# RUNNING 401(k): KEEPING PACE FROM ACCUMULATION TO DISTRIBUTION*

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## INTRODUCTION

OVER THE PAST TWO DECADES THERE HAS BEEN a shift in private-sector pensions away from defined-benefit (DB) plans toward defined-contribution (DC) plans,[1] to the point where, today, more assets are held by 401(k) plans than are held by private-sector DB plans. Indeed, at year-end 2006, 401(k) plans held $2.7 trillion in assets, compared with $2.3 trillion in private-sector DB plan assets (Figure 1). About 50 million workers were active participants in 401(k) plans in 2006,[2] compared with about 20 million active participants in private-sector DB plans.[3] Individual retirement accounts (IRAs) represent more than a quarter of the $16.4 trillion in total retirement assets at year-end 2006. Many of these assets were rolled over from the employer-sponsored plans (both DB and DC). Nearly 4 out of 10 U.S. households, or 42.2 million, owned IRAs as of mid-2006.[4]

As the focus of private-sector employer-sponsored retirement planning has shifted to this account-based approach, where benefits accrue more evenly and balances are portable, research has increasingly focused on analyzing the retirement savings process. This shift in the composition of retirement accumulations toward individual accounts raises (at least) four questions: (1) Are people aware of the responsibility to save for retirement? (2) How well poised for retirement are current pre-retirees compared to previous generations of pre-retirees? (3) How are workers managing in this increasingly account-based environment? and (4) How are retirees managing these accounts in retirement? This paper draws from a variety of data sources to address these questions.

## SAVING FOR RETIREMENT, AN IMPORTANT FINANCIAL GOAL

The Survey of Consumer Finances (SCF), a household survey conducted triennially by the Board of Governors of the Federal Reserve System,[5] is used to explore the first question, whether people are aware of the responsibility to save for retirement. Households increasingly indicate saving for retirement is their "most important" savings goal. According to the SCF, the percent of all households indicating saving for retirement is their "most important" goal increased from about 19 percent in 1989 to nearly 35 percent in 2004 (Figure 2).[6]

The importance of the goal of saving for retirement varies by age, as one would expect. In 2004, 17 percent of households whose head was younger than 35 years old indicated that saving for retirement was their most important savings goal, compared with 55 percent of households age 55 to 64 and 31 percent of households age 65 to 74 (Figure 2). Across all age groups, there tends to be increases in the percent of households indicating saving for retirement is their "most important" savings goal since 1989.

Households who indicate that saving for retirement is their "most important" savings goal are more likely to own tax-qualified retirement assets. In 2004, 65 percent of households saying retirement saving was "most important" have retirement assets, compared with 41 percent of households who did not indicate that retirement was their "most important" goal for saving (Figure 2). Generally, the retirement-saving-focused households have higher balances in their tax-qualified retirement assets—a median of $60,000 in 2004—compared with the other households (a median of $25,000 in retirement accounts).

## RETIREMENT ACCOUNTS ON PRE-RETIREES' BALANCE SHEETS

The SCF is also well suited to address the second question posed as to how well poised for retirement are current pre-retirees compared to previous generations of pre-retirees. Balance sheet information for households age 55 to 64, drawn from the SCF, indicates an upward trend in the percentage of pre-retiree households who hold retirement account assets. Indeed, in 2004, 63 percent of pre-retiree households have retirement account accumulations as compared with less than half of the same age group in 1989 (Figure 3). The median amount held

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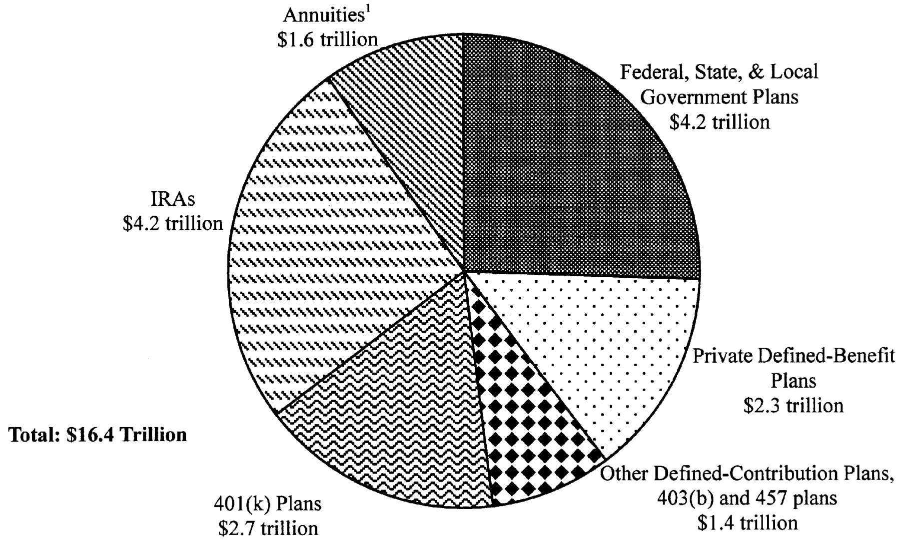
*Figure 1:* **U.S. Retirement Saving Has Many Components** *(assets at year-end 2006)*




[1]Annuities include all fixed and variable annuities at life insurance companies less annuities held in IRAs, 403(b) plans, 457 plans, and private pension funds (including 401(k) plans).

Source: Investment Company Institute; Federal Reserve Board; National Association of Government Defined Contribution Administrators; American Council of Life Insurers; and Internal Revenue Service, Statistics of Income Division (See Investment Company Institute (2007)).

in retirement accounts by these households has also increased, rising to $83,000 in 2004 compared with $35,200 in 1989 (in real 2004 dollars).[7]

It is difficult to answer the question of the preparedness of any given household for retirement without knowing the risks and expenses the household faces.[8] An ICI (2000b) survey of households who had retired with a DC plan account between 1995 and 2000 found that 34 percent of these recently retired households were "very concerned" about paying for health care needs and another 39 percent were "somewhat concerned" (Figure 4). Maintaining a comfortable standard of living in retirement was the second largest area of concern among retirees, with 28 percent "very concerned" and 41 percent "somewhat concerned."

## TRENDS IN 401(k) PLAN ACCUMULATION ACTIVITY

### A Look at the Past

The trends in 401(k) plan accumulation activity can shed light on how workers are managing in this increasingly account-based environment. There are several positive trends in place in this arena: (1) rates of offering of 401(k) plans and participation once offered are rising, (2) automatic enrollment is beginning to catch on, (3) investment options in 401(k) plans cater to the full range of investor know-how and engagement, (4) loan availability generally increases participation and contributions, but most participants haven't borrowed from their 401(k) accounts; and (5) the bulk of 401(k) assets are rolled over at retirement.[9]

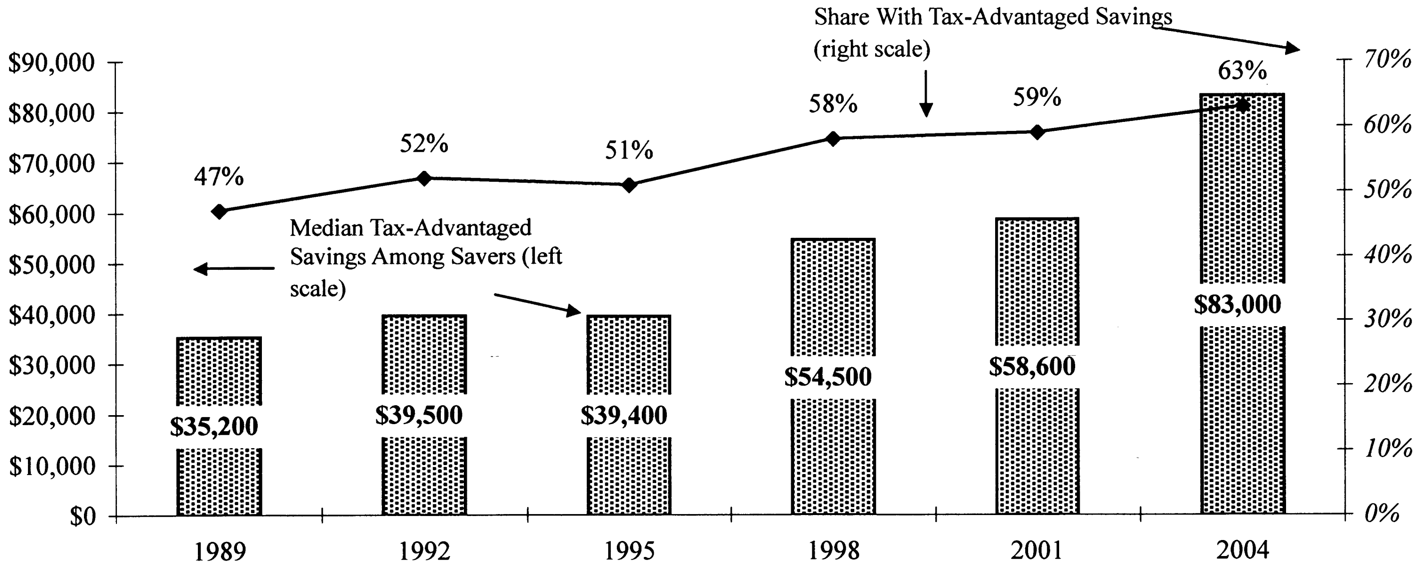
There is a rising trend in the offering and uptake of 401(k) plans. Current Population Survey (CPS) data[10] indicate that about half of workers in 2003 worked for employers sponsoring 401(k)-type salary reduction plans, compared with 37 percent a decade earlier and only 8 percent in 1983. The participation rate among workers conditional on working for an employer that sponsors a plan also has risen dramatically, to 70 percent in 2003 compared with 38 percent in 1983. Poterba, Venti, and Wise (2007) analyze Survey of Income and Program Participation (SIPP) data to explore trends

*Figure 2:* **Rising Trend in Households Saving for Retirement** *(percent of households)*

| | 1989 | | 1992 | | 1995 | | 1998 | | 2001 | | 2004 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| All Households | | | | | | | | | | | | |
| Percent Saying Retirement Most Important | 18.7% | 81.3% | 19.4% | 80.6% | 23.7% | 76.3% | 33.0% | 67.0% | 32.1% | 67.9% | 34.7% | 65.3% |
| Percent With Retirement Assets | 61.6% | 31.4% | 62.4% | 34.2% | 67.8% | 38.1% | 68.4% | 39.2% | 70.2% | 43.7% | 65.3% | 41.4% |
| Median Retirement Assets[1] | $24,900 | $13,200 | $32,900 | $13,200 | $34,500 | $16,000 | $40,600 | $19,700 | $47,900 | $21,300 | $60,000 | $25,000 |
| Age of Head of Household (years) | | | | | | | | | | | | |
| Less than 35 | | | | | | | | | | | | |
| Percent Saying Retirement Most Important | 5.4% | 94.6% | 7.2% | 92.8% | 10.6% | 89.4% | 21.6% | 78.4% | 18.9% | 81.1% | 17.4% | 82.6% |
| Percent With Retirement Assets | 59.4% | 25.2% | 47.9% | 30.1% | 70.0% | 37.3% | 63.9% | 33.2% | 72.9% | 38.6% | 64.2% | 35.1% |
| Median Retirement Assets[1] | $7,300 | $5,900 | $10,900 | $5,300 | $15,100 | $6,500 | $15,100 | $5,200 | $17,000 | $4,800 | $16,000 | $9,000 |
| 35 to 44 | | | | | | | | | | | | |
| Percent Saying Retirement Most Important | 15.7% | 84.3% | 15.1% | 84.9% | 22.6% | 77.4% | 33.7% | 66.3% | 32.7% | 67.3% | 31.6% | 68.4% |
| Percent With Retirement Assets | 70.0% | 45.6% | 72.1% | 45.7% | 76.1% | 48.0% | 74.7% | 51.9% | 73.1% | 55.6% | 69.3% | 49.7% |
| Median Retirement Assets[1] | $17,600 | $11,700 | $20,800 | $10,500 | $25,400 | $12,400 | $32,500 | $20,900 | $33,300 | $28,800 | $35,000 | $22,000 |
| 45 to 54 | | | | | | | | | | | | |
| Percent Saying Retirement Most Important | 29.2% | 70.8% | 24.5% | 75.5% | 33.8% | 66.2% | 43.5% | 56.5% | 42.8% | 57.2% | 46.3% | 53.7% |
| Percent With Retirement Assets | 74.0% | 43.2% | 75.3% | 43.5% | 74.9% | 48.6% | 73.2% | 48.5% | 78.0% | 52.5% | 68.1% | 48.8% |
| Median Retirement Assets[1] | $29,300 | $22,000 | $44,800 | $27,900 | $49,200 | $24,600 | $52,200 | $29,000 | $69,200 | $34,100 | $75,000 | $36,000 |
| 55 to 64 | | | | | | | | | | | | |
| Percent Saying Retirement Most Important | 33.6% | 66.4% | 40.4% | 59.6% | 35.4% | 64.6% | 49.4% | 50.6% | 48.4% | 51.6% | 55.0% | 45.0% |
| Percent With Retirement Assets | 77.8% | 32.1% | 76.6% | 35.7% | 77.1% | 36.5% | 74.3% | 42.5% | 70.6% | 48.3% | 74.4% | 49.2% |
| Median Retirement Assets[1] | $35,200 | $29,300 | $42,200 | $32,900 | $53,400 | $25,900 | $59,700 | $39,400 | $70,900 | $28,200 | $90,000 | $60,000 |
| 65 to 74 | | | | | | | | | | | | |
| Percent Saying Retirement Most Important | 22.8% | 77.2% | 22.3% | 77.7% | 26.2% | 73.8% | 28.1% | 71.9% | 27.6% | 72.4% | 31.3% | 68.7% |
| Percent With Retirement Assets | 42.5% | 26.5% | 49.4% | 30.9% | 61.5% | 27.8% | 64.3% | 39.0% | 64.3% | 36.2% | 52.5% | 39.0% |
| Median Retirement Assets[1] | $22,000 | $23,500 | $31,600 | $21,100 | $36,900 | $30,800 | $81,200 | $31,300 | $85,200 | $55,400 | $100,000 | $69,000 |
| 75 and up | | | | | | | | | | | | |
| Percent Saying Retirement Most Important | 20.9% | 79.1% | 20.6% | 79.4% | 23.7% | 76.3% | 21.9% | 78.1% | 22.1% | 77.9% | 28.0% | 72.0% |
| Percent With Retirement Assets | 7.4% | 6.1% | 12.9% | 4.6% | 19.5% | 14.5% | 28.2% | 13.5% | 32.6% | 23.7% | 37.1% | 26.1% |
| Median Retirement Assets[1] | $13,200 | $26,400 | $36,900 | $15,800 | $32,000 | $25,900 | $40,600 | $34,800 | $45,800 | $49,000 | $23,000 | $35,700 |

[1]Median retirement assets among households with retirement assets. Retirement assets consist of IRAs, Keoghs, and account-type pension plans (such as 401(k), 403(b), 457 plans, and supplemental retirement annuities).
Source: Tabulation of 1989–2004 Federal Reserve Board Surveys of Consumer Finances.

*Figure 3:* **Pre-Retirees' Tax-Advantaged Savings** *(share of pre-retirees with tax-advantaged savings and median balance in 2004 dollars; households with a householder 55 to 64 years old (n varies by year), selected years)*




Note: Tax-advantaged savings include assets in IRAs and DC plan accounts.

Source: Tabulation of 1989–2004 Federal Reserve Board Survey of Consumer Finances.

*Figure 4:* **Issues of Concern in Retirement** *(percent of respondents)*

| | "Very Concerned" | "Somewhat Concerned" |
|---|---|---|
| Paying for Health Care Needs | 34% | 39% |
| Maintaining a Comfortable Standard of Living | 28% | 41% |
| Protecting Your Family from the Unexpected | 25% | 44% |
| Having the Value of Your Investments Eroded by Inflation | 21% | 47% |
| Managing Financially Should You Become Sick or Disabled | 19% | 47% |
| Paying Taxes | 15% | 31% |
| Outliving Your Money | 12% | 35% |
| Managing Financially Should You Lose Your Spouse or Partner | 10% | 26% |
| Leaving an Inheritance | 8% | 27% |

Source: Investment Company Institute (2000b).

in eligibility and participation by worker age. They find an increase in eligibility for 401(k) plans over time for families of a given age. In addition, the SIPP data show an increase in participation rates given eligibility, especially among younger age groups.

Employers use plan design—whether to have matching contributions, whether to allow loans, the number and which types of investment options, whether to implement automatic enrollment—to encourage employees to participate in the 401(k) plan.[11] For example, an employer match attracts many workers to contribute to the plan.[12] The Profit Sharing/401k Council of America (2003, 2004, 2005, and 2006) reports a rising trend in 401(k) plans adopting automatic enrollment. In 2002, only about 7 percent of 401(k) plans had implemented automatic enrollment, compared with 17 percent in 2005. Automatic enrollment increases participation, particularly among lower-income workers.[13] In addition, depending on the default contribution amount and default investment option, automatic enrollment can significantly increase projected accumulations at retirement.[14]

### A Look to the Future

After 25 years in existence, at year-end 2006, 401(k) plans had $2.7 trillion in assets. Individual participants hold a range of account values. Younger participants and those who have not been at their current jobs very long tend to have smaller account balances, while older and longer tenure workers tend to have larger account balances.[15] It is not possible to judge the ability of 401(k) plans to provide retirement income based on these average balances because even today's pre-retirees have not had access to 401(k) plans for a full career.[16] Thus, it is necessary to look to the future.

To explore what 401(k) accumulations might provide future retirees, the Employee Benefit Research Institute (EBRI)[17] and ICI developed a model to simulate future career paths for a group of 401(k) plan participants who were in their late twenties and early thirties in 2000. Holden and VanDerhei (2002) summarize the model, which uses 401(k) behaviors observed among current participants to project future saving activity for this group out to retirement at age 65 between 2030 and 2039. Because no one knows the future, many different projection scenarios were considered (e.g., varying participants' behaviors, rates of return assumptions, and 401(k) coverage assumption).[18] The "baseline case" (where a current 401(k) participant always has a job, always has the offer of a 401(k) plan, and experiences historical investment returns) finds significant replacement rates in retirement. More than half of these 401(k) participants were projected to replace more than half of their pre-retirement income using their 401(k) accumulations. Poterba, Venti, and Wise (2007) make projections of future 401(k) assets and find significant increases in real 401(k) accumulations.

## RETIREMENT ACCOUNT DISTRIBUTION ACTIVITY

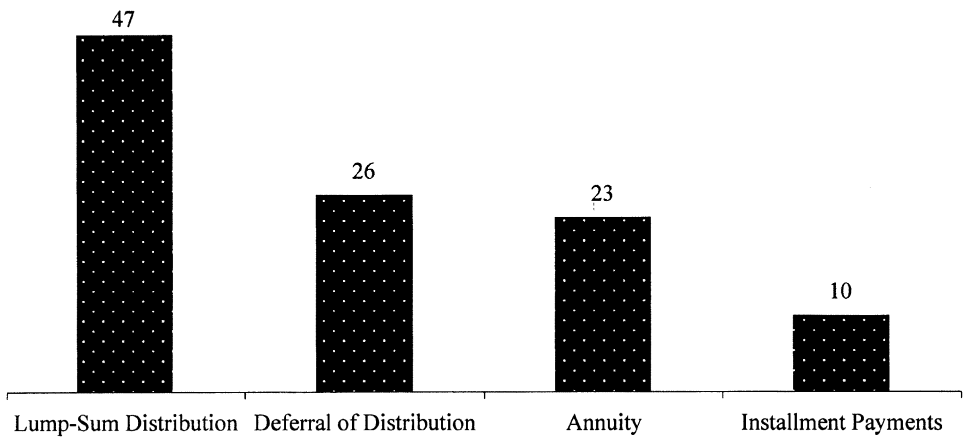
The final step in the retirement savings process is managing assets and income in retirement. The final question posed in the introduction is how well are retirees managing these accounts in retirement. Copeland (2005a) reports several positive trends with respect to cash-out and rollover behavior over time at job change and retirement. For example, among workers taking lump-sum distributions and making a decision with respect to the entire balance, there is a rising trend toward rolling over to another tax-qualified account (an IRA, another employer plan, an annuity).

Looking specifically at recent retirees with DC plan balances, ICI (2000a) finds that 47 percent of retirees chose to take a lump-sum distribution of some or all of their account balance, among those with choice (Figure 5). Twenty-six percent of respondents who had choice indicated they deferred distribution, that is, left some or all of the account balance in the plan. Twenty-three percent annuitized some or all of their DC plan balance and 10 percent chose installment payments from their DC accounts. In addition, 92 percent of those taking a lump-sum distribution reinvested some or all of the balance, typically in IRAs. Indeed, Brady and Holden (2006a) report that the SCF data indicate that about half of traditional IRA assets resulted from rollovers from employer-sponsored (DC and DB) plans.

It is instructive to take a look at IRA withdrawal activity to see what people have then done with their IRAs in retirement. Bershadker and Smith (2006) analyze taxpayer panel data tracked from 1987 to 1996 and find that 42 percent of taxpayers who were age 57 to 63 in 1987 tapped their IRAs "on-time," which they define as within two years of retirement. Another 45 percent of these taxpayers were "late tappers" waiting until later in retirement to withdraw from their IRAs and only 12 percent tapped their IRAs more than two years prior to retirement. Tabulating ICI household survey information, Holden, Ireland, Leonard-Chambers, and Bogdan (February 2005) find that the most commonly cited reason for taking a traditional IRA withdrawal is to meet required minimum distribution (RMD) rules, which generally dictate withdrawals from traditional IRAs once the taxpayer turns 70½.[19] Experience thus far suggests that retirees postpone taking IRA withdrawals as late as possible in retirement.

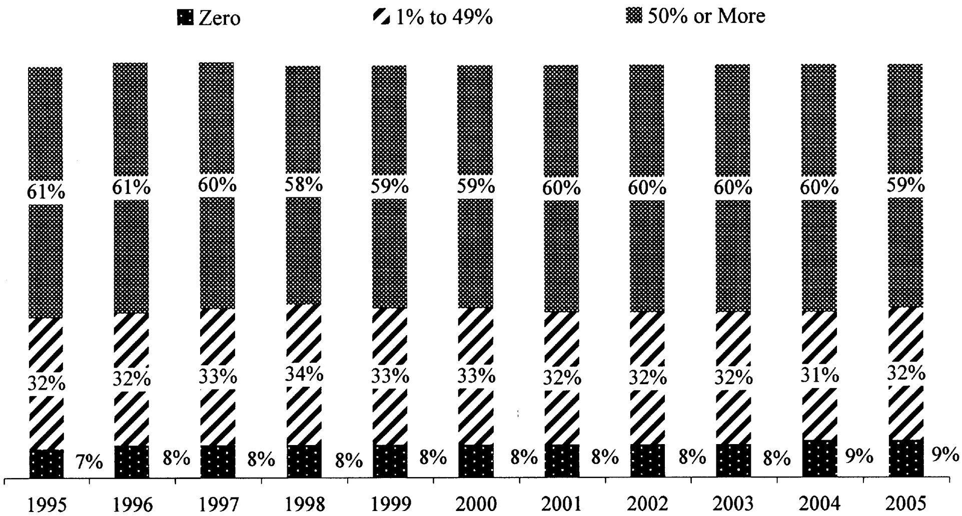
For retirees with these accounts, the retirement income generated will typically be just a piece of the retiree's total income in retirement. Indeed, analysis of the income composition of current households age 65 or older compared with earlier generations of retirees using CPS data finds that Social Security represents half or more of retirees' income for about 60 percent of retirees (Figure 6). The composition of retirees' income varies by income quartile. Also analyzing CPS data, Whitman and Purcell (2006) find that among the lowest

*Figure 5:* **Nearly Half of Defined Contribution Plan Participants Opt for Lump-Sum Distribution at Retirement** *(percent of respondents who had multiple distribution options—multiple responses)*




Note: Individuals retired from a DC plan between 1995 and 2000. Data as of May 2000.
Source: Investment Company Institute (2000a).

*Figure 6:* **Social Security is 50%+ of Income for Many Retirees**
*(percent of aged units age 65 or older)*




Source: Tabulation of Current Population Survey Data and U.S. Social Security Administration (2004).

income quartile of people age 65 or older in 2005, 87 percent of their income came from Social Security; 5 percent from public assistance; 3 percent from asset income; 3 percent from pensions; 1 percent from earnings; and 1 percent from "other." Among the highest income quartile, Social Security is only 20 percent of their income; earnings are 36 percent; pensions, 23 percent; asset income, 18 percent; and "other," 3 percent.

## CONCLUSIONS

A trend toward saving for retirement through individual accounts, whether sponsored through the employer (such as 401(k) plans) or focused on the individual (IRAs), is in place in the United States. Developments in the 401(k) plan arena have moved these plans from supplemental in nature to stand-alone plans, with innovation and regulatory changes aiming to further expand their usage. After a 25-year history, 401(k) plans hold \$2.7 trillion in assets and there are some 50 million active participants in such plans. Projection models suggest that 401(k) plans have the ability to generate significant balances and income at retirement for future retirees. These accumulations will be just one component of retirees' income.

## Notes

1 For a discussion of research analyzing this shift in composition, see Holden, Brady, and Hadley (2006a), which summarizes research results from Aaronson and Coronado (2005); Coronado and Copeland (2004); Papke (1999); Ippolito (1997); Kruse (1995); Ippolito (1995); Gustman, Mitchell, and Steinmeier (1994); and Gustman and Steinmeier (1992).

2 See Cerulli Associates (2006).

3 The U.S. Department of Labor (2007) reports there were 20.6 million active private-sector DB plan participants in 2004.

It should also be noted that among private-sector wage and salary workers participating in pension plans, some have both defined-benefit (DB) and defined-contribution (DC) plans. For example, in 1980, 83 percent of private-sector pension participants were in DB plans; 40 percent were in DC plans; and 23 percent had both. In 1999, 42 percent of private-sector pension participants were in DB plans; 87 percent were in DC plans; and 28 percent had both. See U.S. Department of Labor (2004).

4 For incidence of IRA ownership, see Investment Company Institute (2007). For characteristics of IRA owners, see West and Leonard-Chambers (2006a, 2006b).

5 For summary highlights from the SCF, see Bucks, Kennickell, and Moore (2006).

6 The share of retirement assets in households' financial assets has also risen over time. In 1975, total retirement

assets (including DB as well as DC) represented 13 percent of households' financial assets (see Brady and Holden (2006a)). By year-end 2006, retirement assets ($16.4 trillion, reported in Figure 1) represented 39 percent of household financial assets ($42.1 trillion, see Board of Governors of the Federal Reserve System (2007)).

[7] For a much more detailed analysis of trends in household wealth, see Gale and Pence (2006).

[8] Whitman and Purcell (2006) note that poverty rates among the elderly (age 65 and older) fell between the mid-1960s and mid-1970s in the wake of increases in Social Security benefits. They report that the poverty rate among the elderly fell to about 15 percent in 1975 and was 10 percent in 2005.

[9] For a full discussion of these points, see Holden, Brady, and Hadley (2006a).

[10] See Holden, Brady, and Hadley (2006b) and Copeland (2005b).

[11] For a discussion of the how the various aspects of plan design influence behavior see a review of research in Holden, Brady, and Hadley (2006a). Also see Mitchell and Utkus (2004).

[12] See Mitchell, Utkus, and Yang (2005) for analysis of the effectiveness of the employer match on increasing participation. See Holden and VanDerhei (2001) for 401(k) participant contribution behavior around the employer contribution match points.

[13] See Choi, Laibson, Madrian, and Metrick (2001, 2004) and Madrian and Shea (2000).

[14] See Holden and VanDerhei (2005).

[15] See Holden and VanDerhei (2006b, 2006c).

[16] It was November 10, 1981 when the Internal Revenue Service issued proposed rules for Section 401(k) plans. See Holden, Brady, and Hadley (2006a) for a complete history of 401(k) plans.

[17] EBRI is a nonprofit, nonpartisan, public policy research organization, which does not lobby or take positions on legislative proposals.

[18] See Holden and VanDerhei (2002a, 2002b, 2005, 2006a) for all of the different projection scenarios.

[19] See U.S. Internal Revenue Service (2006).

## References


Aaronson, Stephanie, and Julia Coronado. Are Firms or Workers Behind the Shift Away from DB Pension Plans? Washington, DC: Board of Governors of the Federal Reserve System, 2005. Finance and Economics Discussion Series (FEDS) Paper 2005-17.

Bershadker, Andrew and Paul A. Smith. Cracking Open the Nest Egg: IRA Withdrawals and Retirement Finance. In *Proceedings of the Ninety-Eighth Annual Conference on Taxation*, Miami, 2005. Washington, D.C.: National Tax Association, 2006, pp. 73–83.

Board of Governors of the Federal Reserve System. Flow of Funds Accounts of the United States: Flows and Outstandings. Washington, D.C.: Board of Governors of the Federal Reserve System, 2007. Z.1 Release.

Brady, Peter and Sarah Holden.

The U.S. Retirement Market, 2005. Washington, D.C.: Investment Company Institute, 2006a. *ICI Fundamentals* 15, No. 5.

Appendix: Additional Data on the U.S. Retirement Market. Washington, D.C.: Investment Company Institute, Appendix, 2006b. *ICI Fundamentals* 15, No. 5A.

Bucks, Brian K., Arthur B. Kennickell, and Kevin B. Moore. Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances. *Federal Reserve Bulletin* (March 2006): A1–A38.

Cerulli Associates. Retirement Markets, 2006. *Cerulli Quantitative Update*. Boston, MA: Cerulli Associates, Inc., 2006.

Choi, James J., David Laibson, Brigitte Madrian, and Andrew Metrick.

Saving for Retirement on the Path of Least Resistance. Originally prepared for *Tax Policy and the Economy 2001,* updated draft, July 19, 2004.

For Better or Worse: Default Effects and 401(k) Savings Behavior. Cambridge, MA: National Bureau of Economic Research, 2001. NBER Working Paper 8651.

Copeland, Craig.

Lump-Sum Distributions. *EBRI Notes* 26, No. 12. Washington, D.C.: Employee Benefit Research Institute, 2005a, pp. 7–17.

Retirement Plan Participation: Survey of Income and Program Participation (SIPP) Data. *EBRI Notes* 26, No. 9. Washington, D.C.: Employee Benefit Research Institute, 2005b, pp. 2–12.

Coronado, Julia Lynn and Philip C. Copeland. Cash Balance Pension Plan Conversions and the New Economy. *Journal of Pension Economics and Finance* 3 (November 2004): 297–314.

Federal Reserve Board. Survey of Consumer Finances. Washington, D.C., 2004. http://www.federalreserve.gov/pubs/oss/oss2/2004/scf2004home.html.

Gale, William G. and Karen M. Pence. Are Successive Generations Getting Wealthier, and If So, Why? Evidence from the 1990s. *Brookings Papers on Economic Activity*. Washington, D.C.: The Brookings Institution, 2006.

Gustman, Alan L., Olivia S. Mitchell, and Thomas L. Steinmeier. The Role of Pensions in the Labor Market: A Survey of the Literature. *Industrial and Labor Relations Review* 47 (April 1994): 417–4 38.

Gustman, Alan L., and Thomas L. Steinmeier. The Stampede Toward Defined Contribution Pension Plans: Fact or Fiction? *Industrial Relations* 31, (Spring 1992): 361–369.

Holden, Sarah, Peter Brady, and Michael Hadley.

401(k) Plans: A 25-Year Retrospective. Washington, D.C.: Investment Company Institute, 2006a. *ICI Perspective* 12, No. 2.

Appendix: Additional Information for a 25-Year 401(k) Retrospective. Washington, D.C.: Investment Company Institute, 2006b. *ICI Perspective* 12, No. 2A.

Holden, Sarah, Kathy Ireland, Vicky Leonard-Chambers, and Michael Bogdan. The Individual Retirement Account at Age 30: A Retrospective. Washington, D.C.: Investment Company Institute, 2005. *ICI Perspective* 11, No. 1.

Holden, Sarah, and Jack VanDerhei.

The Role of 401(k) Accumulations in Providing Future Retirement Income. In David Blitzstein, Olivia S. Mitchell, and Stephen P. Utkus, eds. *Restructuring Retirement Risks*. Oxford, U.K.: Oxford University Press, 2006a, pp. 37–51.

401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2005. Washington, D.C.: Investment Company Institute and Employee Benefit Research Institute, 2006b. *ICI Perspective* 12, No.1, and *EBRI Issue Brief* 296.

Appendix: Additional Figures for the EBRI/ ICI Participant-Directed Retirement Plan Data Collection Project for Year-End 2005. Washington, D.C.: Investment Company Institute, 2006c. *ICI Perspective* 12, No.1A.

The Influence of Automatic Enrollment, Catch-Up, and IRA Contributions on 401(k) Accumulations at Retirement. Washington, D.C.: Investment Company Institute and Employee Benefit Research Institute, 2005. *ICI Perspective* 11, No. 2, and *EBRI Issue Brief* 283.

Can 401(k) Accumulations Generate Significant Income for Future Retirees? Washington, D.C.: Investment Company Institute and Employee Benefit Research Institute 2002a. *ICI Perspective* 8, No. 3, and *EBRI Issue Brief* 251.

Appendix: EBRI/ICI 401(k) Accumulation Projection Model. Washington, D.C.: Investment Company Institute, 2002b. *ICI Perspective* 8, No. 3A.

Contribution Behavior of 401(k) Plan Participants. Washington, D.C.: Investment Company Institute and Employee Benefit Research Institute, 2001. *ICI Perspective* 7, No. 4, and *EBRI Issue Brief* 238.

Investment Company Institute.

*2007 Investment Company Fact Book*. Washington, D.C.: Investment Company Institute, May 2007.

Financial Decisions at Retirement. Washington, D.C.: Investment Company Institute, 2000a. *ICI Fundamentals* 9, No. 6.

*Defined Contribution Plan Distribution Choices at Retirement: A Survey of Employees Retiring Between 1995 and 2000*. Washington, D.C.: Investment Company Institute, 2000b.

Ippolito, Richard A.

*Pension Plans and Employee Performance, Evidence, Analysis, and Policy*. Chicago, IL: The University of Chicago Press, 1997.

Toward Explaining the Growth of Defined Contribution Plans. *Industrial Relations* 34 (January 1995): 1–20.

Kruse, Douglas L. Pension Substitution in the 1980s: Why the Shift toward Defined Contribution? *Industrial Relations* 34 (April 1995): 218–241.

Madrian, Brigitte C., and Dennis F. Shea. The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior. Cambridge, MA: National Bureau of Economic Research, 2000. NBER Working Paper 7682.

Mitchell, Olivia S., and Stephen P. Utkus, editors. *Pension Design and Structure: New Lessons from Behavioral Finance*. Oxford, UK: Oxford University Press, 2004.

Mitchell, Olivia S., Stephen P. Utkus, and Tongxuan (Stella) Yang. Turning Workers into Savers? Incentives, Liquidity, and Choice in 401(k) Plan Design. Cambridge, MA: National Bureau of Economic Research, October 2005. NBER Working Paper 11726,

Papke, Leslie E. Are 401(k) Plans Replacing Other Employer-Provided Pensions? Evidence from Panel Data. *The Journal of Human Resources* 34 (Spring 1999): 346–368.

Poterba, James, Steven Venti, and David A. Wise. New Estimates of the Future Path of 401(k) Assets. Cambridge, MA: National Bureau of Economic Research, 2007. NBER Working Paper 13083.

Profit Sharing/401k Council of America (PSCA).

*49th Annual Survey of Profit Sharing and 401(k) Plans: Reflecting 2005 Plan Year Experience*. Chicago, IL: Profit Sharing/401(k) Council of America, 2006.

*48th Annual Survey of Profit Sharing and 401(k) Plans: Reflecting 2004 Plan Year Experience*. Chicago, IL: Profit Sharing/401(k) Council of America, 2005.

*47th Annual Survey of Profit Sharing and 401(k) Plans: Reflecting 2003 Plan Year Experience*. Chicago, IL: Profit Sharing/401(k) Council of America, 2004.

*46th Annual Survey of Profit Sharing and 401(k) Plans: Reflecting 2002 Plan Year Experience*. Chicago, IL: Profit Sharing/401(k) Council of America, 2003.

U.S. Census Bureau. Current Population Survey. Washington, D.C., various years. http://www.census.gov/cps.

U.S. Department of Labor, Employee Benefits Security Administration (EBSA)). Private Pension Plan Bulletin, Abstract of 2004, Form 5500 Annual Reports. Washington, D.C., 2007.

U.S. Department of Labor, Pension and Welfare Benefits Administration (now Employee Benefits Security Administration (EBSA)). Private Pension Plan Bulletin, Abstract of 1999, Form 5500 Annual Reports. Washington, D.C., 2004.

U.S. Internal Revenue Service. Individual Retirement Arrangements (IRAs). Publication 590. Washington, D.C., 2006.

U.S. Social Security Administration. Income of the Population 55 or Older, 2004. Washington, D.C., 2006.

West, Sandra and Victoria Leonard-Chambers.

The Role of IRAs in Americans' Retirement Preparedness. Washington, D.C.: Investment Company Institute, 2006a. *ICI Fundamentals* 15, No. 1.

Appendix: Additional Data on IRA Ownership in 2005. Washington, D.C.: Investment Company Institute, 2006b. *ICI Fundamentals*, 15, No. 1A.

Whitman, Debra and Patrick Purcell. Topics in Aging: Income and Poverty Among Older Americans in 2005. Washington, D.C.: Congressional Research Service, Updated September 21, 2006. CRS Report for Congress RL32697.