AN UPDATE ON 401(k) PLANS: INSIGHTS FROM THE 2007 SCF

By Alicia H. Munnell, Francesca Golub-Sass, and Dan Muldoon*

Introduction

The maturation of the 401(k) system and the enactment of the Pension Protection Act of 2006, which made 401(k) plans easier and more automatic, were expected to enhance the role that 401(k)s played in the provision of retirement income. So, originally, the release of the Federal Reserve’s 2007 Survey of Consumer Finances (SCF) seemed like a great opportunity to reassess 401(k)s. The SCF is a triennial survey of a nationally representative sample of U.S. households, which collects detailed information on households’ assets, liabilities, and demographic characteristics.1

Of course, the 2007 SCF reflects a world that no longer exists. Interviews were conducted during the late summer and early fall when the Dow Jones was at 14,000 (the peak was October 9, 2007) and housing prices were only slightly off their peak. While the economic crisis had already begun, its effects were not yet visible.2 Since the time of the interviews, the stock market has imploded, reducing the value of equities in 401(k)s and IRAs by about $2 trillion. Housing prices have fallen by 20 percent. And the crisis has spread to the real economy, throwing 3.6 million people out of work.3

Given the collapse of the financial markets and the economy, this Issue in Brief uses the 2007 SCF data as a starting point in evaluating the condition of 401(k)s and relies on more recent data and estimates to paint a full and current picture. The brief proceeds as follows. The first section describes the evolution of 401(k) plans and how the Pension Protection Act of 2006 would be expected to improve the performance of these plans. The second section uses data from the 2007 SCF and other sources to update previous findings on participation, contribution levels, investments, and withdrawals. The third section then projects how the events of 2008 have affected various aspects of 401(k) plans. The final section concludes that whereas 401(k) plans were showing some improvement in 2007, the events of 2008 highlight their limitations in serving as the only supplement to Social Security.

The Evolution of 401(k) Plans

The advent of 401(k) plans is still relatively recent. Twenty-five years ago, defined benefit plans (together

---

* Alicia H. Munnell is the Director of the Center for Retirement Research at Boston College (CRR) and the Peter F. Drucker Professor of Management Sciences at Boston College’s Carroll School of Management. Francesca Golub-Sass and Dan Muldoon are Research Associates at the CRR.
In terms of the nature of coverage, the landscape has changed dramatically. Whereas, in the early 1980s, most workers lucky enough to work for an employer providing a pension were covered by a defined benefit plan, today most workers have a 401(k) as their primary or only plan (see Figure 2). (See Appendix Table A1 for data from intervening SCFs.) Yet 401(k)s still operate under the old rules. Workers continue to have almost complete discretion over whether and how much to contribute, how to invest, and how and when to withdraw the funds.

Two changes have occurred since pension experts and policymakers first began assessing the effectiveness of 401(k)s as a mechanism for retirement saving. First, time has passed, so an increasing proportion of workers have spent most of their worklives covered by a 401(k) plan. Second, Congress has enacted legislation and the U.S. Department of Labor has issued regulations to make 401(k) plans more effective.

The Passage of Time

Because 401(k) plans were introduced relatively recently, the passage of time is an important consideration when evaluating their success in terms of balances. Figure 3 (on the next page) shows the relationship between the length of time in the plan and accumulations for a hypothetical male worker.
who contributes 6 percent per year and enjoys an employer match of 3 percent. Participants need to be in plans for a substantial period of time to accumulate meaningful balances. The passage of time alone would be expected to produce a more favorable picture of 401(k) performance in 2007 than in 1995.

The Pension Protection Act of 2006

Over the last ten years, policymakers and business leaders came to recognize the challenges inherent in 401(k) plans and began to take steps to make these plans easier and more automatic. Many of these efforts built on a series of studies by behavioral economists who demonstrated that inertia plays a major role in how workers participate and invest in 401(k)s. The lessons learned by individual employers were reflected in the provisions of the Pension Protection Act of 2006 (PPA). The PPA encouraged automatic enrollment, fostered automatic increases in deferral rates, and broadened default investment options.

Encouraged Automatic Enrollment. The major innovation to encourage participation has been automatic enrollment. Studies show that this simple change in the default increases participation by as much as 41 percentage points. Even after three or four years, the vast majority of those automatically enrolled were still participating. The Pension Protection Act removed obstacles that had kept some employers from adopting these arrangements and established a safe harbor whereby employers that adopt automatic enrollment are deemed to have met the “top heavy” and discrimination rules. In 2007, about 36 percent of plans had automatic enrollment provisions, a substantial increase over previous years (see Figure 4).

Sanctioned Increases in Default Contribution Rates. One problem with automatic enrollment is that the inertia that makes the approach effective for participation can lock people into low levels of contributions. That is, the typical default contribution rate is 3 percent, and, left on their own, people would tend to stay at this level. Thus, to combat this problem, the Pension Protection Act, under the safe harbor provisions, encouraged sponsors to increase the deferral percentage by at least 1 percentage point annually up to 6 percent of compensation – or until the employee stops the increases. Sponsors can continue the increases up to 10 percent of compensation.

Broadened Investment Options. The third problem that the PPA addressed was the use of stable value funds or money market funds as the default investment option for automatic deferrals. These funds are safe investments, but, as such, they produce low returns. Given inertia, most individuals remained in these conservative investments. The Pension Protection Act directed the Department of Labor to issue regulations
Participating in 401(k) Plans, by Income and Age, 2007

<table>
<thead>
<tr>
<th>Age</th>
<th>All</th>
<th>&lt;$20</th>
<th>$20-60</th>
<th>&gt;$60</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>63%</td>
<td>31%</td>
<td>67%</td>
<td>66%</td>
</tr>
<tr>
<td>30-39</td>
<td>80%</td>
<td>54%</td>
<td>77%</td>
<td>90%</td>
</tr>
<tr>
<td>40-49</td>
<td>82%</td>
<td>57%</td>
<td>79%</td>
<td>86%</td>
</tr>
<tr>
<td>50-59</td>
<td>86%</td>
<td>61%</td>
<td>86%</td>
<td>88%</td>
</tr>
<tr>
<td>60-64</td>
<td>81%</td>
<td>23%</td>
<td>82%</td>
<td>88%</td>
</tr>
</tbody>
</table>

* Fewer than 100 observations.

Source: Authors’ calculations based on the 2007 SCF.

Contributions

In 2007, most employees were entitled to contribute $15,500 on a tax-deductible basis to their 401(k) plan. Workers approaching retirement could contribute another $5,000 under “catch-up” provisions introduced in 2002. One question is how many workers contribute the maximum. Maximum has to be defined because it is not reasonable to think that a person earning $20,000 could contribute $15,500. Defining the maximum as the lower of $15,500 ($20,500 if over
only 8 percent contributed the most they could to their 401(k) plans. Not surprisingly, maximum contributions are closely related to income. Less than 2 percent of those earning $40,000-$60,000 contribute the maximum compared to 30 percent for those earning $100,000 or more (see Figure 6).

It would also be nice to know the percent of participants who contribute at least up to the employer match. Those who do not are essentially leaving money on the table. Unfortunately, such data are not available in the SCF. A study by Hewitt Associates finds that only 22 percent of 401(k) participants in 2005 did not contribute enough to maximize their employer match.

**Investment Decisions**

In addition to participation and contribution decisions, employees have to decide how to invest their money. The investment process requires determining the initial allocation of contributions between stocks and bonds, deciding about investing in company stock, and changing allocations over time with age and market fluctuations.

*Diversification.* Modern portfolio theory demonstrates that by building a portfolio of securities with differing risk characteristics, an investor can create a more efficient portfolio, one expected to achieve a given level of expected return while minimizing risk. Therefore, a natural concern with 401(k) plans is the extent to which participants hold a mix of stocks and bonds. According to the 2007 SCF, 14 percent of participants held no equity and 28 percent held all their balances in equity; only 58 percent held a mix of stocks and bonds (see Figure 7). Thus, even though new employees are increasingly in target date and balanced funds, diversification remains a challenge.

**Investment in Company Stock.** Company stock creates another investment challenge. Concentrating 401(k) investments in company stock means that employees hold a large share of their portfolio in a single stock, which is more risky than a diversified portfolio. Moreover they concentrate their financial bets on a security directly correlated with their own human capital and earnings. In short, participants with large holdings of company stock expose themselves to unnecessary risk. In 2007, about 11 percent of all assets were invested in company stock (see Figure 8).

**Figure 6. Percent of Participants Making Maximum Contributions, by Earnings, 2007**

<table>
<thead>
<tr>
<th>Earnings</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-40</td>
<td>0.6%</td>
</tr>
<tr>
<td>40-60</td>
<td>1.7%</td>
</tr>
<tr>
<td>60-80</td>
<td>3.0%</td>
</tr>
<tr>
<td>80-100</td>
<td>4.9%</td>
</tr>
<tr>
<td>100+</td>
<td>7.7%</td>
</tr>
<tr>
<td>All</td>
<td>29.9%</td>
</tr>
</tbody>
</table>

**Figure 7. 401(k) Participants by Equity Holdings, 2007**

- All equity, 28%
- No equity, 14%
- Diversified 58%

Source: Authors’ calculations based on the 2007 SCF.

**Figure 8. Company Stock as a Percentage of 401(k) Assets, 2000-2007**

An aggregate number does not tell the full story, however, since most 401(k) plans do not offer company stock as an investment option. The practice is concentrated among large plans – those with 5,000 or more participants – where company stock accounted for 26 percent of the total.24

Rebalancing. In most instances, it makes sense for individuals to reduce their equity holdings as they age. At first glance, the data suggest that individuals are following this advice since most data sets show lower equity holdings for older people than younger ones (see Figure 9).25 But it appears that this pattern reflects the fact that people born more recently have chosen to hold more equity than those born in earlier years. Studies that follow people over time reveal very little portfolio adjustment either in response to increasing age or returns.26

Figure 9. Percent of 401(k) Balances in Equities by Age, 2007

Cashing Out

The only way to end up at retirement with significant accumulations is to put the money into the 401(k) account and leave it there until retirement. Cash ing out even small amounts – that is, taking money out instead of rolling it over into an IRA or into an employer’s 401(k) – can have a detrimental effect on ultimate accumulations. To discourage cashing out, the Federal Government has imposed a 10-percent penalty in addition to regular income taxes on any withdrawal before age 59 ½. Employers are also required to withhold 20 percent of any distributions paid directly to recipients. To specifically discourage the cashing out of small amounts, a 2005 Department of Labor regulation requires that employers roll over any 401(k) plan with a value between $1,000 and $5,000 into an IRA – unless the separating worker elects to have it cashed out or rolled over into a new 401(k) at his new company.27

The SCF asks participants if they have ever received a lump-sum distribution from a retirement plan and, if so, how much they received and what they did with the money.28 This analysis looks only at the two-thirds of 401(k) participants who took lump-sum distributions when switching jobs and ignores the one-third who kept assets in their former employer’s plan.29 Figure 10 shows that 40 percent of participants who received a lump sum did not roll the money over into another tax-deferred savings vehicle.30 Since most of the people cashing out were younger workers with relatively small amounts, the dollar volume of the cash outs equaled only 16 percent of the assets distributed. The extent of cashing out has shown a downward trend since 2001 (see Figure 10).

Figure 10. Percent of Participants with Lump-Sum Distributions Who “Cash Out” and Percent of Distributed Assets “Cashed Out”

Note: This figure only looks at those who took a lump-sum distribution when switching employers and does not factor in those who switched jobs but left assets in their former employer’s retirement plan.

Sources: Authors’ calculations based on the 2001, 2004, and 2007 SCF.
Accumulations in 401(k) Plans

Despite the recent improvements, the cumulative effect of earlier 401(k) missteps by individuals has had a major impact on plan accumulations. In theory, a typical worker who ends up at retirement with earnings of about $50,000 and who contributed 6 percent steadily with an employer match of 3 percent should have about $320,000. The bottom bar in Figure 11 shows the amounts that the typical worker would have at each age along this path of accumulation.

In terms of wealth, 401(k) accumulations accounted for only 7 percent of total holdings for the typical household age 55-64 (see Table 2). Thus, even after nearly 30 years, 401(k) plans account for only a small portion of the wealth of households approaching retirement.

Table 2. Wealth of a Typical Household Approaching Retirement, 2007

<table>
<thead>
<tr>
<th>Source of wealth</th>
<th>Amount in dollars</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary house</td>
<td>$138,600</td>
<td>20%</td>
</tr>
<tr>
<td>Business assets</td>
<td>15,900</td>
<td>2</td>
</tr>
<tr>
<td>Financial assets</td>
<td>29,600</td>
<td>4</td>
</tr>
<tr>
<td>401(k)/IRAs a</td>
<td>50,500</td>
<td>7</td>
</tr>
<tr>
<td>Defined benefit</td>
<td>122,100</td>
<td>18</td>
</tr>
<tr>
<td>Social Security</td>
<td>298,900</td>
<td>44</td>
</tr>
<tr>
<td>Other non-financial assets</td>
<td>21,000</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>676,500</td>
<td>100</td>
</tr>
</tbody>
</table>

a Includes thrift savings plans and other defined contribution plans.

Note: The “typical household approaching retirement” refers to the mean of the middle 10 percent of the sample of households headed by an individual aged 55-64.

Source: Authors’ calculations based on the 2007 SCF.

The Effect of the Financial Crisis

If this update focused solely on data through 2007, it would have concluded that 401(k) plans were functioning somewhat better – slightly more people were participating, participants were investing less in company stock, and cashing out was becoming less of a problem. These favorable developments were reflected in an increase in 401(k) balances.

Unfortunately, in 2008, financial markets collapsed, highlighting the risk associated with 401(k) plans. The decline in equity values cut 401(k) balances by about 30 percent. Moreover, the collapse in financial markets has spread to the real economy. People are losing their jobs, putting enormous financial pressure on families. This pressure has led to an increase in hardship withdrawals. At the same time,
the retrenchment of consumers has forced many corporations – faced with the alternative of laying off workers – to cut back on their 401(k) match.

**Decline in Equity Values**

Over the year following the peak of the stock market (October 9, 2007-October 9, 2008), all major stock indices plunged by about 40 percent.\(^3\) During this period, the value of equities in retirement accounts declined by almost $4.0 trillion (see Table 3). Individuals were sheltered from the immediate impact of the $1.7 trillion of losses in defined benefit plans. But they did experience a direct hit on the $2.0 trillion in losses that occurred in 401(k)s and IRAs.

As noted earlier, participants in 401(k) plans approaching retirement held about two-thirds of their balances in equities. As a result, the market value of assets in 401(k)s/IRAs tumbled by about 30 percent. The decline means that the median 401(k)/IRA holdings were $56,000 at the end of 2008 compared to the reported figure of $78,000 from the 2007 SCF (see Figure 12).

### Table 3. Equity Declines from October 9, 2007 to October 9, 2008 in Retirement Plans, Trillions of Dollars

<table>
<thead>
<tr>
<th>Type of Plan</th>
<th>10/9/2007</th>
<th>10/9/2008</th>
<th>Decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defined contribution</td>
<td>$4.7</td>
<td>$2.7</td>
<td>$2.0</td>
</tr>
<tr>
<td>IRAs</td>
<td>2.0</td>
<td>1.1</td>
<td>0.8</td>
</tr>
<tr>
<td>Private defined</td>
<td>2.6</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>Federal government(^a)</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Defined benefit</td>
<td>4.2</td>
<td>2.4</td>
<td>1.7</td>
</tr>
<tr>
<td>Private defined</td>
<td>1.8</td>
<td>1.0</td>
<td>0.7</td>
</tr>
<tr>
<td>State and local</td>
<td>2.4</td>
<td>1.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>8.8</td>
<td>5.1</td>
<td>3.7</td>
</tr>
</tbody>
</table>

\(^a\) The federal government holdings are those in the Thrift Savings Plan.

*Note: This figure varies slightly from that in Munnell and Muldoon (2008) due to changes in Flow of Funds’ estimates of equity holdings.*

*Source: Authors’ updates based on Munnell and Muldoon (2008); and U.S. Board of Governors of the Federal Reserve System (2008).*

### Employer Match

A second way the financial crisis has impacted 401(k) plans is through its effect on the real economy and employers’ inability to make matching payments. Although employers are not obligated to make contributions to 401(k) plans, the vast majority of participants – 91 percent – belong to plans that offer a match.\(^3\) The probability of a company match increases with plan size, but a match is fairly prevalent across the board. The most common employer match is 50 cents for each dollar contributed by the employee with the match ending when employee contributions equal 6 percent of earnings. The employer match encourages both participation in the plan and the level of employee contributions.\(^3\)

As the recession gained momentum in 2008 and companies came under severe earnings pressure, they began to announce suspensions of their 401(k) matches. This response mirrored what happened in the wake of the 2001 recession when about 15 large companies stopped matching employee contributions. Once again, the automobile companies led the way with Ford, General Motors, and Chrysler suspending the match for their salaried employees. But suspensions at Sears, FedEx, UPS, Sprint, and about forty-five other companies so far have affected large numbers of employees (see Table 4 on the next page and the CRR website for a complete list to date).
The question is the impact that these suspensions will have on participation and contributions. Inertia suggests that the vast majority of people enrolled in 401(k) plans will not leave. Fewer new employees might join, but with little hiring the impact is likely to be small. On the contribution side, inertia is also likely to result in unchanged employee contributions. Thus, employees, without the employer match, will see less going into their 401(k) accounts.

The seriousness of the current suspensions of employer matches will depend on whether more firms follow suit and whether the suspensions are a temporary or permanent phenomenon. If, as was the case in the wake of the 2001 recession, the suspensions are temporary, the effects will probably be modest and must be compared to the impact of other ways the firm could have responded. For example, cutting the employer match may have been an alternative to cutting payrolls by 3 percent. On the other hand, if these suspensions lead to a permanent decline of the employer match, significantly fewer people will participate – especially among the lower paid – and many of those affected will end up with an inadequate retirement income.

**Loans and Hardship Withdrawals**

In most 401(k) plans, participants can borrow up to 50 percent of their balances (up to a maximum of $50,000), and they can take money out (with a penalty before age 59 1/2) in the event of a hardship. Reasons for hardship withdrawals include purchasing a primary residence, educational expenses, medical expenses, or general financial pressures. The percent of participants with loans has remained remarkably constant over time at about 15-20 percent (see Figure 13).³⁵

---

**Table 4. Sample of Companies Suspending Employer Match, 2008-2009**

<table>
<thead>
<tr>
<th>Company</th>
<th>Announcement Date</th>
<th>Employees affected</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sears Holding Corp.</td>
<td>December 2008</td>
<td>305,081</td>
<td>Suspended February 2009; will review when financial performance improves.</td>
</tr>
<tr>
<td>FedEx</td>
<td>December 2008</td>
<td>115,330</td>
<td>Suspended February 2009; will review.</td>
</tr>
<tr>
<td>UPS</td>
<td>February 2009</td>
<td>100,368</td>
<td>Suspended February 2009; will review.</td>
</tr>
<tr>
<td>Sprint</td>
<td>January 2009</td>
<td>79,321</td>
<td>Suspended for a minimum of one year starting March 2009; will review.</td>
</tr>
<tr>
<td>Chrysler LLC</td>
<td>February 2009</td>
<td>32,900</td>
<td>Suspended February 2009; will review.</td>
</tr>
<tr>
<td>General Motors</td>
<td>October 2008</td>
<td>32,000</td>
<td>Suspended November 2008; will review.</td>
</tr>
<tr>
<td>Motorola</td>
<td>December 2008</td>
<td>30,076</td>
<td>Suspended January 2009; will review.</td>
</tr>
<tr>
<td>Ford Motor Companies</td>
<td>November 2008</td>
<td>22,600</td>
<td>Suspended for 2009; no decision made about reinstatement.</td>
</tr>
</tbody>
</table>

*Source: Newspaper reports; conversations with companies; and Form 5500 filings.*

---

**Figure 13. Percentage of Defined Contribution Plan Participants with Loans, 2001-2007**

Note: Includes only participants in plans which offer loans.  
*Source: Vanguard (2002-2008).*
In contrast to loans, hardship withdrawals have increased somewhat. By the end of 2008, about 1.7 percent of participants had withdrawn funds because of financial pressure (see Figure 14). If the current recession continues for an extended period, many more individuals may be forced to use their retirement savings to cover current expenditures. Such a trend would further erode the retirement security of many employees who have already seen their 401(k) balances reduced substantially by the financial collapse.

**Conclusion**

The 2007 SCF suggests that 401(k) plans were starting to function better. With the spread of automatic enrollment, a slightly higher percentage of workers were joining the plans, and with the automatic default into qualified investments, more participants were diversified. Balances were up due to the passage of time, slightly higher participation rates, and less leakage from the system. Despite the improvement, the typical individual approaching retirement had only $78,000 in 401(k)/IRA holdings.

Then the financial markets collapsed, and the collapse spread to the real economy. Balances in 401(k) plans lost 30 percent of their value, reducing the median for those approaching retirement from $78,000 to $56,000. In addition, companies started cutting back on the employer match and hardship withdrawals, while still at low levels, ticked upward. These events occurred just as the baby boom is approaching retirement, with an increasing number reliant on 401(k)s as their only supplement to Social Security – a role for which 401(k)s were never intended.

The time may have come to consider returning 401(k) plans to their original position as a third tier on top of Social Security and employer-sponsored pensions. Given the demise of traditional employer pensions, such a rearrangement would require a new tier of retirement accounts. This additional protection would help those reliant solely on Social Security and those with 401(k) plans where – for one reason or another – balances end up being very modest.

**Figure 14. Percentage of Participants Taking a Hardship Withdrawal, 2003-2008**

Endnotes


2 For a useful discussion of the evolution of the economic crisis, see Taylor (2009).


5 The Revenue Act of 1978, which contained a provision that became section 401(k) of the Internal Revenue Code, went into effect on January 1, 1980. But employers did not begin to adopt 401(k) provisions until the regulations were issued in November 1981.

6 The salary at age 50 is about $46,000 for the median worker with a pension according to the 2007 SCF. The real rate of return on a portfolio invested half in equities and half in bonds is assumed to be 4.1 percent (after fees).

7 Madrian and Shea (2001); Choi, Laibson and Madrian (2004).

8 Even before the Pension Protection Act, policymakers had attempted to reduce the cashing out of small balances in 401(k) plans through changes in Department of Labor regulations.

9 The government changed the rules in 1998 to allow firms to require workers to “opt out” of a plan, instead of the traditional requirement to “opt in.”

10 Nessmith, Utkus, and Young (2007); Fidelity Investments (2007); Madrian and Shea (2001).

11 Choi et al. (2001).

12 One obstacle for employers was state laws that required employers to obtain an employee’s permission before making payroll deductions. The Pension Protection Act amended ERISA to pre-empt state laws that conflict with automatic enrollment provisions. To qualify for the safe harbor, the plan sponsor must enroll employees at a deferral rate of at least 3 percent of compensation, increase the employee’s deferral percentage by at least 1 percentage point annually up to 6 percent of compensation, and provide matching or non-elective contributions for the non-highly compensated of 100 percent on the first 1 percent of contribution and 50 percent on the next 5 percent for a total match of 3.5 percent.

13 The Profit Sharing/401(k) Council of America shows a higher percentage of plans with automatic enrollment than Fidelity Investments (2007) and Vanguard (2008), which report 17 percent and 15 percent respectively, because its survey contains several large corporations that were leaders in automatic enrollment. All three sources show an increasing trend in automatic enrollment over the past few years.


15 In addition to addressing the problem of low saving rates due to inertia, auto escalation also helps increase future saving among individuals who may find it difficult to save more out of their current incomes. For example, see Benartzi and Thaler (2004).

16 The SCF data portray a more favorable participation picture than Vanguard (2008), which shows 34 to 35 percent of eligible workers not participating in the plan over the period 2000-2007, and Fidelity Investments (2007), which shows 35 to 37 percent of eligible workers not participating from 2004-2006.

17 Some critics contend that the lack of participation is not a serious problem because many are covered by their employer’s defined benefit plan. In fact, the 2007 SCF shows that only 22 percent of non-participants are covered by a defined benefit plan, and the majority of these workers are high earners. This means that most low-income and younger workers who choose not to participate are without pension coverage.

18 The Economic Growth and Tax Relief Reconciliation Act of 2001 increased the contribution rate to $15,000 in 2006, with the limit indexed for inflation thereafter in $500 increments.

19 In 2007, total contributions to the plan (employee and employer) were limited to the lesser of 25 percent of compensation or $45,000.
Most analyses of contribution levels overlook the opportunity to make catch-up contributions, yet these contributions can be an important savings vehicle for plan participants over the age of 50. Excluding the catch-up contribution from the calculation and maintaining a maximum of $15,500 for all workers, the data show that 8.9%, rather than 7.7%, of all workers contribute the maximum.


Both Fidelity Investments (2007) and Vanguard (2008) show that, in the wake of the PPA, more participants are using target date funds, balanced funds, and other life-cycle options today than in the past.

The Vanguard data reported in Figure 8 are consistent with data from Fidelity Investments (2007) and VanDerhei et al. (2008). Both sources show similar levels and trends in ownership of company stock. In contrast, the Profit Sharing/401(k) Council of America (2008), reports that the percent of retirement assets invested in company stock still remains above 20 percent. The Profit Sharing/401(k) Council of America tends to focus on large companies where company stock ownership is more prevalent.


Fidelity Investments (2007) looks at different age groups, but finds a similar pattern.


One problem is that the rollover amounts are placed in money market funds or similar low risk/low return investments. Since most of those with low balances are probably young people, many, as a result of inertia, could pass up higher returns on these early accumulations for an extended period of time. Nevertheless, this change should reduce the extent to which people cash out.

The SCF combines lump-sum distributions from defined benefit and defined contribution plans. However, we assume that 90 percent of these distributions come from defined contribution plans because defined benefit lump-sum distributions only occur when the expected value of the benefit is less than $5,000.


Two recent studies show a higher percentage of people “cashing out.” Copeland (2009) analyzes the Survey of Income and Program Participation and finds that approximately 60 percent of those who receive a lump-sum payment cash out at least some of the distribution. Analyzing the same data, Purcell (2009) finds that 54 percent of those who received lump-sum distributions between 2000 and 2006 did not roll over the entire amount.

Note the difference between the amounts in Figure 11 and Table 2 arises because the former looks only at individuals with a 401(k) plan, while the latter calculates average wealth for households in the middle 10 percent of the sample of households both with and without a 401(k).

The Dow Jones Industrial Average fell 39 percent, the Standard and Poor's 42 percent and the broadest gauge of market activity – the Wilshire 5000 – 42 percent.

Matching contributions are a common feature of 401(k) plans because plan participation and contributions are voluntary. Workers must decide whether or not to participate and how much to contribute, which is very different from traditional pensions where eligible workers are covered automatically and the employer makes contributions on their behalf. Because the plan's tax benefits are especially valuable to high-paid employees with high marginal tax rates, the government was concerned that only high-paid employees would join. Thus, the Internal Revenue Code requires that 401(k) plans meet a special non-discrimination test to ensure that lower-paid as well as higher-paid workers join the plan. The employer's matching contribution is an important tool to ensure broad participation and ample contributions.

The presence of an employer match produces a large initial return on the employee's contribution and supplements the advantages of tax deferral. Results from statistical analyses that relate the participation decision to individual characteristics and plan design consistently show that the presence of an employer match makes it much more likely that employees will participate. On the contribution side, the rela-
tionship between the employer match and the level of employee contributions is theoretically ambiguous. The employee’s response to the employer match depends on whether the “income effect” or “substitution effect” dominates. Hence, the theoretical outcome is ambiguous and needs to be determined empirically. Munnell, Sundén, and Taylor (2003) looked at this issue using the 1998 SCF. They found that the presence of an employer match increases the contribution rate by almost one percentage point of earnings – a substantial effect given that the median contribution rate is 6 percent of earnings.

35 The Vanguard data are consistent with analysis from the SCF that shows, in 2001, 14 percent of participants in defined contribution plans offering loans had one or more. This percentage rose to almost 16 percent in 2004 before falling back to 14 percent in 2007. For participants with an outstanding loan in 2007, the mean balance was $8,571 according to Vanguard. According to the SCF, the mean balance was $6,607 and the median balance was $4,700.
References


Hewitt Associates. 2009. Personal communication with Catherine Brandt.


APPENDIX
Table A1. Workers with Pension Coverage by Type of Plan, 1983-2007

<table>
<thead>
<tr>
<th>Year</th>
<th>Defined Benefit only</th>
<th>Defined Contribution only</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>62%</td>
<td>12%</td>
<td>26%</td>
</tr>
<tr>
<td>1989</td>
<td>46</td>
<td>32</td>
<td>21%</td>
</tr>
<tr>
<td>1992</td>
<td>44</td>
<td>40</td>
<td>16%</td>
</tr>
<tr>
<td>1995</td>
<td>29</td>
<td>56</td>
<td>15%</td>
</tr>
<tr>
<td>1998</td>
<td>23</td>
<td>60</td>
<td>16%</td>
</tr>
<tr>
<td>2001</td>
<td>23</td>
<td>61</td>
<td>16%</td>
</tr>
<tr>
<td>2004</td>
<td>20</td>
<td>63</td>
<td>17%</td>
</tr>
<tr>
<td>2007</td>
<td>17</td>
<td>63</td>
<td>19%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations based on the 1983-2007 SCF.
About the Center
The Center for Retirement Research at Boston College was established in 1998 through a grant from the Social Security Administration. The Center’s mission is to produce first-class research and forge a strong link between the academic community and decision makers in the public and private sectors around an issue of critical importance to the nation’s future. To achieve this mission, the Center sponsors a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources. Since its inception, the Center has established a reputation as an authoritative source of information on all major aspects of the retirement income debate.

Affiliated Institutions
The Brookings Institution
Massachusetts Institute of Technology
Syracuse University
Urban Institute

Contact Information
Center for Retirement Research
Boston College
Hovey House
140 Commonwealth Avenue
Chestnut Hill, MA 02467-3808
Phone: (617) 552-1762
Fax: (617) 552-0191
E-mail: crr@bc.edu
Website: http://www.bc.edu/crr

© 2009, by Trustees of Boston College, Center for Retirement Research. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that the authors are identified and full credit, including copyright notice, is given to Trustees of Boston College, Center for Retirement Research.

The research reported herein was supported by the Social Security Administration. The findings and conclusions expressed are solely those of the authors and do not represent the views or policy of the SSA or the Center for Retirement Research at Boston College.