribution plan for some or all of its employees. Full results of the model are shown in **Table A1-1** in **Appendix I**.

Our analysis found that the variables with the strongest statistical relationship to the likelihood of participating in a defined contribution plan were the employee's length of service with their employer and their monthly earnings. Other statistically significant variables were the individual's age, sex, marital status, level of education, home ownership, usual number of hours worked, monthly earnings, establishment size, and whether the employer contributed to the plan. After controlling for these characteristics, neither the worker's race nor the presence of children in the family had a statistically significant relationship to employee participation in a DC plan. In other words, all else being equal, there was no difference in the probability of participating in a DC plan according to race or presence of children in the family, given that the worker was employed at an establishment that sponsored a plan.

In the regression model, workers were grouped into three categories with respect to their length of service with their current employer: (1) less than two years; (2) two to five years, and (3) more than five years. Among all workers whose employer sponsored a defined contribution plan, those who had been with their current employer for two to five years were 131% more likely to have participated in a defined contribution plan than employees with less than two years of service.

Workers who had been with their current employer for more than five years were 363% (i.e., nearly four times) more likely to have participated in a DC plan than workers with less than two years of service with their current employer.

CRS grouped respondents' reported monthly earnings in 2003 into four categories: under $2,000; $2,000 to $2,999; $3,000 to $4,999; and more than $5,000. Relative to workers with monthly earnings of less than $2,000, those who had earnings from $2,000 to $2,999 were 68% more likely to have participated in a DC plan, given that their employer sponsored a plan. Those with earnings between $3,000 and $4,999 were 146% more likely to have participated in a DC plan than workers with monthly earnings under $2,000. Workers with monthly earnings of more than $5,000 were 217% more likely to have participated in a DC plan than workers with monthly earnings under $2,000.

CRS grouped the workers' ages into four categories: under 35; 35 to 44; 45 to 54; and 55 or older. Relative to recipients under age 35, workers age 35 to 44 and those age 45 to 54 were 37% and 44% more likely, respectively, than those under 35 to have participated in a defined contribution plan, given that they worked for an employer that sponsored a plan. Recipients age 55 and older were 24% more likely than those under 35 to have participated in a DC plan, given that one was offered.

CRS classified workers into three groups designating their highest year of education: up to 12 years of school; one to three years of college; and four or more years of college. Having completed college was significantly and positively related to the probability that the worker participated in a defined contribution plan. Other things being equal, college graduates were 51% more likely than those with just a high school education to have participated in a defined contribution plan. Relative to those with a high school education or less, workers with one to three years of college were neither more nor less likely to have participated in a DC plan, given that they worked for an employer that offered a plan.

Home ownership and being married were positively and significantly related to the probability that a worker participated in a defined contribution plan offered by his or her employer. Homeowners were 29% more likely to have participated in a defined contribution plan than renters, other things being equal. Married individuals were 39% more likely than unmarried persons to have participated in a defined contribution retirement plan. Working part-time was negatively related to the likelihood of participating in a defined contribution plan, given that one was offered. Part-time workers were 38% less likely to have participated in a DC plan than full-time workers, all else being equal. An employer contribution also was a significant variable. Other things being equal, workers whose employer contributed to the plan were 95% more likely to have participated than workers whose employer made no contribution.[7]

[7] Due to limitations of the data, this variable did not distinguish between employer matching contributions and employer contributions that were made regardless of whether the employee contributed to the plan.

On the SIPP, business establishments are classified into three sizes, based on the number of employees: those with fewer then 25 employees; those with 25 to 99 employees; and those with 100 or more employees. Compared to workers at establishments with fewer than 25 employees, those who worked at establishments with 25 to 99 employees were 17% *less* likely to have participated in a DC plan. The coefficient for the variable indicating an establishment with 100 or more workers was not statistically significant.

Reasons for Not Participating

Employee participation in defined contribution plans is voluntary. Even in plans that adopt automatic enrollment, plan sponsors must allow employees the opportunity to opt out of the plan. Raising participation rates requires that policymakers understand the reasons that roughly a quarter of employees at firms that sponsor these plans do not participate in them. The SIPP included a series of questions in both 1998 and 2003 that asked workers whose employer sponsored a defined contribution plan, but who did not participate, why they were not participating. Respondents were allowed to give more than one reason for not participating in the plan. Results of the surveys from 1998 and 2003 are shown in **Figure 1**. In both 1998 and 2003, most workers whose employer sponsored a DC plan but who were not plan participants said that the reason they did not participate was they believed they were not eligible. In 2003, for example, 28% of respondents reported that they did not participate because they had not worked for their current employer long enough to be eligible. Twenty-nine percent of respondents replied they did not work enough hours to be eligible to participate, and 9% of respondents said their particular job was not covered by the employer's plan. It is clear from these responses that a substantial proportion of workers who do not participate in defined contribution plans believe they are not eligible to participate.

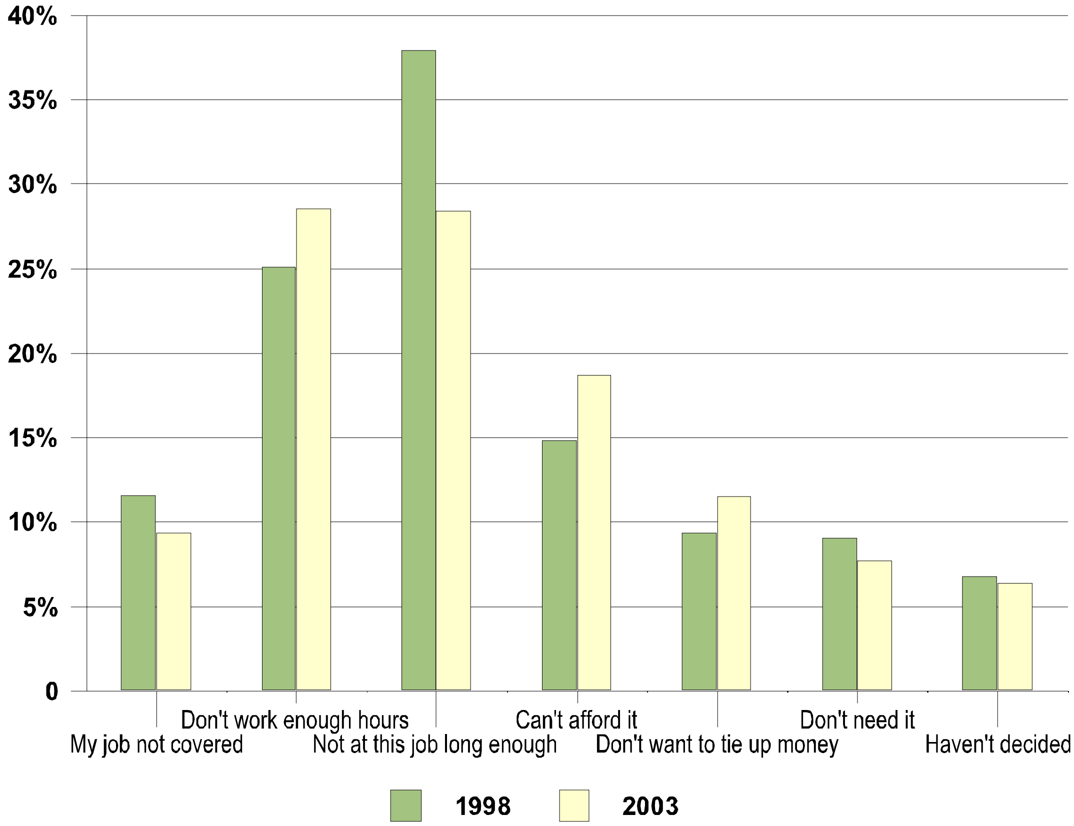
Close examination of workers' responses to other questions about their jobs indicates that some may hold the mistaken belief they are not eligible to participate in their employers' defined contribution plans. For example, 24% of workers who said they had not worked long enough to be eligible to participate in the plan also reported they had worked for that employer for more than two years. Similarly, 35% of those who said they did not work enough hours to be eligible for their employer's plan reported they worked full-time, and 41% reported they always worked 35 or more hours per week.[8] It appears from these responses, some workers believe they are ineligible to participate in their employers' DC plan may be misinformed and could participate if they better understood the rules governing plan eligibility.

In addition to those who do not participate because they believe that they are ineligible, substantial numbers of eligible employees do not participate in employer-sponsored defined contribution plans because they believe they cannot afford to forego current income to contribute to the plan. In 2003, 19% of nonparticipating workers said they could not afford to contribute to the plan and 11% said they did not participate because they "didn't want to tie up their money." While the reduction in

[8] Workers can be excluded from participating in a plan if they have been with an employer for less than 12 months or if they work less than 1,000 hours in a year.

take-home pay that would result from immediate salary deferrals may present a hardship to some workers, there are strategies employers can adopt that would make contributing to a retirement plan relatively painless for their employees. Some employers, for example, allow employees to commit a portion of their future pay raises to the retirement plan. This allows the worker to begin contributing to the plan without experiencing a reduction in take-home pay. Likewise, workers who do not contribute because they are reluctant to put money into a plan until retirement can sometimes be persuaded to participate if the plan allows participant loans or hardship withdrawals. In either case, educating employees about the options available to plan participants and about the importance of saving for retirement are key strategies to boosting plan participation.

Figure 1. Reasons for Not Participating Among Those Offered a Plan



Source: CRS analysis of the *Survey of Income and Program Participation.*

Amount of Contributions

In defined contribution plans, the benefit available to the worker is the amount in his or her account at retirement. The account balance depends on the amount that the employer and employee have contributed to the plan and the investment gains or losses on those contributions. The maximum permissible contribution is limited by federal law, but very few workers contribute amounts near the legal maximum.[9] **Table 3** shows workers' monthly contributions to defined contribution plans in 2003. The top panel shows the distribution of employee salary deferrals and total contributions from the employee and employer in dollar amounts. The median employee monthly salary deferral was $158. (Half of monthly deferrals were less than this amount and half were greater). This is equivalent to $1,896 on an annual basis. Only 3% of participants deferred $1,000 per month into defined contribution plans in 2003, equivalent to the annual maximum of $12,000 in effect during that year. Eighty-five percent of participants deferred less than $500 per month ($6,000 per year, or half of the permissible maximum) into defined contribution plans in 2003. The median total monthly contribution in 2003 — including both employee deferrals and employer contributions — was $263, or $3,156 on an annual basis.

The bottom panel of **Table 3** shows employee salary deferrals and total employer and employee contributions to DC plans in 2003 as a percentage of employee earnings. The mean employee salary deferral in 2003 was 7.3% of earnings and the median salary deferral was 5.1% of earnings. Including employer contributions, the mean total contribution in 2003 was an amount equal to 12.0% of employee earnings, and the median total contribution was equal to 9.4% of employee earnings. Twenty-seven percent of workers deferred amounts equal to 10% or more of their earnings. When employer contributions are added to employee salary deferrals, 48.5% of employees contributed amounts equal to 10% or more of their earnings in 2003. Fifty-one percent of participants deferred between 3.0% and 9.9% of their salaries in 2003. Including employer contributions, most workers' total contributions were amounts equal to 7.0% to 19.9% of pay. Just over 50% of total contribution amounts were in this range.

[9] The maximum annual deferral from employee pay into a defined contribution plan is subject to the limit established by Congress in I.R.C. §402(g). As amended by P.L. 107-16, this limit was set at $11,000 in 2002, $12,000 in 2003, $13,000 in 2004,$14,000 in 2005, and $15,000 in 2006. Thereafter, the limit will be indexed to the CPI in $500 increments. The same law amended I.R.C. §415(c) to set the limit on annual additions to defined contribution plans — comprising the sum of employer and employee contributions — at $40,000 in 2002, indexed in $1,000 increments. The §415(c) limit in 2005 is $42,000.

Table 3. Monthly Contributions to Defined Contribution Plans in 2003

(Private-sector wage and salary workers, age 18 and older)

A. Employee contribution and total contribution, in dollars

	Employee Contribution (percentage distribution)	Total Contribution[a] (percentage distribution)
No contribution reported	8.3	3.2
$1 to $49	9.5	5.5
$50 to $99	14.7	8.6
$100 to $149	15.1	11.2
$150 to $199	10.0	10.5
$200 to $299	14.1	15.5
$300 to $499	12.8	18.3
$500 to $999	12.5	18.3
$1,000 or more	3.0	8.9
Total	100	100
Mean contribution	**$265**	**$433**
Median contribution	**$158**	**$263**

B. Employee contribution and total contribution as a percentage of pay

	Employee contribution (percentage distribution)	Total contribution[a] (percentage distribution)
No contribution reported	8.3	3.2
Less than 3.0%	14.1	7.8
3.0% to 4.9%	17.3	10.8
5.0% to 5.9%	13.3	6.5
6.0% to 6.9%	10.1	8.0
7.0% to 9.9%	10.3	15.2
10.0% to 10.9%	9.7	11.0
11.0% to 19.9%	12.0	24.1
20.0% or more	4.9	13.4
Total	100%	100%
Mean contribution	**7.3**	**12.0**
Median contribution	**5.1**	**9.4**

Source: CRS analysis of the *Survey of Income and Program Participation*.

a. Includes both employee and employer contributions.

Investments Receiving Largest Share of Contributions

In both 1998 and 2003, SIPP participants were asked to name the category of investment to which they directed the largest share of their total contribution. Results were similar in both years. (See **Figures 2** and **3**.) In 1998, 42% of participants directed most of their contributions to stock funds and stock and bond funds. In 2003, 44% of participants directed the largest share of their contributions to stock funds and stock and bond funds. Corporate and government bonds and bond funds received the largest share of contributions from 8% of participants in 1998 and 10% of participants in 2003. Employer stock received the largest share of contributions from 8% of participants in 1998 and 7% of participants in 2003. In both 1998 and 2003, 24% of participants directed the largest share of their contributions to money market funds. Other unspecified investments received the largest share of contributions from 19% of participants in 1998 and 16% of participants in 2003.

The results of the SIPP surveys showed that in both 1998 and 2003 a large percentage of workers directed the largest share of their contributions into bond funds and money market funds, which over the long-term are likely to experience less volatility than common stock funds, but also can be expected to produce a lower average annual rate of return than stock funds. Nearly a quarter of participants directed the largest share of their contributions to money market funds in both 1998 and 2003 and another 8% to 10% of participants directed the largest share of their contributions to bonds and bond funds. Given that retirement accounts are long-term investments, and that most workers have no other employer-sponsored retirement plan besides their defined contribution plan, those who invest the majority of their contributions in lower-yielding investments such as money-market funds and bond funds may be trading one form of risk for another. Investing in money market funds and bond funds may result in less year-to-year volatility in investment returns than an equal investment in diversified stock funds, but the lower average annual yield experienced by these conservative investments may leave some plan participants with smaller total account balances at retirement than they would have accumulated with a greater investment in diversified common stock funds.

At the other end of the risk-return continuum are plan participants who direct the largest share of their contributions into employer stock. Although the percentage of participants following this investment strategy was fairly low in both years — 8% in 1998 and 7% in 2003 — these percentages represented over 2.5 million workers in 1998 and more than 3.2 million workers in 2003 who directed the largest share of their contributions to employer stock. Many investment advisors suggest that, at most, 20% of a retirement account should be invested in the stock of a single company. Investing in the stock of one's employer involves additional risk because the worker has also invested his or her human capital in employment with the same company in which they are investing their financial capital.[10] An example of the risk of investing retirement funds in employer stock is the losses suffered by employees

[10] For more information, see CRS Report RL31507, *Employer Stock in Retirement Plans: Investment Risk and Retirement Security* and CRS Report RS21115, *The Enron Bankruptcy and Employer Stock in Retirement Plans*, both by Patrick Purcell.

of Enron Corporation. In mid-2001, 62% of the total value of Enron's 401(k) was invested in Enron stock, which became worthless when Enron declared bankruptcy.

Figure 2. Investment Receiving Largest Contribution, 2003

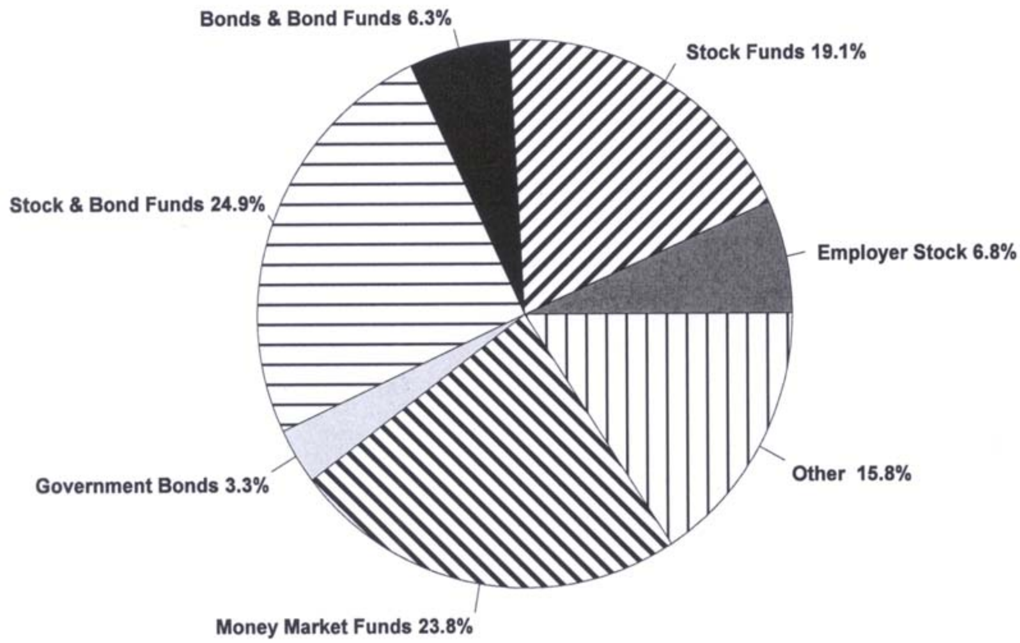
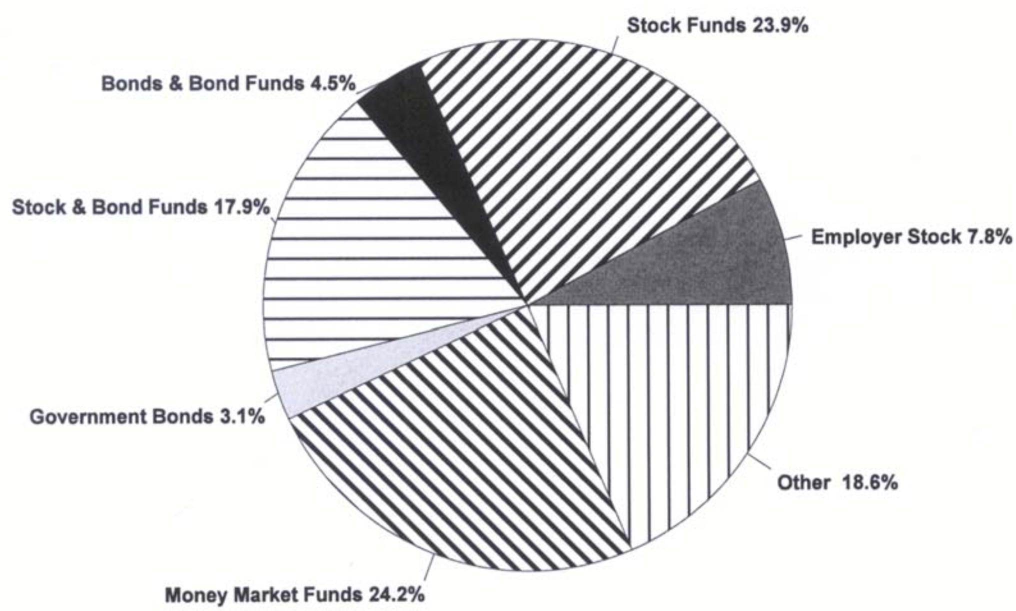


Figure 3. Investment Receiving Largest Contribution, 1998



Source: Both figures from CRS analysis of the *Survey of Income and Program Participation.*

Employer Contributions

An estimated 56% of wage and salary workers in the private sector were employed at firms that sponsored defined contribution plans in 2003. Of these workers, 80% worked for firms that contributed to the plan, either as matching contributions or regardless of whether the employee contributed to the plan. Workers whose employers contributed to the plan were more likely to have participated in the plan than those whose employers made no contributions. The take-up rate among employees whose employer sponsored a DC plan in 2003 was 75.2% among those whose employer contributed to the plan, compared to 62.1% among those whose employer made no contributions to the plan.

Account Balances

Among all workers who participated in defined contribution plans in 2003, the mean account balance was $32,600 and the median account balance was $14,000. When accounts held at a previous employer were added to these amounts, the mean total retirement account balance was $34,757 and the median account balance was $15,000, as shown in **Table 4**.

Table 4. Mean and Median Account Balances in Employer-Sponsored Retirement Accounts in 2003, by Age
(Private-sector wage and salary workers, age 18 and older)

Age of Worker	Mean	Median
18 to 24	$11,115	$3,200
25 to 34	17,009	8,000
35 to 44	32,208	16,000
45 to 54	48,118	23,000
55 to 64	53,600	23,000
65 and older	34,263	13,690
All workers 18 and older	34,757	15,000

Source: CRS analysis of the *Survey of Income and Program Participation.*

Note: Workers who participated in a defined contribution plan

Plan loans

Seventy-two percent of respondents reported that their plan allowed participants to borrow from their accounts, and 10% of all plan participants reported ever having taken a plan loan. In 2003, the mean outstanding loan balance was $5,077 and the median loan balance as $2,000. One-third of all loans had an outstanding balance of less than $1,000, and 62% of loans had an outstanding balance of less than $5,000. Five percent of loans had an outstanding balance of more than $20,000.

Automatic Enrollment in Defined Contribution Plans

In *defined benefit* plans, participation is determined mainly by whether the employer offers a plan. Generally, all eligible employees accrue benefits in a DB plan without having to enroll or to contribute to the plan from their pay. Participation in *defined contribution* plans depends on both employer sponsorship rates and the rate at which eligible employees elect to participate in the plan — sometimes called the "take-up rate." The employee contribution required in many DC plans is one reason that participation is voluntary and that employees must elect to participate in these plans. Although some plan sponsors automatically enroll eligible employees into their defined contribution plans, this is still a relatively uncommon practice. According to the Profit Sharing/401(k) Council of America, 8.4% of DC plans surveyed had automatic enrollment in 2003. Automatic enrollment was most common in large plans (24.2%) and least common in small plans (1.1%).[11] Contributory DC plans require decisions about both the amount of salary to be deferred into the plan and how these salary deferrals will be invested. Many employers are reluctant to make these decisions for employees who have not elected to participate. In part, this reluctance is due to the possibility that the employer might be held liable in the event that the default investment choices made by the employer result in financial losses to the employee. In some cases, another obstacle to automatic enrollment has been state laws that prohibit deductions from employee pay (other than payroll taxes) that have not been specifically authorized by the employee.[12]

IRS Rulings on Automatic Enrollment

Employers who sponsor §401(k) plans often promote participation in the plan among their employees by providing them with information on the importance of saving for retirement and the tax savings that result from participating. Another way to achieve high rates of plan participation is to enroll employees automatically. Rather than the default option being that the employee will not be included in the plan unless he or she actively enrolls, the default under automatic enrollment is that some of the employee's pay will be deducted and directed into a retirement account unless he or she instructs the employer not to do so. The IRS has issued several rulings in recent years to clarify for employers that they are permitted to enroll employees in §401(k) and §403(b) plans automatically through payroll deduction, provided that the employee is notified in advance and has the option to drop out of the plan. Unless the employee elects otherwise, he or she is presumed to be participating, and an amount set by the employer (such as 3% of pay) is deducted from the employee's (pre-tax) pay and contributed to the plan.

In 1998, the Internal Revenue Service (IRS) issued a ruling clarifying that automatic enrollment in §401(k) plans is permissible for newly hired employees (Revenue Ruling 98-30). The IRS issued a second ruling in 2000 stating that

[11] See [http://www.psca.org/DATA/47th.html].

[12] For more information, see CRS Report RS21954, *Automatic Enrollment in Section 401(k) Plans*, by Patrick Purcell.

automatic enrollment also is permissible for current employees who have not already enrolled in the plan (Revenue Ruling 2000-8).[13] In 2004, the IRS published a general information letter in response to a public inquiry that clarified two previously ambiguous points. The letter stated that (1) the amount deducted from the employee's pay and contributed to the plan can be any amount that is permissible under the plan up to the annual contribution limits under IRC §402(g), and (2) the plan can automatically increase the employee's contribution over time, such as after each pay raise. Again, the IRS emphasized that employees must be fully informed of these plan provisions and they must have the option to change the amount of their contribution or to stop contributing to the plan altogether.

Legislation in the 109th Congress

H.R. 1508 (Emanuel) and H.R. 1960 (Portman) both would amend §401(k) and §403(b) of the Internal Revenue Code to encourage employers to automatically enroll eligible employees in retirement savings plans. Under both bills, employees could choose to "opt-out" of automatic enrollment. H.R. 1508 would apply automatic enrollment to all eligible employees, while H.R. 1960 would enroll automatically employees who are newly eligible after enactment of the legislation.

Both H.R. 1508 and H.R. 1960 would exempt plans that adopt approved automatic enrollment procedures from "nondiscrimination testing" and would provide protection under ERISA §404(c) for the default investments under automatic enrollment plans, thus relieving employers of fiduciary liability for investment losses that might result from those investments.[14] H.R. 1508 would require employers who use the matching contribution "safe harbor" to adopt automatic enrollment in their §401(k) plans. H.R. 1960 would not require any employers to adopt automatic enrollment.

Under H.R. 1508, the minimum contribution percentage by eligible employees would be 3% for the first plan year with increases in automatic contributions of either 1% or 2% for each subsequent year up to a maximum 9% for any plan year. Under H.R. 1960, contributions would have to begin at 3% of compensation and increase 1% each year until reaching 8%. Both bills would permit distributions of contributions, with some restrictions, to employees who retroactively elect to opt out after having been enrolled automatically in the plan.

Both bills would modify the existing safe harbor matching formula, which exempts plans from nondiscrimination testing. Under H.R. 1508, a matching

[13] Revenue Ruling 2000-35 states that automatic enrollment is permitted in 403(b) plans for employees of educational and charitable organizations. Revenue Ruling 2000-33 states that automatic enrollment is permitted in 457(b) plans for state and local government employees. Announcement 2000-60 states that automatic enrollment is permitted in IRS-approved prototype 401(k) plans (standardized plans used largely by small businesses.)

[14] The Internal Revenue Code prohibits retirement plans from discriminating in favor of highly-compensated employees. Nondiscrimination testing can be avoided if the plan makes minimum contributions for all employees. These contributions provide a "safe harbor" from the nondiscrimination testing to which the plan would otherwise be subject.

contribution safe harbor would require an employer to make a matching contribution equal to 50% of the employee's elective contribution up to 6% of employee's compensation. Under H.R. 1960, a plan would meet the safe harbor by providing a non-elective matching contribution of 50% of elective contributions up to 6% of compensation or by making a contribution of 2% of compensation regardless of whether the employee makes elective contributions. Employer contributions would have to be 100% vested after two years of service under H.R. 1960. (Current safe harbor rules require the non-matching contribution to be 3% of pay and require immediate vesting.) Under both bills (1) investments in "life cycle" funds would be permitted in automatic enrollment plans;[15] (2) automatic enrollment would preempt state laws precluding employers from deducting amounts from employees' pay without prior permission from the employee; and (3) plans would have to meet certain notice and procedural requirements.

[15] "Life-cycle" funds automatically shift the worker's investments more heavily into bonds as the worker gets close to retirement age to reduce the likelihood of large capital losses.

Appendix I. Regression Analysis of the Participation Decision

To study the relationship between participation in defined contribution plans and a set of economic and demographic variables, CRS developed a regression model in which the *dependent*, or response, variable would have a value of (1) *true* if an employee whose employer sponsored a defined contribution plan participated in the plan, or (2) *false* if the employee did not participate. The *independent* variables CRS tested were the worker's age, race, sex, marital status, level of education, presence of children in the family, home ownership, part-time or full-time employment, monthly earnings, establishment size, years of service, and whether or not the employer contributed to the plan. Results of the model are shown in **Table AI-1**.

Interpreting the Regression Results

CRS used a logistic regression or "logit" for our analysis of participation in DC plans. This is a form of multivariate regression that was developed to study relationships in which the dependent (response) variable can have only a value of yes (true) or no (false). In this model, the dependent variable indicates whether an employee whose employer sponsored a defined contribution plan participated in the plan (1 = yes; 2 = no). The model measures the likelihood of observing the dependent variable having a value of 1 ("yes") when a particular independent variable is changed, given that every other independent variable is held constant at its mean value. The model estimates a coefficient (also called a parameter estimate) for each independent variable and calculates the standard error of the estimate. The standard error measures how widely the coefficients are likely to vary from one observation to another. In general, the greater the absolute value of the parameter estimate, the more likely it is to be statistically significant. Statistical significance is expressed in confidence intervals that are measured at the .10 level, .05 level and .01 level. If a variable is significant at the .05 confidence level, for example, there is only a one-in-twenty chance that it is *not* related to the dependent variable in the way that the model has predicted.

The model also generates for each independent variable a statistic called the *odds ratio*. The odds ratio is a measure of how much more (or less) likely it is for a specific outcome to be observed when a particular independent variable is "true" ($x=1$) than it is when that independent variable is "false" ($x=0$). For example, in this model, marital status is measured as having a value of 1 if the worker was married and 0 otherwise. In **Table AI-1**, this variable is shown as having an odds ratio of 1.39. This means that the dependent variable was 39% more likely to have a value of 1 (participation = yes) when the dependent variable for marital status had a value of 1 (married) as when it had a value of 0 (not married). In other words, *other things being equal* (and measured at their mean values), a worker whose employer sponsored a defined contribution plan was 39% more likely to have participated in the plan if he or she was a married rather than single, divorced, or widowed.

Table AI-1. Participation Decision in Defined Contribution Plans

(Private-sector wage and salary workers, age 18 and older)

Logistic regression results
Response Variable: Worker participation in defined contribution plan sponsored by employer

Analysis Variable	Weighted Mean	Parameter Estimate	Standard Error	Odds Ratio
Intercept	——	-1.407 ***	0.084	——
Race (1 = African American)	0.110	0.044	0.063	1.045
Sex (1 = Male)	0.528	0.124 ***	0.042	1.132
Marital status (1 = Married)	0.616	0.326 ***	0.045	1.385
Children in family (1 = Yes)	0.411	0.015	0.047	1.016
Own home (1 = Yes)	0.747	0.251 ***	0.046	1.286
Work part time (1 = Yes)	0.246	-0.472 ***	0.046	0.624
Employer contributes to plan (1 = Yes)	0.781	0.665 ***	0.047	1.945
Establishment size, 25 to 99 workers	0.251	-0.182 ***	0.055	0.833
Establishment size, 100+ workers	0.496	-0.062	0.049	0.940
Worked at this job 2 to 5 years	0.254	0.837 ***	0.051	2.310
Worked at this job more than 5 years	0.530	1.532 ***	0.051	4.629
Age = 35 to 44	0.280	0.316 ***	0.054	1.372
Age = 45 to 54	0.257	0.362 ***	0.058	1.436
Age = 55 or older	0.142	0.214 ***	0.071	1.238
Education: some college	0.328	0.035	0.048	1.036
Education: college graduate	0.354	0.410 ***	0.055	1.507
Monthly earnings: $2,000 - $2,999	0.231	0.519 ***	0.052	1.680
Monthly earnings: $3,000 - $4,999	0.273	0.902 ***	0.058	2.463
Monthly earnings: $5,000 or more	0.186	1.154 ***	0.077	3.170

n = 16,600 records
*** significant at >= .01

Association of Predicted Probabilities and Observed Responses:
Concordant = 78.1%, Discordant = 21.6%, Tied = 0.3%

Source: CRS analysis of the 2001 panel of the *Survey of Income and Program Participation*.

Notes: The "odds ratio" is a measure of how much more (or less) likely it is for a specific outcome to be observed when a particular independent variable is "true" ($x = 1$) than it is when that independent variable is "false"($x = 0$).

Appendix II. Comparison of the SIPP and the CPS

The data analyzed in this report derived from the Census Bureau's *Survey of Income and Program Participation*, indicate that both the percentage of workers whose employer sponsored a retirement plan and the percentage of workers participating in employer-sponsored retirement plans went up between 1998 and 2003. This is contrary to results derived from a CRS analysis of the Census Bureau's *Current Population Survey* (CPS).[16] Data from the CPS indicate that both of these percentages fell between 1998 and 2003. (See **Table AII-1**). According to data from the SIPP, 63.5% of civilian, nonagricultural wage and salary workers age 18 and older worked for employers that offered a retirement plan of some kind in 1998, and 46.3% of workers were plan participants. SIPP data collected in 2003 indicate that the proportion of workers offered a retirement plan had increased to 65.8% and that the proportion of workers participating in employer-sponsored plans had risen to 50.1%.

While data from the SIPP indicate that retirement plan sponsorship and participation *rose* from 1998 to 2001, data from the CPS indicate that retirement plan sponsorship and participation *fell* during the same period. According to the CPS data, the percentage of workers whose employer sponsored a retirement plan fell from 62.6% in 1998 to 58.7% in 2003, and the percentage of workers who participated in employer-sponsored plans fell from 48.7% in 1998 to 46.4% in 2003.

Table AII-1. Comparison of SIPP and CPS Data on Retirement Plan Sponsorship and Participation

(Civilian, nonagricultural wage and salary workers, age 18 and older)

	1998		2003	
	Offered any type of plan	**Included in any plan**	**Offered any type of plan**	**Included in any plan**
SIPP	63.5	46.3	65.8	50.1
CPS	62.6	48.7	58.7	46.4

Source: CRS analysis of the *Survey of Income and Program Participation* and the *Current Population Survey*.

Note: Table includes workers in both the public and private sectors.

[16] The Current Population Survey is conducted by U.S. Census Bureau on behalf of the Bureau of Labor Statistics. Each year, the annual social and economic supplement to the CPS interviews residents of 100,000 households about their employment, income, health insurance coverage, and retirement plan participation during the previous calendar year. The CPS asks whether a worker was employed by a firm that sponsored a pension or retirement plan for any of its employees and if the worker was included in that plan. The CPS questions do not distinguish between defined benefit and defined contribution plans.

Why Do the Survey Results Differ?

That the SIPP and the CPS show different percentages of workers being offered and participating in employer-sponsored retirement plans in 1998 and 2003 is not unusual. Surveys can produce different results for a variety of reasons. Results may differ, for example, if either survey sample is not truly representative of the population. This is called sampling error. Results also may differ if the surveys ask substantially different questions or if errors occur during the process of editing the data. This is called nonsampling error. While it is not unusual that the *point estimates* of retirement plan sponsorship and participation in 1998 and 2003 differ between the CPS and the SIPP, it is troubling for policy analysts that the two surveys show the *trends* in sponsorship and participation moving in opposite directions between these two years.

Both the SIPP and the CPS are surveys of households conducted by the Census Bureau, and both surveys ask questions about retirement plan sponsorship and participation. The SIPP asks far more questions than the CPS, but the first two questions on the SIPP, on which the data in **Table AII-1** are based, are very similar to the two questions on the CPS. The questions asked by the two surveys appear to be similar enough that relatively little of the difference in the point estimates in any given year could be attributed to differences in the questions that were asked.

The first two retirement plan questions on the SIPP are

(1) *Now I'd like to ask about retirement plans offered on this job, not Social Security, but plans that are sponsored by your employer. This includes regular pension plans as well as other kinds of retirement plans like thrift and savings plans, 401(k) or 403(b) plans, and deferred profit-sharing and stock plans.*

Does your employer have any kind of pension or retirement plan for anyone in your company or organization?

(1) Yes
(2) No

(2) *Are you included in such a plan?*

(1) Yes
(2) No

The two retirement plan questions on the CPS are

(1) *Other than Social Security, did the employer that [name] worked for [last year] have a pension or other type of retirement plan for any of the employees?*

(1) Yes
(2) No

(2) *Was [name] included in that plan?*

(1) Yes
(2) No

Another way that surveys can differ is in the period of time covered by the questions they ask. This is called the reference period of the survey. One reason that the point estimates of retirement plan sponsorship and participation in any given year differ between the SIPP and the CPS is that the reference periods for the questions differ between the two surveys. The reference period for the pension-related questions on the SIPP is the month preceding the interview date. The retirement module of the 2001 panel of the SIPP was fielded between February and May of 2003 with roughly one fourth of the sample being interviewed each month, and so the reference period for about one-quarter of the survey respondents was for the job they held on the last day of January 2003. The reference periods for the other three-quarters of the sampler were the months of February, March, and April, respectively. In contrast, the annual social and economic supplement to the CPS, which includes two questions about retirement plan sponsorship and participation, is fielded each year during March and it refers to the longest job held by the respondent during the previous calendar year. Thus, the reference periods for the SIPP and the CPS differ substantially enough that one could reasonably expect that they might yield results that differ by several percentage points for any given year. However, while questions that refer to retirement plan sponsorship and participation in the longest job held in the previous calendar year might produce different results than questions that refer to the job held on the last day of the previous month, the differing reference periods do not necessarily explain why the *trends* in coverage measured by the two surveys moved in opposite directions between 1998 and 2003.[17]

Both the SIPP and the CPS are surveys of a sample of households that are intended to be representative of the civilian, noninstitutional resident population of the United States. However, neither survey is based on a simple random sample of the population. In order to allow analysts to study the economic and demographic characteristics of specific sub-populations — such as low-income households and minority households — both the SIPP and the CPS use complex sample designs that over-sample some geographics areas. Households and individuals are then assigned weights that, when summed, add up to the actual number of households and persons in the United States. The sample selection and sample weighting processes could introduce errors into one or both surveys that would result in differences in the population measures derived from each.

Not all of the households that are selected to participate in a survey do so, and not all survey participants provide complete and consistent answers to all of the survey questions. In many instances in which a particular question is not answered (called "item nonresponse"), statistical methods are used to impute a response to that

[17] In both surveys the changes in the estimated percentages of workers whose employer offered a retirement plan and in the percentage of workers participating in those plans between 1998 and 2003 were statistically significant; i.e., the changes were greater than the standard error of the point estimates produced by the two surveys.

question. These imputation methods use statistical models to predict "likely" responses to specific questions, based on actual responses provided by survey participants that are similar to the non-responding participant in certain key respects. Differences in imputation methods or errors in implementing the imputations could produce differences in results between two surveys.

In conclusion, there are a number of reasons why the results of household surveys might differ. These reasons include the phrasing of questions, the reference period of the questions, the sample selection process, sample weighting, and the imputation methods used for item non-response, among others. In the case of the CPS and SIPP pension-related questions, neither the differences in the phrasing of the questions nor in the reference periods for the questions appear to be the likely source of the opposite trends that the two surveys show in retirement plan sponsorship and participation between 1998 and 2003.

CRS asked a number of economists and public policy analysts who have worked with the CPS and the SIPP what they thought were the most likely causes of the different trends in retirement plan sponsorship and participation shown by the two surveys between 1998 and 2003. None of these experts were able to offer a definitive explanation for the differences, but several pointed to the sample weighting and imputation processes as likely causes. Because the sample-weighting process and the imputation methods employed in both the CPS and the SIPP are under the control of the Census Bureau, it may be possible for Census to coordinate these procedures more closely between the two surveys and thereby provide more consistent results between the two surveys in the future.