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401(k) PLANS IN 2010: AN UPDATE FROM THE SCF

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Introduction

The release of the Federal Reserve's 2010 *Survey of Consumer Finances* (SCF) is a great opportunity to assess how conflicting forces – the maturation of the system and the Pension Protection Act of 2006 on the one hand and the devastating effects of the 2008 financial collapse and Great Recession on the other hand – have affected workers' 401(k) accounts. The SCF is a triennial survey of a nationally representative sample of U.S. households, which collects detailed information on their assets, liabilities, and demographic characteristics. The 2001, 2004, and 2007 surveys showed some improvement in terms of 401(k) participation, contribution levels, investment choices, and cashing out. But median holdings of those approaching retirement remained low even at the peak of the market in 2007. This *brief* explores the extent to which the positive trends in 401(k) behavior have persisted in the weak economy and how balances have fared in the wake of the financial collapse.

The discussion proceeds as follows. The first section describes the importance of 401(k) plans in the retirement income system. The second section assesses the impact of the Pension Protection Act of 2006, which was designed to make 401(k)s easier and more automatic, on plan provisions and 401(k) outcomes. The third section documents the trend in individual decisions regarding 401(k)s. The fourth section reports on 401(k) balances. The fifth section describes emerging issues regarding the 401(k) system – namely, the risks associated with the decumulation of 401(k) plan assets in retirement and the migration of assets from 401(k)s to Individual Retirement Accounts (IRAs).

The final section concludes that the Pension Protection Act has had only a limited impact on plan provisions, financial pressures have reversed some of the positive trends in individual behavior, and 401(k)s have been battered by the financial markets. As a result, median 401(k)/IRA balances for households approaching retirement remain at $120,000, roughly the same as in 2007. Median balances for younger households have actually declined. The low balances are a serious problem because 401(k)s have become the only supplement to Social Security for most private sector workers.

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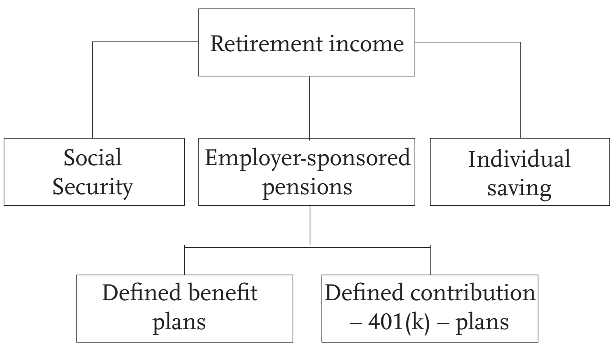
The Role of 401(k)s in the Retirement System

Before discussing 401(k) plans themselves, it is useful to highlight their role in the U.S. retirement system. Figure 1 presents the so-called "three-legged stool."

Figure 1. Overview of the U.S. Retirement Income System

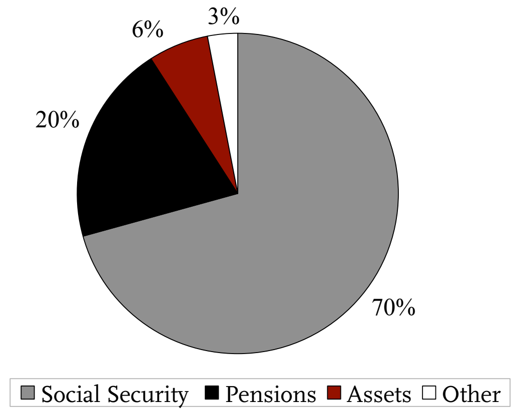


Source: Author's illustration.

Social Security, the mainstay, provides 70 percent of the retirement income for the typical household (see Figure 2). The program is more important for those with lower earnings, who rely almost entirely on Social Security benefits in retirement, and it is relatively less important for high earners, who get more of their retirement income from pensions and earnings on assets.

But Social Security will provide less in the future than it does today for three reasons. First, the Full Retirement Age – the age at which the worker is entitled to full benefits – is moving from 65 to 67. As a result, those who continue to retire at say, 62 or 65, will see a cut in their monthly benefit relative to pre-retirement earnings. Second, Medicare Part B and D premiums are scheduled to increase from 12.2 percent of the average Social Security benefit today to 14.9 percent in 2030.[1] These premiums are deducted before the check goes in the mail, so the net Social Security benefit will decline. Finally, more Social Security benefits will be taxed under the personal income tax since the thresholds above which benefits are taxable are not indexed to inflation or wage growth. In short, the first leg of the retirement income stool is getting relatively smaller.

Figure 2. Percent of Non-Earned Retirement Income of Those 65 and Older by Source, Middle Income Tercile, 2010



Source: Author's calculations based on U.S. Census Bureau, *Current Population Survey* (CPS), 2011.

The third leg of the stool is individual saving – saving over and above that done through the workplace. But, in fact, virtually all the saving undertaken by the working-age population occurs in pension plans. Data from the 2010 SCF show the typical household approaching retirement has only $18,000 of financial assets outside of retirement saving (see Table 1).[2]

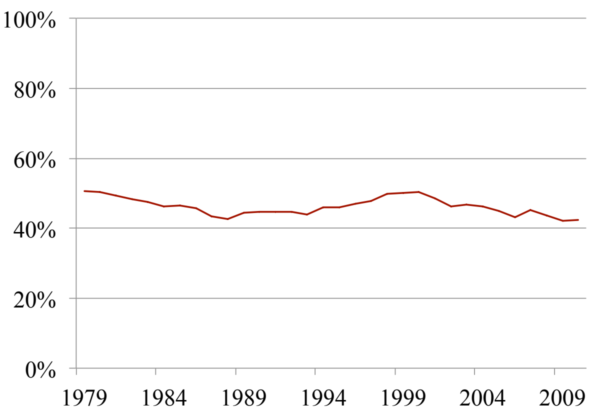
Table 1. Wealth of Typical Household with Head Age 55-64, 2010

Source of wealth	Amount in dollars	Percent of total
Financial assets	18,300	3 %
401(k)/IRAs[a]	42,000	7
Defined benefit	131,300	23
Social Security	287,200	49
Primary house	82,600	14
Business assets	7,600	1
Other non-financial assets	13,100	2
Total	582,100	100

[a] Includes thrift savings plans and other defined contribution plans.
Note: The amounts are for the mean of the middle 10 percent based on net worth.
Source: Author's calculations based on U.S. Board of Governors of the Federal Reserve System, *Survey of Consumer Finances* (SCF), 2010.

With a declining role for Social Security and virtually no individual saving outside of pensions, employer-sponsored retirement plans are very important. Unfortunately, less than half of private sector workers – at any moment in time – are participating in any form of employer-sponsored plan, and this share has remained relatively constant over the last 30 years (see Figure 3). The lack of universal coverage means that many move in and out of participating in a plan and a significant fraction will end up with nothing beyond Social Security.

Figure 3. Percent of Private-Sector Workers Aged 25-64 Participating in an Employer-Sponsored Pension, 1979-2010

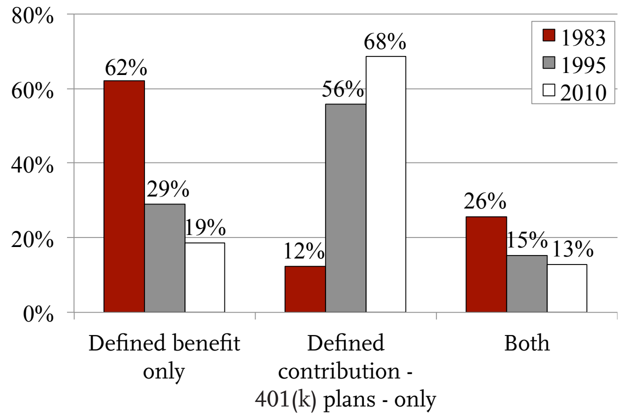


Sources: Author's calculations from 1980-2011 CPS.

For those lucky enough to work for an employer providing a pension, the nature of employer-sponsored plans has changed dramatically over the last 30 years. Whereas, in the early 1980s, most workers were covered by a defined benefit plan, today most workers have a 401(k) as their primary or only plan (see Figure 4). (See Table A1 in the Appendix for more detailed data on pension coverage).

When 401(k) plans began to spread rapidly in the 1980s, they were viewed mainly as supplements to employer-funded pension and profit-sharing plans. Since 401(k) participants were presumed to have their basic retirement income needs covered by an employer-funded plan and Social Security, they were given substantial discretion over 401(k) choices, including whether to participate, how much to contribute, how to invest, and when and in what form to withdraw

Figure 4. Workers with Pension Coverage By Type of Plan, 1983, 1995, and 2010



Sources: Author's calculations based on the 1983, 1995, and 2010 SCF.

the funds. Even though 401(k)s are now the primary plan for most workers, they still operate under the old rules. Thus, workers continue to have almost complete discretion over 401(k) choices.

In theory, workers should be able to accumulate substantial balances in 401(k)s, but it soon became evident that many failed to sign up for their 401(k) and many of those who did participate contributed much less than they could, failed to diversify, and cashed out balances when they changed jobs. 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. These steps culminated in the Pension Protection Act of 2006.

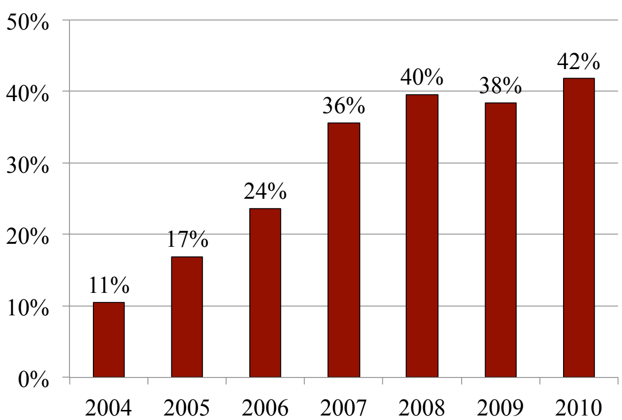
The Impact of the Pension Protection Act of 2006

The Pension Protection Act of 2006 (PPA) was designed to make 401(k) plans easier and more effective. Many of its provisions 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.[3] These provisions 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.[4] Studies show that this simple change in the default increases participation by as much as 41 percentage points.[5] Even after three or four years, the vast majority of those automatically enrolled were still participating.[6] The PPA 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.[7] As shown in Figure 5, the share of plans with auto-enrollment increased substantially in the wake of the PPA, but now appears to have stabilized at around 40 percent. And employers typically auto-enroll only new employees, so the effect on participation is very gradual. In short, auto-enrollment is not being applied as extensively as it could be.

Figure 5. Percent of Plans with Automatic Enrollment, 2004-2010



Sources: Plan Sponsor Council of America (2005-2011).

Sanctioned Increases in Default Contribution Rates

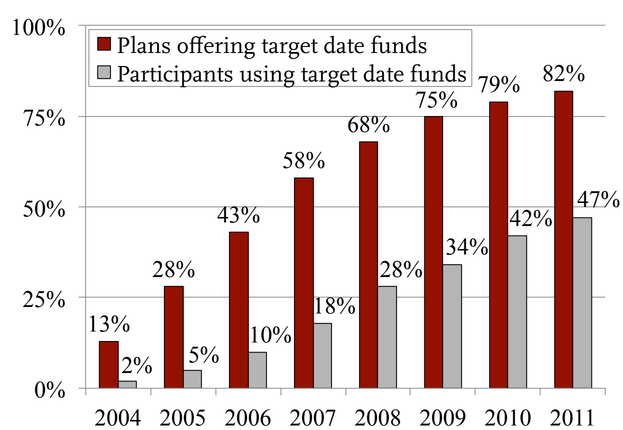
One problem with automatic enrollment is that the inertia that makes the approach effective for participation can lock people into low levels of contributions. That is, the typical default contribution rate is 3 percent,[8] and, left on their own, people would tend to stay at this level. To combat this problem, the PPA encouraged sponsors to increase the deferral percentage. To qualify for the safe harbor provision, sponsors must 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.[9] Unfortunately, only 34 percent of plans with auto enrollment have automatic escalation in the default contribution, which means that many of those who are enrolled at low contribution rates remain at those rates.[10]

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 PPA defined a list of "qualified default investment alternatives" that included target date funds, balanced funds, and managed accounts. Plans that place a participant's defaulted contributions in these investments avoid fiduciary liability; the liability shifts to the participant.

This part of the legislation has had a major impact, as Target Date Funds have replaced stable value and money market funds as the main default option. Target Date Funds start with a mix of stocks and bonds and gradually reduce the share of assets allocated to stocks as people approach retirement. In 2011, according to Vanguard, 82 percent of plan sponsors offered Target Date Funds (see Figure 6), and almost half of all participants used these funds.

Figure 6. Target Date Fund Adoption, 2004-2011



Source: Vanguard (2012).

With the passage of the Pension Protection Act, many thought that the problems associated with the accumulation phase in 401(k) plans had been addressed. While the PPA was certainly a step forward, auto-enrollment and particularly auto escalation in the default contribution rate have not become as widespread as many hoped.

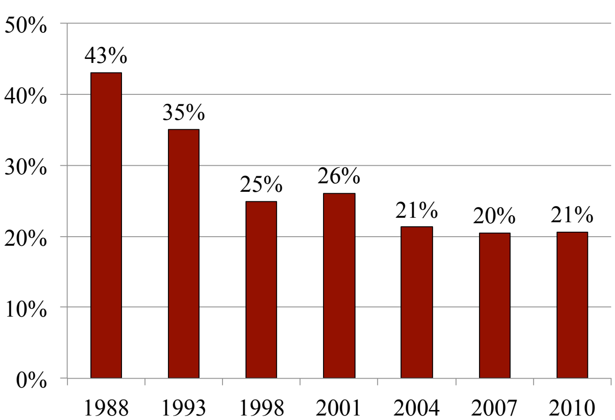
Progress Slows In Wake of Financial Crisis

For 401(k) plans to work well, individuals need to join them, contribute as much as possible, invest intelligently, and not remove money through cashing out, loans, or hardship withdrawals. Until 2007, 401(k) participants had been improving along each of these dimensions. The 2010 SCF suggests that economic pressures have caused some backsliding.

Participation

If 401(k) plans are ever to be a reasonable way to save for retirement, individuals with access to a plan need to participate. Levels of non-participation were extremely high in the early days of 401(k)s, but declined to about 25 percent in the late 1990s, then dropped to 20 percent in the first decade of this century. The 2010 SCF suggests that, despite the increase in auto-enrollment since the PPA, the non-participation rate ticked up slightly to 21 percent (see Figure 7).[11]

Figure 7. Percent of Eligible Workers Not Participating in 401(k) Plans, 1988-2010



Sources: U.S. Bureau of Labor Statistics (2003); and author's calculations based on the 1998-2010 SCF.

Not surprisingly, low-income and younger workers are much less likely to participate than their older and higher-paid counterparts (see Table 2). Unfortunately, delay reduces the likelihood that these workers will be adequately prepared for retirement.[12]

Table 2. Participation of Eligible Workers in 401(k) Plans by Income and Age, 2010

Age	Income (thousands of $)			
	All	<20	20-60	>60
20-29	60%	20%	60 %	69%
30-39	79	52	77	82
40-49	84	57	78	90
50-59	84	63	81	88
60-64	87	*	80	92

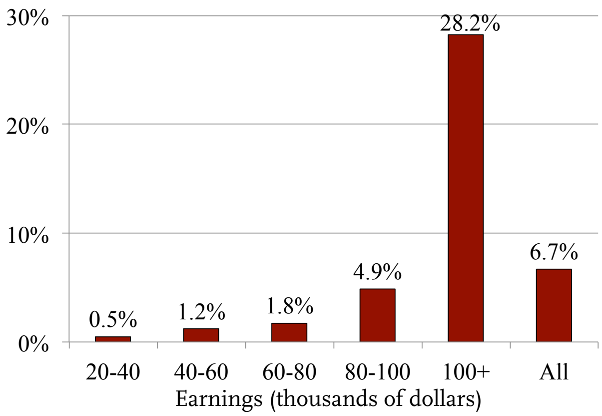
* Fewer than 100 observations.
Source: Author's calculations based on the 2010 SCF.

Contributions

In 2010, most employees were entitled to contribute $16,500 on a tax-deductible basis to their 401(k) plan. Workers approaching retirement could contribute another $5,500 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 $25,000 could contribute $16,500. Defining the maximum as the lower of $16,500 ($22,000 if over 50) or 25 percent of salary, the 2010 SCF data indicate that only 6.7 percent contributed the most they could to their 401(k) plans – a slight decline from 7.7 percent in 2007. Not surprisingly, maximum contributions are closely related to income. Only about 1 percent of those earning $40,000-$60,000 contribute the maximum compared to 28 percent for those earning $100,000 or more (see Figure 8 on the next page).

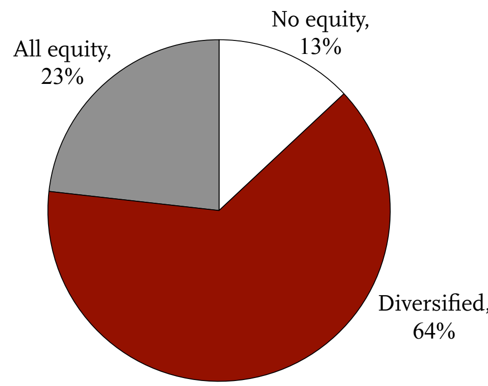
It would also be nice to know the percent of participants who contribute enough to qualify for the fall employer match. Those who do not are essentially leaving money on the table. The SCF asks whether the employer contributes and the nature of the contribution, but the responses to the sequence of questions make it difficult to determine whether the participant maximizes the match. A study by Hewitt Associates finds that the vast majority (72 percent) of 401(k) participants in 2009 contributed enough to maximize their employer match.[13]

Figure 8. Percent of Participants Making Maximum Contributions, by Earnings, 2010



Source: Author's calculations based on the 2010 SCF.

Figure 9. 401(k) Participants by Equity Holdings, 2010



Source: Author's calculations based on the 2010 SCF.

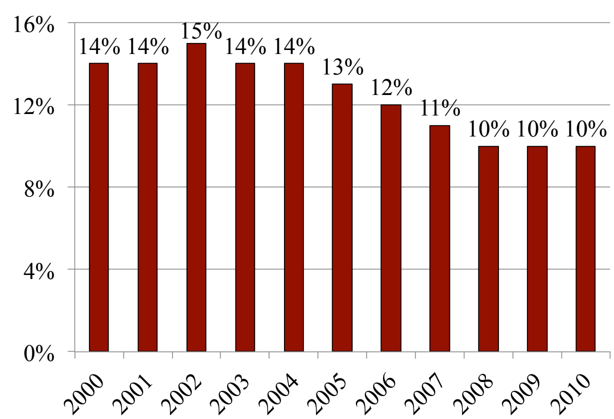
Investment Decisions

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 investing in securities with differing risk characteristics, an individual 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 2010 SCF, 13 percent of participants held no equity and 23 percent held all their balances in equity; 64 percent held a mix of stocks, bonds, and other assets (see Figure 9). The percent diversified increased from 2007 when the shares were 14 percent, 28 percent and 58 percent respectively. Two explanations are possible: 1) People moved away from all-stock portfolios in the wake of the 2008 stock market crash; and/or 2) The increased use of Target Date Funds produced more diversified holdings.[14]

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 2010, 10 percent of all assets were invested in company stock (see Figure 10). The

Figure 10. Company Stock as a Percentage of 401(k) Assets, 2000-2010

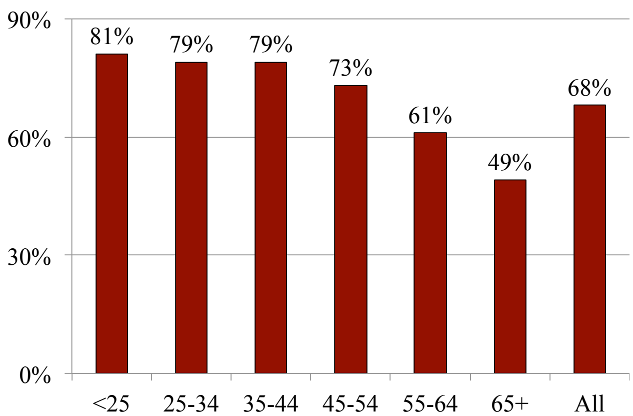


Sources: Vanguard (2010, 2011).

relatively low levels of company stock probably reflect both increased awareness of the risks associated with this type of investment and the growth of Target Date Funds, which typically exclude company stock.

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 11). 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.[15] However, the increased use of Target Date Funds should improve rebalancing in both instances.

Figure 11. Percent of 401(k) Balances in Equities by Age, 2010



Source: Vanguard (2011).

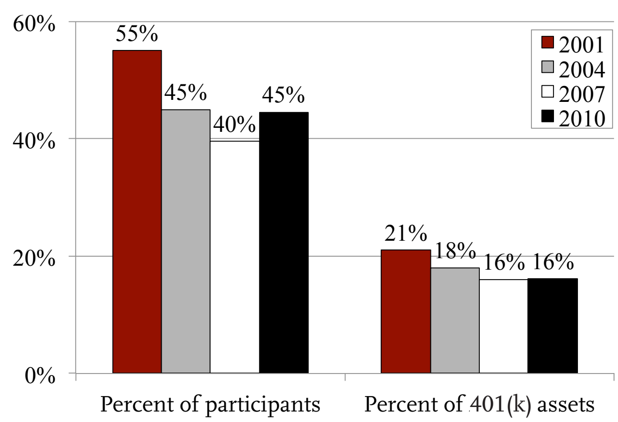
Keeping Money in the Plan

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. Cashing 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 substantially reduce ultimate accumulations. Loans and hardship withdrawals have the same effect.

Cashing out. To discourage cashing out, the Federal Government has imposed a 10-percent penalty in addition to regular income taxes on any withdrawal before age 59½. Employers are also required to withhold 20 percent of any distributions paid directly to recipients. To specifically discourage the cashing out of small amounts, employers must roll over any 401(k) plan with a value between $1,000 and $5,000 into an IRA – unless the employee elects otherwise.

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.[16] Figure 12 reports on the approximately 70 percent of 401(k) participants who took lump-sum distributions when switching jobs and ignores the 30 percent who kept assets in their former employer's plan.[17] The share of participants who received a lump sum and did not roll the money over into another tax-deferred savings vehicle had been declining up until the financial crisis. In 2010, however, the decline reversed itself, and 45 percent cashed out.[18] 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. But early cashing out seriously undermines the ability of participants to accumulate substantial assets for retirement.

Figure 12. Percent of Participants with Lump-Sum Distributions Who "Cash Out" and Percent of Distributed Assets "Cashed Out," 2001-2010



Note: This figure only looks at those who took a lump-sum distribution and does not factor in those who left assets in their former employer's retirement plan.
Sources: Author's calculations based on the 2001-2010 SCF.

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 59½) in the event of a hardship. Reasons for hardship withdrawals include purchasing a primary residence, educational expenses, medical expenses, or general financial pressures.

In terms of loans, the SCF shows an increase in the percent of individuals borrowing in 2010 compared to earlier years (see Table 3). While the median amount borrowed has remained steady, the average shot way up to $13,900 in 2010. The impact of a loan on retirement security depends on how the money is used. If the borrower buys other assets or consolidates debt, his net worth remains unchanged; the only loss is the interest foregone on the loan amount. On the other hand, if the loan is used for consumption, the effect on retirement saving can be more serious.[19]

Table 3. Trends in 401(k) Plan Borrowing, 2001-2010

	2001	2004	2007	2010
Percent with loan	13	14	13	16
Average balance	$6,495	$7,912	$6,607	$13,923
Median balance	$3,000	$4,000	$4,700	$4,000

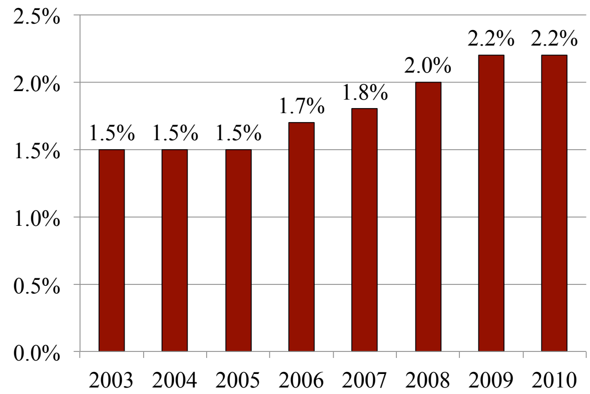
Sources: Author's calculations based on the 2001-2010 SCF.

Hardship withdrawals also have increased. In 2010, about 2.2 percent of participants withdrew funds because of financial pressure (see Figure 13). While the level remains relatively low, the share of participants forced to borrow has risen noticeably since the financial crisis. To the extent that different individuals are taking withdrawals each year, many participants could be affected over a decade. If this trend continues, it will further erode the retirement security of many employees who saw their 401(k) balances reduced substantially by the financial collapse.

Accumulations in 401(k) Plans

A typical worker with pre-retirement earnings of about $65,000 who steadily contributed 6 percent to a retirement plan with an employer match of 3 percent should theoretically have about $363,000 available as he approaches retirement. This worker should like-

Figure 13. Percentage of Participants Taking Hardship Withdrawals, 2003-2010



Sources: Vanguard (2012); and author's estimates using Vanguard Center for Retirement Research (2009).

wise have about $183,000 at age 45-54 and $69,000 by age 35-44. Households, who often have more than one earner and sometimes have more than one retirement plan, would have even higher projected balances than individuals. The SCF data reveal, however, that the cumulative impact of participant missteps and of the financial crisis and the ensuing recession have kept 401(k) accumulations way below these projected numbers.

According to the SCF, in 2010, the typical household approaching retirement had only $120,000 in 401(k)/IRA balances.[20] (Note that IRAs are included because these balances consist mostly of rollovers from 401(k) plans.) As shown in Figure 14 on the next page, this amount is virtually unchanged from 2007 despite the likelihood that members of the new cohort of those 55-64 have spent more of their working life covered by a 401(k) plan. Households 45-54 actually had lower balances in 2010 than in 2007 – $70,000 versus $75,000, and younger households held only $35,000 in 2010 compared to $44,000 in 2007. These numbers are not adjusted for inflation. With prices rising more than 5 percent between the 2007 and 2010 SCF, balances have fared even worse in real terms. And all these reported amounts for households fall well below the simulated balances for individuals described above.

The 401(k)/IRA balances for those households approaching retirement will produce only a modest supplement to Social Security. If a couple purchases a joint-and-survivor annuity, they will receive $575 per month.[21] This $575 is likely to be the only source of additional income, because, as discussed earlier, the typical household holds virtually no financial assets outside of its 401(k) plan.

Figure 14. Median 401(k)/IRA Accumulations of Households with 401(k) Plans by Age Group, 2007 and 2010

Note: Sample excludes households who have only an IRA.
Sources: Author's calculations from the 2007 and 2010 SCF.

To provide an idea of how the SCF household 401(k)/IRA data relate to 401(k) balances alone, it is useful to look at data from the SCF and Vanguard.[22] The numbers from the two sources look remarkably consistent (see Table 4) and offer a couple of useful insights. First, the 401(k) balances alone are considerably smaller than the combined 401(k)/IRA balances reported above. The difference is minimal for younger households, who have not had occasion to roll over money to an IRA, and then increases sharply by age group to the point where 401(k) balances are only half of the combined 401(k)/IRA holdings for those approaching retirement ($63,000 versus $120,000). Second, and most important, the 401(k) balances, like the combined amounts reported above, show virtually no change between 2007 and 2010.

Emerging Issues

Up to now, the discussion has focused on the accumulation phase of 401(k) plans. But the first cohort dependent on 401(k)s is about to retire and faces an enormous challenge in deciding how to draw down its retirement assets. Moreover, the discussion has focused on 401(k)s, whereas the bulk of 401(k) money has now been rolled over into IRAs.

Decumulation

As discussed above, 401(k) plans shift most of the responsibility for retirement planning from employers to employees. Employees have to decide whether or not to join the plan, how much to contribute, how to invest funds, and whether to roll over lump-sum distributions into another retirement plan when changing jobs.

All these decisions are relatively easy, however, compared to figuring out what to do with 401(k) balances at retirement. Unlike defined benefit plans, which provide participants with steady benefits for as long as they live, 401(k) plans generally pay out lump sums. Lump-sum payments mean that retirees have to decide how much to withdraw each year. They face the risk of either spending too quickly and outliving their resources or spending too conservatively and depriving themselves of necessities. These risks could be eliminated through the purchase of annuities, but the individual annuity market in the United States is tiny. Therefore, individuals are on their own, and no one really knows what they will do.

Table 4. Median 401(k) Balances from SCF and Vanguard, 2007 and 2010

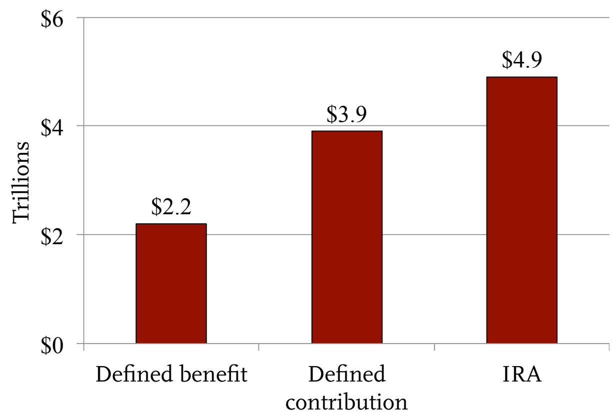
Age	2007			2010		
	SCF		Vanguard	SCF		Vanguard
	Household	Individual	(Individual)	Household	Individual	(Individual)
35-44	30,000	25,000	23,000	30,000	26,000	23,500
45-54	55,000	45,000	44,000	53,000	48,000	43,800
55-64	78,000	60,000	60,750	63,000	54,000	61,850

Sources: Vanguard (2008 and 2011); and author's calculations from the 2007 and 2010 SCF.

Individual Retirement Accounts

The other major issue is the rollover of 401(k) accumulations into IRAs. At this point, IRAs hold more assets than 401(k)s (see Figure 15).

Figure 15. Total U.S. Private Retirement Assets, by Type of Plan, 2011



Source: U.S. Board of Governors of the Federal Reserve System, *Flow of Funds Accounts* (2012).

Two concerns arise with regard to the migration of 401(k) balances to IRAs. First, people are moving from a protected world to an unprotected one. The Department of Labor is requiring 401(k) plan sponsors to disclose fees associated with various investment options in an understandable format beginning this year. No such disclosure is required of IRAs, so individuals may be moving to an environment where they pay much higher fees. In addition, the 401(k) plan sponsor must act as a fiduciary, putting the welfare of the participant first. No such fiduciary standards currently apply to IRAs, although the Department of Labor is considering such an expansion.

The second concern pertains to reform. Policy changes focused on 401(k) plans will have only a limited impact. For example, one option to address the decumulation challenge discussed above is to establish a default whereby some portion of 401(k) balances is automatically annuitized. As in all defaults, those who want a lump sum could opt out. This kind of change, however, will have little impact in a world where more than half the assets are in IRAs, and more could move if people did not like the auto-annuitization provision. In short, it no longer makes sense to think of policy changes that affect only 401(k)s.

Conclusion

The 2010 SCF suggests that whereas the 401(k) system was starting to function better, progress has slowed and even reversed in the wake of the financial crisis and ensuing recession. Despite the increase in auto-enrollment due to the Pension Protection Act of 2006, the percent of eligible employees not participating ticked up. At the same time, contributions slipped and leakages through cash outs and hardship withdrawals increased.

Combine these trends with financial turmoil and a weak economy, and it is not surprising that median 401(k)/IRA balances have changed little since 2007, despite the likelihood that members of the new cohorts have spent more of their working life covered by a 401(k) plan. The typical household approaching retirement had only $120,000 in 401(k)/IRA holdings. Assuming that the household purchases a joint-and-survivor annuity, its monthly income amounts to only $575. Many participants are likely to be surprised – and disappointed – when they find out how little their 401(k) plans provide.

The time may have come to consider returning 401(k) plans to their original position as a supplement 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 be helpful to those reliant solely on Social Security and to those with 401(k) plans where – for one reason or another – balances end up being very modest.

Endnotes

1 Centers for Medicare & Medicaid Services (2011).

2 Note the difference between the $120,000 in 401(k)/IRA balances mentioned in the introduction and the $42,000 reported in Table 1. This difference arises because the former looks only at households with a 401(k) plan, while the latter calculates average wealth for households in the middle 10 percent of the sample, some of whom have a 401(k) and some of whom do not.

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

4 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."

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

6 Choi, et al. (2001).

7 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 the Employee Retirement Income Security Act of 1974 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.

8 Plan Sponsor Council of America (2011).

9 In addition to addressing the problem of low saving rates due to inertia, auto escalation 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).

10 Plan Sponsor Council of America (2011).

11 Vanguard (2012) shows a 4-percentage-point decline in non-participation rates between 2007 and 2010, from 32 percent to 28 percent. Fidelity Investments also shows a decline during this period, from 36 percent to 34 percent (see Miller 2011). However, the overall level of non-participation in both the Vanguard and Fidelity data is consistently higher than in the SCF data.

12 See Munnell, Webb, and Golub-Sass (2011) for the impact of early saving.

13 Hewitt Associates (2010).

14 Interestingly, participants do not always use Target Date Funds as anticipated – that is, putting 100 percent of their assets in a single fund. In fact, only 24 percent of participants are wholly invested in a single target date fund. Some allocate their money among target date funds, and some combine a target date fund with direct holdings of stocks and bonds. See Vanguard (2012); and Agnew et al. (2011).

15 Ameriks and Zeldes (2004).

16 The SCF combines lump-sum distributions from defined benefit and defined contribution plans. However, the analysis assumes that 90 percent of these distributions come from defined contribution plans.

17 Hewitt Associates (2009); and Hurd and Panis (2006).

18 Two earlier 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.

19 The Vanguard data are consistent with the pattern from the SCF. However, the Vanguard amounts outstanding remained relatively constant – $8,571 in 2007 vs. $8,983 in 2010 (Vanguard 2007, 2011).

20 This figure differs from the value of "retirement accounts" reported in Bricker et al. (2012) because it pertains to only those households that have a 401(k) plan; those with only an IRA are excluded.

21 This number comes from ImmediateAnnuity.com and assumes the husband is 64 and the wife is 62, the average retirement age for men and women, respectively.

22 Data by age were not publicly available from Fidelity, but average (as opposed to median) balances for 2007 and 2010 suggest the numbers from the two companies would be roughly comparable. Fidelity's average balances for 2007 and 2010 were $69,200 and $71,500 respectively (see *U.S. News and World Report* 2011). Vanguard's average balances were $78,400 and $79,100 (see Vanguard 2012).

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APPENDIX

Table A1. Pension Coverage of All Workers, by Type of Plan, 1989-2010

Table 1. All Workers

Type of pension	1989	1992	1995	1998	2001	2004	2007	2010
Defined contribution only	15%	19%	26%	29%	29%	29%	30%	31%
Defined benefit only	22	21	13	11	11	9	8	8
Both	10	8	7	8	8	8	9	6
None	53	53	54	53	52	54	53	55

Table 2. Aged 30-39

Type of pension	1989	1992	1995	1998	2001	2004	2007	2010
Defined contribution only	17%	21%	30%	32%	33%	31%	32%	34%
Defined benefit only	21	21	12	9	10	9	7	8
Both	11	7	6	8	8	6	7	4
None	51	52	52	50	49	54	54	53

Table 3. Aged 40-49

Type of pension	1989	1992	1995	1998	2001	2004	2007	2010
Defined contribution only	15%	19%	29%	30%	34%	33%	32%	35%
Defined benefit only	28	23	17	14	13	10	10	8
Both	13	11	10	10	10	10	11	7
None	44	47	44	47	44	47	47	50

Table 4. Aged 50-59

Type of pension	1989	1992	1995	1998	2001	2004	2007	2010
Defined contribution only	16%	19%	23%	30%	27%	32%	33%	34%
Defined benefit only	28	29	20	15	18	13	11	12
Both	15	12	9	11	11	11	15	9
None	41	41	48	45	45	44	41	46

Source: Author's estimates based on the 1989-2010 SCF.

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