

# Contribution Rates and Plan Features: An Analysis of Large 401(k) Plan Data

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*Issue Brief*

- Will workers accumulate adequate assets in their 401(k) plans to help fund their retirement? The answer to this question depends in part on the amount that they contribute. This *Issue Brief* analyzes contribution decisions among plan participants in three large 401(k) retirement saving plans. Specifically, it analyzes how plan features such as matching provisions and maximum allowable contributions, along with legal limits, interact with worker demographics in affecting contribution rates.
- The findings provide stark evidence of the effect that plan features and legal limits can have on workers' decisions concerning their level of contribution to a plan. The most striking result is that for each cohort analyzed plan design directly impacted the contribution rate of 30 percent or more of the participants.
- Older workers tend to have their contributions constrained by maximum limits (plan or legal), probably because they are more focused on retirement and thus more likely to contribute at higher levels. Many younger workers recognize the value of the employer match, contributing just enough to take full advantage of that plan feature but no more.
- Plan features also appear to interact with worker earnings in determining contribution rates. Lower earning participants are more likely to contribute the maximum amount that is matched, taking advantage of all the "free" employer money that is available. Higher earners are more likely to contribute the maximum amount allowed by the plan or the tax code.
- Employers' attention is often focused on the issue of getting workers to participate in 401(k) plans at levels that will lead to adequate retirement income. Such participation is also needed for the plan to pass discrimination testing. These findings would indicate that one way to boost worker contribution rates in a plan would be to increase the percentage of salary on which matching contributions are made.
- With respect to policy, these findings indicate that legal limits constrain the amount that many individuals, particularly those who are older and more highly compensated, actually save for retirement through their 401(k) plan at a point when many are likely to be focusing on the need to save.

## Table of Contents

### Text

Introduction .....	3
Previous Research .....	4
Worker Education Programs .....	4
Company A .....	4
Company B .....	5
Company C .....	5
Participant Contribution Levels .....	6
Company A .....	6
(table 1)	
Company B .....	7
(table 2, table 3)	
Company C .....	9
(table 4, table 5)	
Implications .....	11
(chart 1, chart 2, chart 3, chart 4, chart 5, chart 6, chart 7)	
Conclusion .....	14
References .....	15

### Tables

Table 1, Participant Deferral Rates, Company A Retirement Saving Plan, 1994 .....	6
Table 2, Participant Deferral Rates, Company B Retirement Saving Plan, 1994: Nonhighly Compensated Employees .....	8
Table 3, Participant Deferral Rates, Company B Retirement Saving Plan, 1994: Highly Compensated Employees .....	9
Table 4, Participant Deferral Rates, Company C Retirement Plan, 1994: Pretax Contributions .....	10
Table 5, Participant Deferral Rates, Company C Retirement Plan, 1994: Pretax and After-Tax Contributions Combined .....	11

### Charts

Chart 1, Percentage of Participants with Contributions Impacted by Plan Design and Legal Limits .....	12
Chart 2, Percentage of Participants Making Pretax Contributions Equal to the Maximum Percentage of Compensation Matched, by Age .....	12
Chart 3, Percentage of Participants Making Pretax Contributions Equal to the Legal Plan Maximum, by Age .....	13
Chart 4, Percentage of Participants Making Pretax Contributions Equal to the Maximum Percentage of Compensation Matched, by Salary .....	13
Chart 5, Percentage of Participants Making Pretax Contributions Equal to the Legal Plan Maximum, by Salary .....	13
Chart 6, Percentage of Participants Making Pretax Contributions Equal to the Legal Maximum, by Age .....	14
Chart 7, Percentage of Participants Making Pretax Contributions Equal to the Legal Maximum, by Salary .....	14

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## Introduction

During the late 1980s, contributions to 401(k) plans eclipsed contributions

to individual retirement accounts as the leading form of tax-deferred individual retirement savings in the United States. A fundamental question often asked today in both business and public policy circles is whether workers will accumulate adequate assets in their 401(k) plans to help fund their retirement. **According to the Employee Benefit Research Institute (EBRI) tabulations of the April 1993 Current Population Survey employee benefits supplement, two-thirds of eligible private-sector employees actually participated in their 401(k) plan, reporting an average contribution rate of 7 percent of salary.<sup>1</sup>**

Among all workers in medium and large private establishments (employing 100 or more workers) with a savings and thrift plan, the average maximum pretax contribution allowed by the plan was 12.8 percent of salary in 1993, according to the Bureau of Labor Statistics. The most common percentage of salary matched by the plans was 5.01 percent to 6.00 percent for 46 percent of covered workers with a match available. Forty percent had a lower maximum percentage of salary matched.

**In the 1995 EBRI/Greenwald Retirement Confidence Survey, one-quarter of all 401(k)-like plan participants stated that their main reason for contributing to the plan was their employer's matching contribution (EBRI/Greenwald, 1995). However, only 59 percent knew the maximum amount they were allowed to contribute, and only 41 percent contributed the maximum allowed.**

The rates at which participants contribute to such plans through the course of their careers will

obviously have a direct bearing on the outcome. Understanding what impacts and drives participant contribution decisions, i.e., worker demographics in conjunction with plan features, is therefore an important business and policy matter. This *Issue Brief* attempts to further understanding in this area. A forthcoming *Issue Brief* will analyze asset allocation decisions, another issue with a direct bearing on retirement income adequacy from 401(k) plans.

This *Issue Brief* analyzes contribution rates among plan participants in three large employment-based 401(k) retirement saving plans. These plans have employer matching provisions to encourage employees to participate and contribute. There are also constraints placed on what employees can do in terms of maximum contribution levels allowed. These constraints are set by both the specific plan and federal law. These plans also have well-developed educational programs.

The data analyzed here are not based on samples of plan participants from each of the three plans but include all participants in each plan. Knowing the workers' demographic characteristics (salary, tenure, age, gender, marital status, and race) allows analysis of how behavior varies within each plan and how these patterns compare with those of other sponsors. In addition, knowledge of plan-specific features (such as matching formulas and maximum allowable contributions) allows analysis of how these features interact with worker demographics to affect participants' contribution decisions.

This report uses plan-specific data to analyze the impact of limitations imposed by the plan and the government on individual contribution decisions and how these effects vary across workers with differing demographics, such as age and earnings. It sheds light on potential changes, both plan specific and legal, that may lead to greater contribution rates, and thus enhanced retirement income security and adequacy, among workers and in particular among those with relatively low contribution rates (such as young workers with low earnings).

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<sup>1</sup> Participation rates among eligible workers range from 41 percent for those earning \$10,000–\$14,999 to 84 percent for those earning \$50,000 or more, according to the Employee Benefit Research Institute tabulations of the April 1993 Current Population Survey. See Yakoboski et al. (1994).

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## *Previous Research*

**It is understood that 401(k) plans differ from traditional employ-**

**ment-based pension plans in that employees are permitted to make voluntary pre-tax contributions. Hence, the sensitivity of participation and contributions to plan characteristics—notably the employer matching rate—may play a critical role in retirement saving.** Using plan data from Form 5500s filed annually with the Internal Revenue Service (IRS), Papke finds that substantial increases occur when an employer moves from a zero to a small or moderately sized match, but that at higher match rates employee contributions fall (Papke, 1995). However, according to a William M. Mercer, Inc. study, employers that do not offer matching contributions to 401(k) retirement savings plans can encourage significantly greater participation and salary deferrals among nonhighly paid employees by offering a 50 percent matching contribution. Larger matches produce only marginally better results (Borleis and Wedell, 1994).

Kusko, Poterba, and Wilcox utilized employee-level data from the 401(k) plan at a medium-sized U.S. manufacturing firm to analyze the participation and contribution decisions of workers eligible for this plan (Kusko, Poterba, and Wilcox, 1994). Their analysis reveals two important features of 401(k) participant behavior. First, contribution decisions of eligible employees are relatively insensitive to the rate of employer matching on worker contributions. Most employees maintain the same participation status and contribution rate year after year despite substantial changes in the employer's match rate. This suggests that employer matching may not be a critical factor in explaining the growth of 401(k) plans. Second, they find that institutional constraints on contributions, imposed by either the employer or the IRS, are an extremely important influence on contributor behavior. About three-quarters of

eligible employees contributed nothing for the year, the maximum amount available for employer matching, the maximum amount allowed by the plan, or the maximum amount allowed by law. This finding must be recognized in any analysis of how changes in 401(k) plan provisions are likely to affect contribution levels.

Recently, Clark and Schieber used regression analysis to estimate 401(k) contribution rates as a function of several demographic and plan specific variables (Clark and Schieber, 1996). They conclude that increasing age and wage levels has a strong positive effect on contribution rates under a plan and that higher employer match rates produce significant increases in the annual contribution rates.

## *Worker Education Programs*

The following three plans have well developed educational

programs designed to assist workers in making appropriate decisions regarding their participation in a 401(k) plan.

### **Company A**

**Employees of Company A receive information covering a number of topics and issues regarding their 401(k) plan. The summary plan description covers basic plan information: who is eligible to participate and how to sign up; participant contribution limits; sponsor matching contribution provisions; vesting provisions; explanation of tax deferral; loan and withdrawal features; distribution options at retirement and job termination; explanation of the investment options available (including their objective and investments, plus historical return statistics); Employee Retirement Income Security Act of 1974 information; and how to get more information (such as operating ex-**

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**penses, prospectuses, etc.).**

Participants in Company A receive quarterly statements reporting the detailed status of their personal account, including investments and earnings). In addition, they receive periodic informational material (including the quarterly *TDSP Newsletters* and summary plan updates) designed to increase understanding of the plan, how to invest in the plan, and changes in the plan. Examples of the topics covered by the newsletters in 1993 include value of life-cycle investing, explanation of two new fund options, the plan's history and features, fund performance reports, and service center updates. Monthly performance reports for each investment option are available on an electronic bulletin board.

Company A participants are also provided with a personal investment guide, which compiles information included in the newsletters over time, such as the advantages of beginning to save early and the effects of compounding, understanding the effects of inflation on savings, understanding risk and matching investment risk with one's individual situation, the value of diversification and concepts of asset allocation, making investment choices over a life cycle, and risk/return characteristics of available options.

There is also a voice response system allowing individuals to determine account balances and rates of return, request forms, change future investment contributions, transfer existing fund balances, initiate loans, etc.

## Company B

**In Company B, as workers approach their one year anniversary of employment, they receive a packet of materials regarding the plan and a letter encouraging them to participate. The letter highlights the role the plan can play in providing savings for both short- and long-term goals and the advantage of the employer matching contribution.**

The packet contains an enrollment booklet. The booklet covers the advantages of the plan as a long-term

savings vehicle by highlighting the power of the company match, the benefits of tax-deferred investing, and the ease of payroll deduction. It includes explanations of plan features such as directing contributions, contribution limits, the company match, vesting, investment options, asset transfers, loans, withdrawals, and distributions. The booklet describes mutual funds and how they work. The available investment options are then described in more detail, including their advantages and disadvantages and how they can fit in an investor's portfolio. The booklet then discusses the principles of asset allocation, diversification, and matching asset allocations with investor time horizons. It also discusses the power of compounding over time and the principle of dollar cost averaging and includes a summary plan description and fund prospectuses.

Workers have access to an interactive telephone voice response system. This system can be used to enroll in the plan, initiate loans and nonhardship withdrawals, check account balances and loan status, and check and change contribution rates and asset allocations.

In addition to quarterly account statements, all employees (participants and nonparticipants) receive quarterly newsletters. These newsletters cover topics such as long-term planning, diversification, market timing, the effect of economic trends on financial planning, and plan updates. Every issue also gives fund performance information and has a question and answer section.

## Company C

**In Company C, the principles of the retirement savings plan are that the sponsor will educate the employees about their responsibility to provide for their own financial security through participation in the employment-based plan; the sponsor will provide employees with the tools necessary to make informed decisions; and employees must make informed decisions and accept responsibility for these decisions.**

Table 1  
Participant Deferral Rates, A Retirement Saving Plan, 1994

	1 Percent– Zero 2 Percent	3 Percent– 4 Percent	5 Percent	6 Percent	7 Percent	8 Percent	9 Percent	402(g) Maximum	Deferral Percentage <sup>a</sup>	
Total	3.5%	5.5%	5.7%	21.4%	7.7%	3.2%	6.9%	45.1%	1.1%	6.7%
Age										
20–29	3.1	5.2	6.5	28.8	8.7	3.0	3.7	41.1	0.0	6.5
30–39	4.1	6.3	6.5	24.0	8.5	3.5	6.0	40.9	0.2	6.5
40–49	3.6	5.9	6.0	20.7	7.5	3.2	7.6	44.3	1.1	6.7
50–59	2.0	2.8	3.1	14.2	5.6	2.5	8.5	58.1	3.3	7.6
60 and over	0.5	0.7	1.6	9.7	5.3	2.4	12.3	63.0	4.5	8.1
Salary (base, not W-2)										
\$10,000–\$19,999	9.6	9.1	8.3	28.2	7.6	3.5	5.3	28.5	0.0	5.5
\$20,000–\$29,999	6.3	7.7	9.1	27.2	8.6	3.5	6.2	31.3	0.0	5.9
\$30,000–\$39,999	4.6	7.7	7.9	24.4	8.2	3.4	6.6	37.1	0.0	6.2
\$40,000–\$49,999	3.5	6.0	6.3	23.0	8.5	3.3	6.4	43.0	0.0	6.6
\$50,000–\$59,999	3.1	5.1	5.2	21.5	7.4	3.1	6.8	47.8	0.0	6.8
\$60,000–\$74,999	2.5	4.0	4.3	18.7	7.2	2.9	7.0	53.4	0.0	7.1
\$75,000–\$99,999	2.1	3.1	2.9	16.1	5.8	2.4	7.7	59.9	0.0	7.5
\$100,000 or more	1.7	2.5	2.5	13.1	7.5	6.4	10.3	13.3	42.8	7.5
Tenure										
2 years or less	1.4	4.7	6.5	30.8	9.8	3.3	2.4	39.5	1.6	6.5
2+ years to 5 years	2.3	5.6	6.3	26.6	8.3	2.7	3.2	44.7	0.4	6.6
5+ years to 10 years	3.4	5.3	5.9	24.1	8.1	3.2	6.1	43.7	0.2	6.6
10+ years to 15 years	4.1	6.0	6.1	22.3	8.0	3.4	7.0	42.7	0.3	6.6
15+ years to 25 years	4.0	6.2	6.5	21.0	7.6	3.2	7.5	43.1	0.9	6.6
Over 25 years	2.3	3.4	3.2	14.9	6.1	2.9	8.1	55.6	3.6	7.4
Gender										
Male	3.3	5.6	5.6	21.9	8.1	3.3	6.8	44.2	1.3	6.7
Female	4.0	5.2	6.2	20.3	6.6	3.0	7.1	47.2	0.4	6.8
Marital Status										
Single	3.9	5.6	6.0	21.4	7.0	3.1	6.7	45.8	0.5	6.7
Married	3.4	5.4	5.7	21.5	7.9	3.2	6.9	44.8	1.2	6.7
Unknown	2.5	4.4	4.4	17.0	7.6	2.1	8.7	52.2	1.1	7.2
Race										
White	3.2	5.2	5.5	21.6	8.0	3.3	6.8	45.4	1.1	6.8
Nonwhite	4.8	6.7	6.8	20.9	6.2	2.8	7.5	43.6	0.7	6.5

Source: Employee Benefit Research Institute.

<sup>a</sup>Includes participants constrained by the 402(g) maximum contribution limit.

Company C provides a number of internal educational publications for this purpose: a monthly newsletter for active employees, a quarterly magazine for retirees, quarterly/semi-annual statement inserts that accompany all saving plan account statements, an annual total remuneration report, and a savings plan reference book for all eligible employees. There is also a three-hour savings plan seminar that provides both plan specific information and basic financial education. Eight-hour preretirement seminars are offered to employees and spouses who are within five years of retirement.

Financial planning is available for executive employees through one-on-one counseling. For occupational employees, financial planning is offered through eight-hour group sessions open to employees and their spouses.

## Participant Contribution Levels

### Company A

In 1994, the maximum pretax

contribution allowed under the Company A savings plan was 9 percent of earnings. The match rate in the Company A plan was 30 cents on the dollar for the first 5 percent of earnings that an employee contributed. Company A also had a defined benefit plan in place for its employees.

There were two notable points of cluster in the distribution of contribution rates in the Company A plan; 21 percent of participants contributed 5 percent of pay to the plan, and 45 percent contributed 9 percent of pay

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(table 1). **Two different phenomena appear to be at work in determining participant contribution levels in the Company A plan. First, close to one-half of participants appear to have “maxed out” in terms of contributing as much as the plan allowed. Second, one-fifth of workers appear to have contributed just enough to take full advantage of the company match.**

These findings indicate that the rates at which workers decide to contribute to the plan are directly dependent on and constrained by the plan’s specific features. Furthermore, plan features appear to interact with participant demographic characteristics in determining contribution rates. **In the Company A plan, the younger the participant, the more likely he or she was to contribute just enough to receive the full company match available.** Close to 30 percent of workers in their 20s contributed 5 percent of earnings to the plan (table 1). The percentage contributing 5 percent of earnings dropped to 21 percent for those in their 40s and to 10 percent for those aged 60 and over. Corresponding with this, **there was a sizable increase in the proportion of participants “maxing out” in terms of their contribution rate as ages increased.** Forty-one percent of participants aged 20–39 contributed 9 percent of earnings to the plan. Forty-four percent of participants in their 40s maxed out, and this proportion then jumped to 58 percent for those in their 50s and 63 percent for participants aged 60 and over (table 1).

This same relationship also applies to contribution rates and participant earnings. In the Company A plan, **lower earning participants were relatively more likely to contribute the amount corresponding to the maximum match, i.e., 5 percent, than were higher earners.** The percentage of participants contributing 5 percent of pay to the Company A plan decreased steadily from 28 percent of participants earning \$10,000–\$19,999 to 13 percent of those earning \$100,000 or more (table 1). **Correspondingly, higher earners were relatively more likely to max out their contribution at 9 percent than were lower**

**earners.** Twenty-nine percent of participants earning \$10,000–\$19,999 contributed 9 percent of pay to the plan, and this proportion increased steadily to 60 percent of those earning \$75,000–\$99,999. Only 13 percent of those earning \$100,000 or more contributed the maximum 9 percent of pay allowed by the plan, but this is explained by another constraint faced by plan participants. In 1994, the maximum legal 401(k) pre-tax employee contribution was \$9,240, and 43 percent of Company A plan participants earning \$100,000 or more contributed this amount to the plan (table 1). They were therefore in fact also maxing out in terms of their contribution to the plan.

## Company B

Highly compensated employees at Company B were allowed to contribute up to 10 percent of salary pre tax to the saving plan, and nonhighly compensated employees were allowed to contribute a maximum of 15 percent pre tax to the plan. Employee contributions were matched by the plan sponsor dollar for dollar for the first 3 percent of earnings contributed. Company B also had a defined benefit plan covering its employees. Given that highly compensated employees and nonhighly compensated employees faced different contribution constraints, their contribution rates were analyzed separately.

Among nonhighly compensated employees participating in the Company B plan, there was again evidence of specific plan features or provisions driving contribution rate decisions. **Twenty-one percent of all nonhighly compensated participants contributed 3 percent of pay to the plan (the maximum amount matched by the plan) (table 2). This effect was more likely among younger workers than among older workers, and it was more likely among lower earners than among higher earners—analogous to the Company A findings.** Twenty-five percent of participants in their 20s contributed 3 percent of salary, compared with 10 percent of those aged 60 and over. Twenty-seven percent of participants earning

Table 2  
Participant Deferral Rates, Company B Retirement Saving Plan, 1994: Nonhighly Compensated Employees

	Zero	Less Than 3 Percent	3 Percent	4 Percent– 6 Percent	6 Percent– 9 Percent	10 Percent	11 Percent– 14 Percent	15 Percent	402(g) Maximum	Deferral Rate <sup>a</sup>
Total	15.1%	9.7%	21.4%	22.1%	11.2%	5.1%	5.6%	9.8%	0.1%	5.4%
Age										
20–29	20.7	18.7	25.0	19.2	7.4	3.9	2.4	2.7	0.0	3.6
30–39	17.5	10.9	23.7	24.1	10.7	4.7	4.7	3.7	0.0	4.4
40–49	14.1	9.2	21.6	24.4	11.1	5.1	5.1	9.3	0.1	5.3
50–59	9.3	3.8	16.5	17.9	13.9	6.1	10.1	22.3	0.1	7.7
60 and over	10.5	2.0	10.0	14.0	16.5	8.5	7.0	31.0	0.5	8.7
Salary										
\$10,000–\$19,999	24.3	17.9	20.8	17.6	9.5	2.6	2.6	4.6	0.0	3.7
\$20,000–\$29,999	18.3	10.9	27.3	20.0	9.4	3.7	4.3	6.1	0.0	4.4
\$30,000–\$39,999	14.6	9.1	19.1	24.6	11.0	5.3	5.7	10.6	0.0	5.5
\$40,000–\$49,999	13.2	8.0	19.0	21.2	14.6	6.3	6.0	11.5	0.0	5.9
\$50,000–\$59,999	9.4	7.0	18.1	24.3	11.3	6.8	7.6	15.4	0.0	6.6
\$60,000–\$74,999	7.1	7.7	16.6	26.0	10.1	7.7	10.7	11.8	2.4	6.9
\$75,000 or more	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	8.0
Tenure										
1 year to 2 years	9.6	20.6	26.1	21.6	10.4	3.0	5.1	3.6	0.0	4.3
2+ years to 5 years	16.0	11.2	27.9	22.9	9.3	4.0	2.7	5.9	0.1	4.4
5+ years to 10 years	16.5	7.7	23.4	21.9	11.1	4.8	5.4	9.3	0.0	5.2
10+ years to 15 years	15.7	8.9	16.0	24.8	12.9	5.7	6.8	9.2	0.0	5.5
15+ years to 25 years	16.2	9.4	16.2	20.7	12.1	5.4	7.2	12.9	0.1	5.9
Over 25 years	10.8	3.5	15.5	20.1	12.3	9.3	8.0	20.1	0.5	7.4
Gender										
Male	13.9	9.3	21.2	25.0	11.5	5.3	5.0	8.6	0.1	5.3
Female	15.6	9.9	21.4	20.8	11.0	5.0	5.8	10.3	0.1	5.4
Marital Status										
Single	16.8	12.1	22.6	20.5	10.1	5.4	5.1	7.3	0.0	4.9
Married	14.0	8.4	20.5	23.1	12.1	5.0	5.6	11.1	0.2	5.6
Unknown	13.0	6.0	20.9	23.3	9.8	3.7	9.3	14.0	0.0	6.2
Race										
White	13.0	8.9	21.6	22.4	11.4	5.3	6.1	11.3	0.1	5.7
Nonwhite	20.5	12.0	20.7	21.1	10.8	4.8	4.3	5.9	0.0	4.5

Source: Employee Benefit Research Institute.

<sup>a</sup>Includes participants constrained by the 402(g) maximum contribution limit.

\$20,000–\$29,999 contributed 3 percent, compared with 17 percent of those earning \$60,000 or more. **Like the Company A findings, there was evidence among nonhighly compensated participants in the Company B plan of clustering at the maximum contribution amounts, particularly among older participants.** Ten percent of nonhighly compensated participants contributed 15 percent of pay (the plan maximum), and essentially no one was constrained by the legal maximum of \$9,240 (table 2). While 31 percent of workers in their 60s (or over) and 22 percent of those in their 50s contributed the plan allowable maximum of 15 percent, only 3 percent of participants in their 20s did likewise. The fraction of nonhighly compensated participants contributing 15 percent increased from 5 percent among those earning \$10,000–\$19,999 to 15 percent among those earning \$50,000–\$59,999.

**Among highly compensated participants in**

**the Company B plan, there was evidence both of clustering at that maximum match amount (3 percent of pay) and significant clustering at the plan-imposed contribution limit (10 percent of pay) or the legal contribution limit.** Twenty-seven percent of highly compensated participants in their 20s and 17 percent of those in their 30s contributed 3 percent of pay to the plan (table 3). This fell to 3 percent of those aged 60 and over. A noticeably larger fraction of those with earnings under \$75,000 also contributed 3 percent to the plan.

**Twenty-five percent of all highly compensated plan participants contributed either 10 percent of pay or \$9,240 to the plan. Not surprisingly, for highly compensated employees the legal maximum was most often the binding constraint rather than the plan maximum.** Fifteen percent contributed \$9,240 to the plan, and an additional



Table 3  
Participant Deferral Rates, Company B Retirement Saving Plan, 1994: Highly Compensated Employees

	Zero	Less Than 3 Percent	3 Percent	4 Percent– 6 Percent	6 Percent– 9 Percent	10 Percent	402(g) Maximum	Deferral Rate <sup>a</sup>
Total	5.1%	7.0%	15.0%	23.1%	25.0%	9.7%	15.1%	5.9%
Age								
20–29	0.0	18.2	27.3	27.3	27.3	0.0	0.0	4.6
30–39	5.9	10.8	16.7	24.8	26.3	7.4	8.0	5.4
40–49	5.4	6.1	16.6	23.8	24.4	7.6	16.2	5.8
50–59	3.7	4.2	9.3	18.6	26.0	18.1	20.0	6.6
60 and over	3.1	0.0	3.1	21.9	15.6	15.6	40.6	7.0
Salary								
\$10,000–\$74,999	8.0	10.0	20.2	28.5	21.1	11.1	1.1	5.0
\$75,000–\$99,999	3.9	3.9	12.8	20.6	32.3	20.6	6.0	6.7
\$100,000 or more	2.4	5.8	10.2	18.4	24.4	0.0	38.8	6.2
Tenure								
1 year to 2 years	2.8	15.9	14.0	21.5	32.7	4.7	8.4	5.5
2+ years to 5 years	5.3	7.6	14.7	21.8	25.3	11.8	13.5	6.1
5+ years to 10 years	4.3	7.2	19.1	27.8	24.9	6.2	10.5	5.4
10+ years to 15 years	7.5	9.8	16.1	24.1	20.7	8.0	13.8	5.3
15+ years to 25 years	4.6	4.3	14.4	22.6	22.3	11.9	19.9	6.1
Over 25 years	5.9	2.2	9.6	18.4	30.9	13.2	19.9	6.6
Sex								
Male	5.3	7.4	16.2	22.6	23.1	9.4	16.0	5.7
Female	4.3	5.6	10.3	24.9	32.2	10.7	12.0	6.3
Marital Status								
Single	6.1	6.5	13.5	20.0	31.8	11.0	11.0	6.1
Married	4.8	7.2	15.5	24.2	22.6	9.3	16.5	5.8
Unknown	3.7	7.4	11.1	14.8	40.7	11.1	11.1	6.6
Race								
White	4.9	6.9	14.9	22.5	24.9	9.9	16.0	5.9
Nonwhite	6.7	8.4	15.1	27.7	26.1	8.4	7.6	5.5

Source: Employee Benefit Research Institute.

<sup>a</sup>Includes participants constrained by the 402(g) maximum contribution limit.

10 percent contributed 10 percent of pay. Older workers were much more likely to “max out” even among the highly compensated. No participants in their 20s and 15 percent of those in their 30s contributed either 10 percent of pay or the legal maximum of \$9,240, compared with 56 percent of those aged 60 and over who were constrained either by the plan limit or the legal limit. Thirty-nine percent of participants earning \$100,000 or more were constrained by the legal maximum, while 27 percent of those earning \$75,000–\$99,999 and 12 percent of those earning less than \$75,000 were constrained by either the plan maximum of 10 percent or the \$9,240 legal limit (table 3).

## Company C

The maximum contribution allowed under the Company C management plan was 16 percent of compensation. The match rate in the plan at that time was 66 2/3 cents on the dollar for the first 6 percent of earnings that an employee contributed. Participants in this plan are

allowed to make pretax contributions to a 401(k) plan as well as contributions to a 401(a) plan that requires after-tax contributions. Although there is a tax differential at the time of contribution for the employee, both types of contributions are eligible for the employer match. Table 4 provides information on 401(k) contributions, while table 5 provides similar information for total contributions (both pre and post tax). Company C also had a defined benefit plan in place for its employees.

There were four notable points of cluster in the distribution of 401(k) contribution rates in the Company C plan: 16.8 percent of participants made no contributions during the year, 29.6 percent contributed 6 percent of pay to the plan, 6.9 percent contributed 16 percent of pay, and 11.6 percent were limited by the 402(g)(1) maximum limit on 401(k) contributions (table 4). However, when total contributions combining pretax and after-tax contributions are analyzed, the percentage of participants making no contributions drops to 4.0 percent, and the percentage contributing just enough to maximize the employer match increases to

Table 4  
Participant Deferral Rates, Company C Retirement Plan, 1994: Pretax Contributions

	Zero	Less Than 6 Percent	6 Percent	More Than 6 Percent But Less Than 16 Percent	16 Percent	402(g) Maximum	Deferral Rate <sup>a</sup>
Total	16.8%	10.1%	29.6%	25.0%	6.9%	11.6%	6.3%
Salary							
\$10,000–\$19,999	18.2	14.3	37.8	19.4	10.4	0	6.3
\$20,000–\$29,999	22.9	13.1	34.7	19.2	10.0	0.1	5.9
\$30,000–\$39,999	26.1	14.0	30.7	19.2	9.9	0	5.7
\$40,000–\$49,999	21.9	13.0	31.9	21.9	11.2	0	6.2
\$50,000–\$59,999	19.4	11.5	30.2	25.3	11.0	2.6	6.6
\$60,000–\$74,999	14.2	8.5	29.8	29.5	3.3	14.8	6.4
\$75,000–\$99,999	10.7	6.8	27.2	28.0	1.6	25.7	6.4
\$100,000 or more	6.8	5.1	21.9	11.0	2.0	53.1	5.6
Tenure							
2 years or less	4.9	9.3	43.0	26.0	12.7	4.0	7.8
2+ years to 5 years	8.7	11.7	37.7	23.8	10.9	7.2	7.2
5+ years to 10 years	13.3	10.3	33.7	24.8	8.0	9.9	6.7
10+ years to 15 years	17.6	10.8	29.2	24.2	5.9	12.3	6.1
15+ years to 25 years	21.0	10.8	26.9	24.2	5.3	11.7	5.8
Over 25 years	19.2	7.5	23.9	27.4	6.2	15.7	6.3
Age							
20–29	12.1	11.2	40.6	23.8	8.8	3.5	6.7
30–39	15.9	11.6	33.2	24.1	6.3	8.9	6.2
40–49	19.7	10.5	27.7	24.6	5.5	12.1	5.9
50–59	14.7	6.1	22.5	28.2	9.6	19.0	7.2
60 and up	11.5	2.8	18.3	28.2	16.3	22.9	8.5
Sex							
Male	16.4	9.4	30.2	25.0	5.7	13.3	6.2
Female	17.6	11.2	28.6	25.0	9.0	8.7	6.5
Race							
White	16.2	9.7	30.5	25.5	6.7	11.4	6.4
Nonwhite	19.8	12.0	25.5	22.7	7.7	12.3	6.1

Source: Employee Benefit Research Institute.

<sup>a</sup>Includes participants constrained by the 402(g) maximum contribution limits.

38.4 percent. A total of 8.9 percent of the participants make the maximum combined contribution of 16 percent of compensation (table 5).<sup>2</sup>

**Two different phenomena appear to be at work in determining total contribution levels in the Company C plan. First, close to one-fifth of participants appear to have “maxed out” in terms of contributing as much as the plan and/or current legislation limiting 401(k) contributions allowed. Second, slightly more than one-third of workers appear to have contributed just enough to take full advantage of the company match.**

**These findings indicate that the rates at which workers decide to contribute to the plan are directly dependent on and constrained by the plan’s specific features. Furthermore, plan features appear to interact with participant**

**demographic characteristics in determining contribution rates. In the Company C management plan, the younger the participant, the more likely he or she was to contribute just enough to receive the full company match available.** Over 46 percent of workers in their 20s contributed 6 percent of earnings to the plan (table 5). The percentage contributing 6 percent of earnings dropped to 37.9 percent for those in their 40s and to 24.7 percent for those aged 60 and over. **Corresponding with this, there was a sizable increase in the proportion of participants “maxing out” in terms of their contribution rate as ages increased.** Less than 11 percent of the participants aged 20–49 contributed 16 percent of compensation to the plan. Thirteen percent of participants in their 50s maxed out, and this proportion then jumped to 22 percent for participants aged 60 and over (table 5).

The relationship between contribution rates and participant earnings in the Company C management plan is somewhat unique in that participants earning

<sup>2</sup> Since 401(a) contributions are not counted as part of the 402(g)(1) limit, the percentage of participants hitting the limit on elective deferrals will not change between table 4 and table 5.

Table 5  
Participant Deferral Rates, Company C Retirement Plan, 1994:  
Pretax and After-Tax Contributions Combined

	Zero	Less Than 6	6 Percent	More Than 6 But Less Than 16	16 Percent	402(g) Maximum	Deferral Rate <sup>a</sup>
Total	4.0%	9.4%	38.4%	27.7%	8.9%	11.6%	7.6%
Salary							
\$10,000–\$19,999	11.2	13.2	40.7	22.2	12.6	0	7.1
\$20,000–\$29,999	12.9	13.7	40.1	21.3	11.9	0	6.8
\$30,000–\$39,999	10.2	15.0	41.0	22.1	11.6	0	6.9
\$40,000–\$49,999	5.5	14.0	42.6	25.2	12.8	0	7.5
\$50,000–\$59,999	4.3	11.3	40.5	28.2	13.1	2.6	7.8
\$60,000–\$74,999	2.3	7.0	38.1	32.1	5.6	14.8	7.7
\$75,000–\$99,999	1.7	4.7	34.0	29.8	4.1	25.7	7.7
\$100,000 or more	0.9	2.5	25.9	14.6	3.0	53.1	7.0
Tenure							
2 years or less	1.7	7.8	45.0	27.2	14.3	4.0	8.3
2+ years to 5 years	3.3	10.0	41.1	26.0	12.5	7.2	7.9
5+ years to 10 years	4.0	8.8	40.1	27.2	10.0	9.9	7.7
10+ years to 15 years	4.2	9.5	38.8	27.1	8.1	12.3	7.5
15+ years to 25 years	4.9	11.2	37.6	27.4	7.2	11.7	7.2
Over 25 years	3.0	7.3	35.0	30.1	8.8	15.7	7.9
Age							
20–29	4.0	9.4	46.5	26.3	10.3	3.5	7.5
30–39	4.5	10.3	41.1	27.2	7.9	8.9	7.3
40–49	4.3	10.4	37.9	27.6	7.6	12.1	7.4
50–59	2.1	5.4	31.1	29.8	12.5	19.0	8.6
60 and over	1.0	3.3	24.7	26.1	21.9	22.9	10.0
Gender							
Male	3.6	8.6	39.3	27.7	7.6	13.3	7.5
Female	4.6	10.7	36.9	27.8	11.2	8.7	7.7
Race							
White	3.5	8.7	39.6	28.2	8.7	11.4	7.6
Nonwhite	6.3	12.5	33.1	25.6	10.1	12.3	7.4

Source: Employee Benefit Research Institute.

<sup>a</sup>Includes participants constrained by the 402(g) maximum contribution limits.

\$40,000–\$50,000 per year were relatively more likely to contribute the amount corresponding to the maximum match, i.e., 6 percent, than were either lower or higher earners. However, once this threshold level of compensation was reached, the percentage of participants contributing 6 percent of pay to the Company C management plan decreased steadily from 42.6 percent of participants earning \$40,000–\$49,999 to 25.9 percent of those earning \$100,000 or more (table 5).<sup>3</sup>

Higher earners were relatively more likely to max out their contribution at 16 percent than were lower earners until the 402(g)(1) limit becomes binding. Approximately 12 percent of participants earning under \$40,000 contributed a combined 16 percent of pay to the plan, and this proportion increased steadily to 13.1 percent of those earning \$50,000–\$59,999 (table 5).

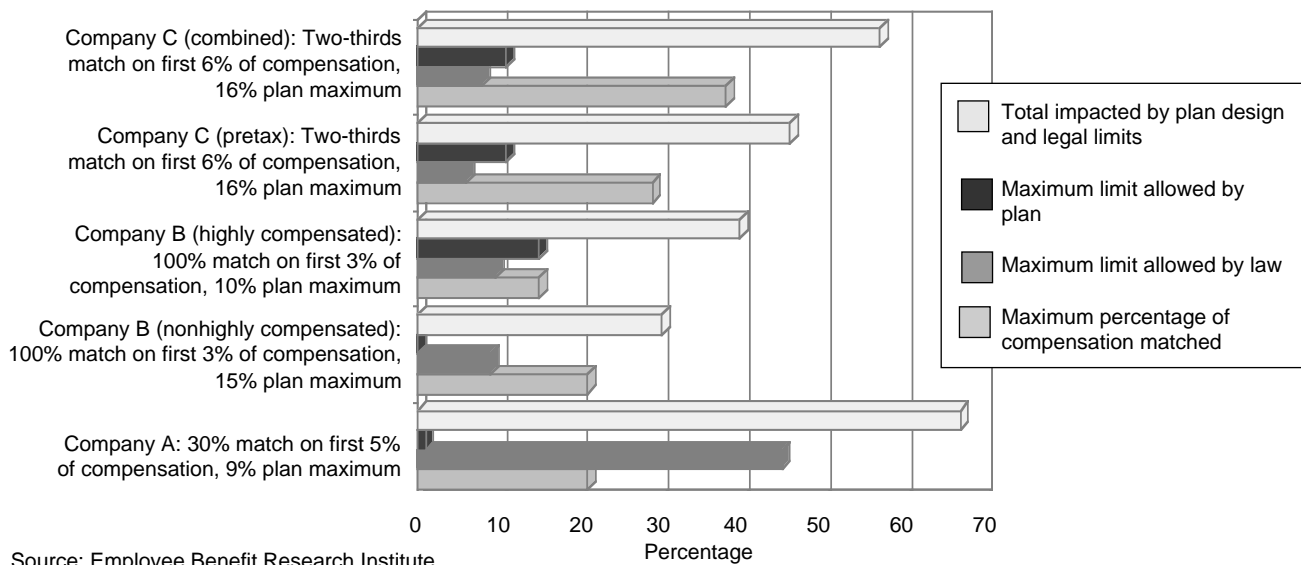
Less than 6 percent of those earning \$60,000 or more contributed the maximum 16 percent of pay allowed by the plan. In 1994, the maximum legal 401(k) pretax employee contribution was \$9,240, which means that anyone earning in excess of \$57,750 would be prevented from putting the entire 16 percent of compensation into the 401(k) plan.

## Implications

These findings provide stark evidence of the dramatic effect that plan features, i.e., the matching formula, maximum allowable contribution levels, and legal limits can have on workers when they are deciding how much to contribute to a plan. Chart 1 summarizes the percentage of participants in each plan who are subject to constraints on their contribution behavior, either from legislative limits or

<sup>3</sup> Note that the lower percentage of those with compensation in excess of \$100,000 cannot be explained by the 401(a)(17) limits since the 402(g)(1) limit of \$9,240 for the year is more than 150 thousand times 6 percent.

Chart 1  
Percentage of Participants with Contributions Impacted by Plan Design and Legal Limits



plan design characteristics. **The most striking result is that, for each cohort analyzed, 30 percent or more of the participants have their contribution rate directly impacted by plan design (maximum matches or contribution limits) or legal limits on contributions. This number ranges from 30 percent for nonhighly compensated employees in Company B to 67 percent for the combined population in Company A.**

In addition, these features can affect different workers differently. More specifically, participants of differing age and earning levels will respond to different features of the plan (matching formula versus contribution limits) in deciding how much to contribute.

Older workers tend to be more focused on retirement and thus are more likely to contribute to a plan at higher levels and are more likely to be constrained by maximum limits (plan or legal). Many

younger workers at least recognize the value of the employer match and contribute enough to take full advantage of that plan feature. In fact, **the matching formula seems to effectively determine the contribution rate for many participants, particularly younger ones (chart 2). However, the maximum contribution limits imposed by the sponsor or the tax code acts as a constraint more often for older employees (chart 3).**

Plan features also appear to interact with worker earnings in determining contribution rates. Part of this effect could be attributed to a correlation between earnings and age, i.e., older workers tend to have greater earnings. However, there is also surely a separate effect attributable to earning levels. **Lower earning participants may feel that they cannot afford to contribute the maximum amount allowed by the plan, but they at least want to take advantage of**

Chart 2  
Percentage of Participants Making Pretax Contributions Equal to the Maximum Percentage of Compensation Matched, by Age

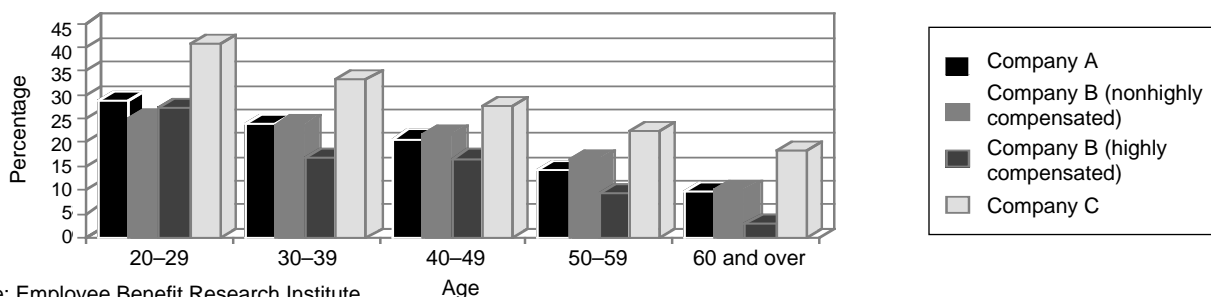
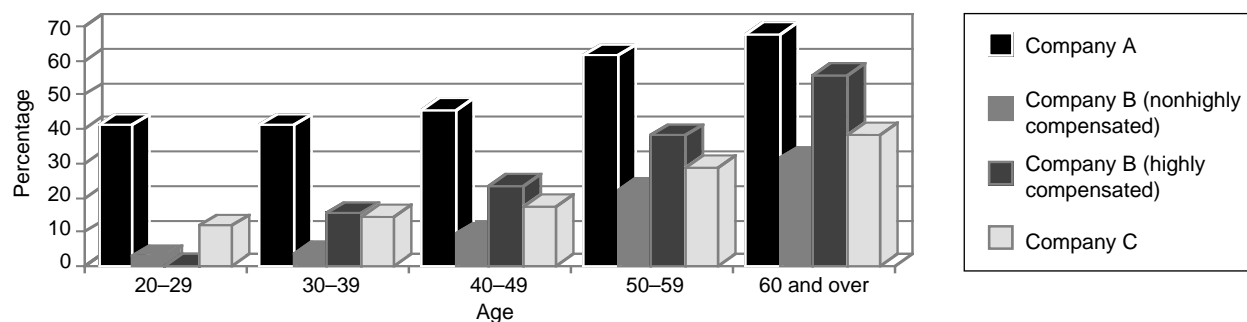
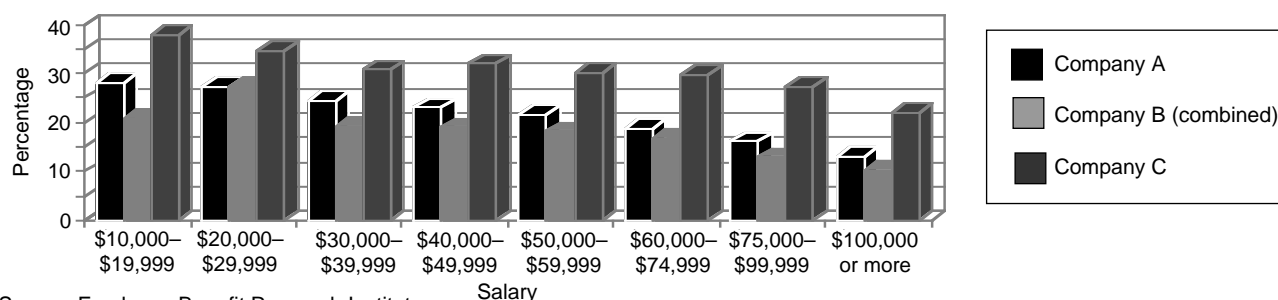


Chart 3  
Percentage of Participants Making Pretax Contributions Equal to the Plan or Legal Maximum, by Age



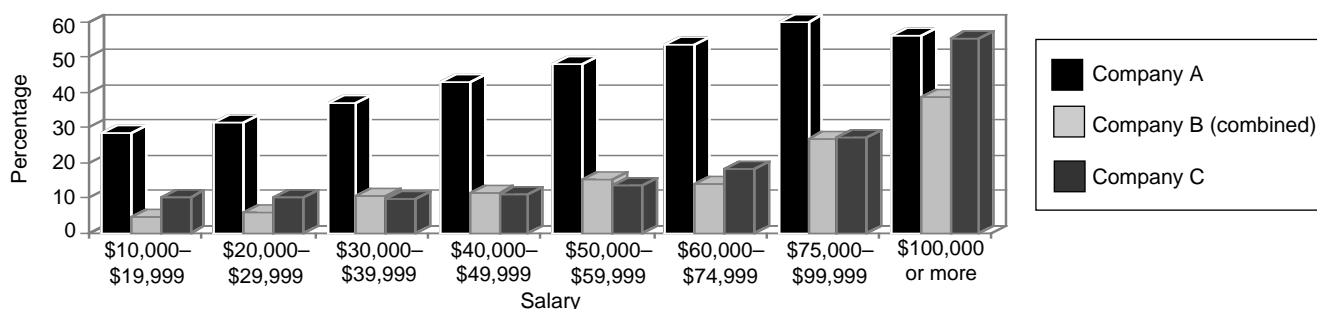
Source: Employee Benefit Research Institute.

Chart 4  
Percentage of Participants Making Pretax Contributions Equal to the Maximum Percentage of Compensation Matched, by Salary



Source: Employee Benefit Research Institute.

Chart 5  
Percentage of Participants Making Pretax Contributions Equal to the Plan or Legal Maximum, by Salary



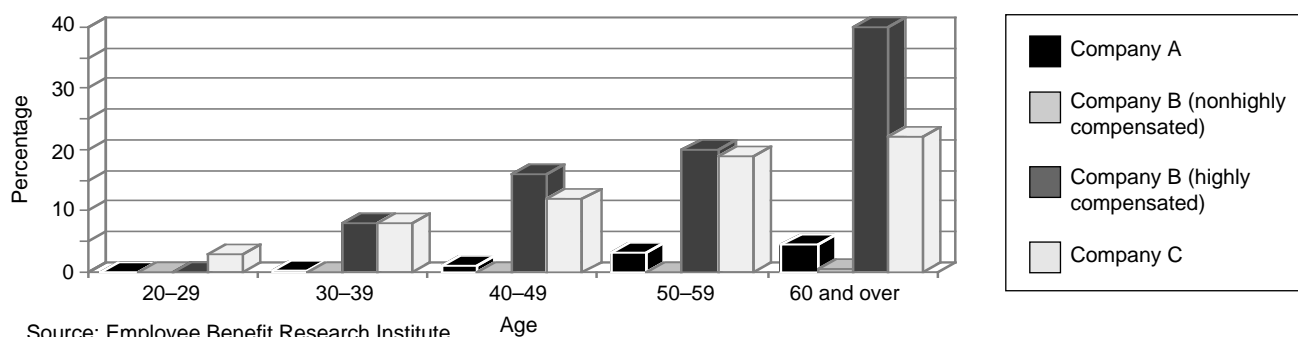
Source: Employee Benefit Research Institute.

all the “free” employer money that is available, and therefore they are more likely to contribute the maximum amount that is matched (chart 4). Higher earners likely do not feel as constrained regarding the amount of money they have available to save, and therefore they are more likely to contribute the maximum amount allowed by the plan or the tax code (chart 5).

For many workers, the 402(g) limit imposed by law is a binding constraint that effectively

restrains the amount of their earnings that they are able to save for retirement on a tax-deferred basis. It is older, higher earnings participants who are most often constrained by this limit (charts 6 and 7). However, it is precisely at this point in a career, i.e., when one is older and earning levels have risen, that many workers start devoting serious attention to planning and saving for retirement. To the extent that this is true, such limits may still have a detrimental effect on retirement income security.

Chart 6  
Percentage of Participants Making Pretax Contributions Equal to the Legal Maximum, by Age



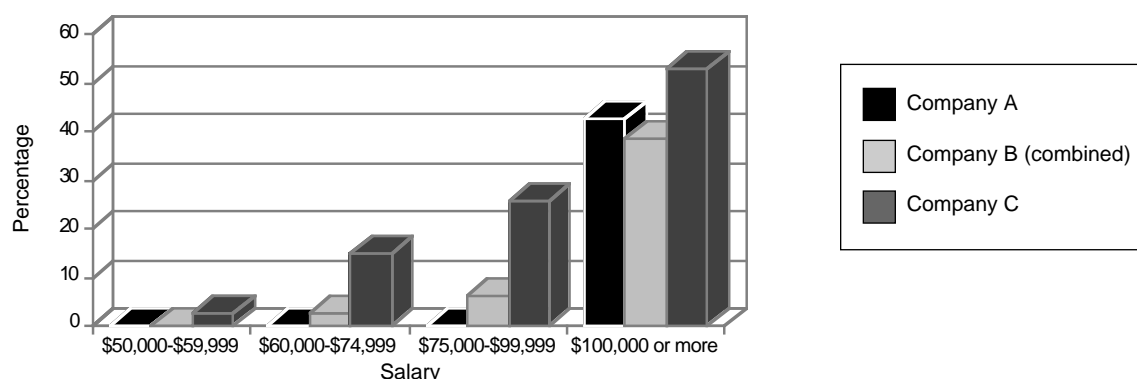
On the employer side, attention is often focused on the issue of getting workers, particularly young workers and those at lower income levels, to participate in 401(k) plans at levels that will lead to an adequate retirement income. Such participation is also needed to pass discrimination testing. These findings would indicate that **one way to boost worker contribution rates in a plan would be to increase the percentage of salary on which matching contributions are made.** This would obviously entail additional expense. A plan may find it more cost efficient to attempt to boost contribution levels through education rather than through increased matching expenditures. Of course, the matching formula could be altered while trying to maintain the same overall matching expenditure. For example, instead of matching 100 percent of the first 4 percent of pay contributed by an employee, a plan could match 50 percent of the first 8 percent of pay contributed.

## Conclusion

Beyond the direct implications discussed, these findings also have relevance for broader policy issues, in particular, tax reform. A number of proposals are now circulating that would replace the existing income tax with some form of a consumption tax. Under these proposals, saving through a 401(k) plan would lose the relative tax advantage it currently enjoys. Under a consumption tax, all earnings would be tax exempt until consumed; currently, only saving through a tax-deferred retirement plan, such as a 401(k), enjoys this preferential treatment.

Many hypothesize that in a consumption tax world employers would no longer offer vehicles such as 401(k) plans since any saving done by a worker would enjoy the same tax treatment. If this were true, the question then arises concerning the implications this

Chart 7  
Percentage of Participants Making Pretax Contributions to the Legal Maximum, by Salary



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This *Issue Brief* was written by Paul Yakoboski and Jack VanDerhei of EBRI with assistance from the Institute's research and editorial staff.

change would have for saving in general and retirement saving in particular, across individuals.

One of the motivations for a consumption tax is to boost saving rates. But it is possible to imagine a situation in which the aggregate saving rate increases but the distribution of saving across the population narrows. **The findings in this *Issue Brief* indicate that the saving rates in 401(k) plans among younger workers and those with lower earnings are driven by the employer's matching contribution. Would these workers save the same amount on their own if there were no plan and no employer matching contribution? Maybe not. Such an outcome could have potentially dramatic implications for these individuals' retirement income security.**

Therefore, these findings have relevance for employers regarding the effects of their 401(k) plan features on contribution rates among various worker segments. In addition, there are lessons for public policymakers regarding the sensitivity of workers' saving behavior to the specific set of circumstances under which they operate and the constraints with which they are faced.

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