401(k)/IRA holdings in 2016: An update from the SCF

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By Alicia H. Munnell and Anqi Chen*

Introduction

The key supplement to Social Security benefits is accumulations in employer-sponsored retirement plans. Increasingly these accumulations occur in 401(k) plans and Individual Retirement Accounts (IRAs). The release of the Federal Reserve's 2016 *Survey of Consumer Finances* (SCF) is a great opportunity to see how a strengthening economy, the continued maturation of the 401(k) system, and steady stock market returns have affected workers' retirement wealth.[1] The big advantage of the SCF is that it provides information not only on 401(k) balances, much of which is available from financial services firms, but also on household holdings in IRAs, which are largely rollovers from 401(k)s. Essentially 401(k)s serve as the collection mechanism for retirement saving, and IRAs serve as the resting place. This *brief* reports on household holdings in these two sources combined.

The discussion proceeds as follows. The first section describes the importance of 401(k) plans and IRAs in the retirement income system. The second section documents the trend in individual decisions regarding the accumulation of assets in 401(k)s. The good news is a slight increase in participation rates and greater use of target date funds; the bad news is flat total contribution rates, high fees, and significant leakages. The third section reports on 401(k)/IRA balances. The SCF shows – for households approaching retirement – an increase in these balances from $111,000 in 2013 to $135,000 in 2016. But only about half of households have 401(k)/IRA balances; and, as defined benefit plans phase out in the private sector, the rest will have no source of retirement income other than Social Security. The final section concludes that 401(k) plans could work much better and balances would be higher if all plans were fully automatic – auto-enrollment for both existing and new employees and auto-escalation in the default contribution rate – and contribution rates were set at realistic levels.

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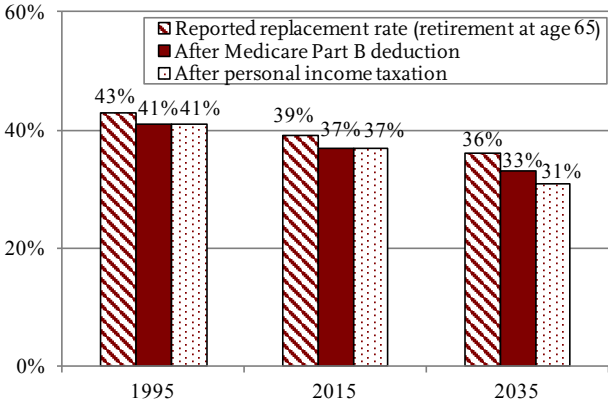
The Role of 401(k)s/IRAs in the Retirement System

Retirement accounts – 401(k)s and IRAs – play an increasingly important role in the nation's retirement system for two reasons. First, Social Security, the backbone of the system, will provide less relative to pre-retirement earnings in the future than in the past, so people will need more from their employer-sponsored plans. Second, among employer-sponsored plans the structure has shifted from traditional defined benefit plans, which pay lifetime benefits, to 401(k)s and IRAs, where balances determine retirement resources.

Social Security

Social Security will replace less earnings for three reasons. First, the Full Retirement Age – the age at which a 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 (see Figure 1). Second, rising Medicare premiums, which are deducted before the check goes in the mail, will reduce the *net* Social Security benefit. Finally, more Social Security benefits will be subject to the personal income tax since the thresholds above which benefits are taxable are not indexed to inflation or wage growth. In addition to the changes that will occur under current law, Congress might cut benefits further in a package to eliminate the program's 75-year deficit.

Figure 1. Social Security Replacement Rates for Avg. Earner Retiring at Age 65, 1995, 2015, and 2035

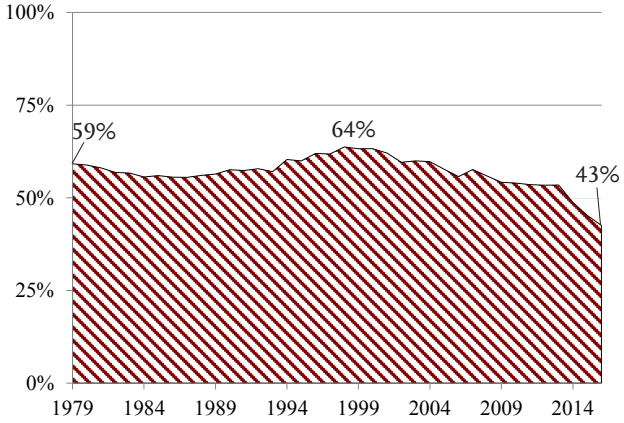


Note: 2035 is based on scheduled, not payable, benefits.
Sources: U.S. Social Security Administration (2016); Centers for Medicare & Medicaid Services (CMS) (2016); and unpublished CMS data.

Employer-sponsored Plans

With Social Security replacing a smaller percentage of pre-retirement earnings, employer-sponsored retirement plans are very important. Unfortunately, only about half of private sector workers – at any moment in time – are offered either a defined benefit or a defined contribution plan. This share is lower today than it was 35 years ago (see Figure 2).[2]

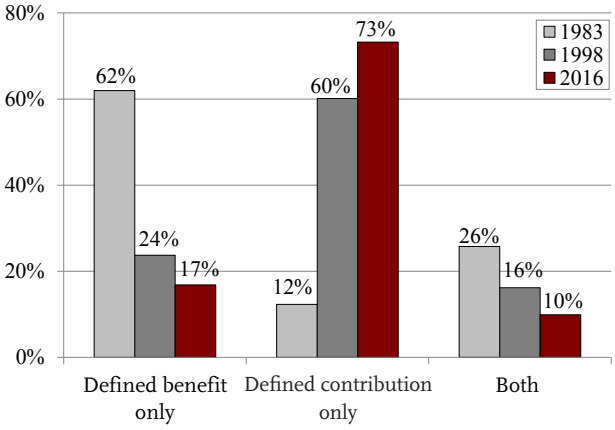
Figure 2. Percentage of Private Sector Workers Ages 25-64 Offered an Employer-Sponsored Retirement Plan, 1979-2016



Source: Authors' calculations based on U.S. Census Bureau, *Current Population Survey*, (1980-2017).

For those lucky enough to work for an employer providing a retirement plan, the nature of these plans has changed dramatically. Whereas, in the early 1980s, most workers were covered by a defined benefit plan, today most have a 401(k) as their primary or only plan (see Figure 3, on the next page). (See Appendix for trends in pension coverage for all workers between 1983 and 2016.)

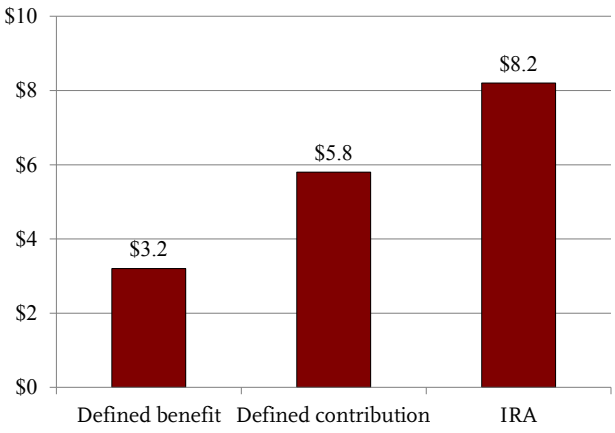
Figure 3. Workers with Plan Coverage by Type of Plan, 1983, 1998, and 2016



Source: Authors' calculations based on U.S. Board of Governors of the Federal Reserve System, *Survey of Consumer Finances* (1983, 1998, and 2016).

While 401(k)s plans have spread dramatically, essentially they have turned into a collection mechanism for retirement saving; participants eventually roll over the bulk of the money into IRAs. Today, IRA assets exceed those in 401(k)s by 40 percent – $8.2 trillion compared to $5.8 trillion (see Figure 4). Thus,

Figure 4. Total U.S. Private Retirement Assets by Type of Plan, Trillions, 2017 Q1



Source: U.S. Board of Governors of the Federal Reserve System, *Flow of Funds Accounts of the United States* (2017).

any assessment of the current employer-sponsored retirement system requires an evaluation of how well 401(k)s collect money and how much people have in their combined 401(k)/IRA holdings.

How Well Do 401(k)s Collect Retirement Money?

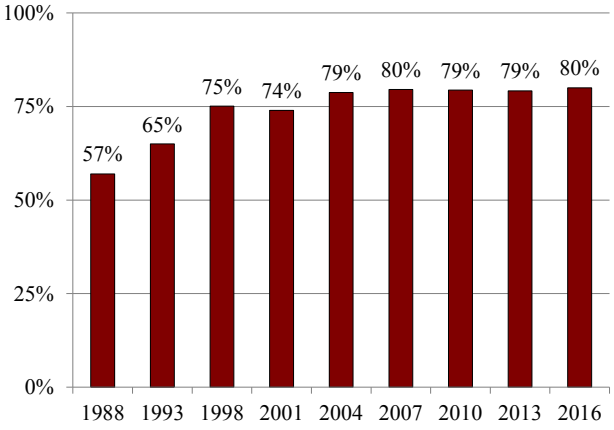
When 401(k) plans began to spread rapidly in the 1980s, they were viewed mainly as supplements to employer-funded pension and profit-sharing plans. Since 401(k) participants were presumed to have their basic retirement income needs covered, they were given substantial discretion over their 401(k) choices, including whether to participate, how much to contribute, how to invest, and when and in what form to withdraw the funds. And while the Pension Protection Act of 2006 (PPA) attempted to make the system more automatic, auto-enrollment and particularly auto-escalation in the default contribution rate have not become as widespread as many hoped. As a result, success still depends to a significant extent on the decisions made by individuals.

Participation

For those individuals offered a plan, success first requires that they participate. An extensive literature has demonstrated that automatically enrolling employees sharply increases participation rates.[3] To improve participation, the PPA removed obstacles and established a safe harbor to encourage employers to adopt auto-enrollment. The share of plans with auto-enrollment increased substantially in the wake of the PPA, but still falls short of 50 percent.[4] The share of employees covered by plans with automatic provisions is larger because large plans are more likely than small ones to have such provisions,

Given the spread of plans with auto-enrollment and the increase in participation rates in these plans, the uptick in participation as reported in the 2016 SCF may seem surprisingly modest (see Figure 5, on the next page). It is important to note that participation rates in plans *without* auto-enrollment actually declined between 2013 and 2016.[5] To the extent that plans without auto-enrollment constitute a larger share of total participants than reported by Vanguard, the decline in their participation rate would noticeably slow the pace of improvement.

Figure 5. Percentage of Eligible Workers Participating in 401(k) Plans, 1988-2016

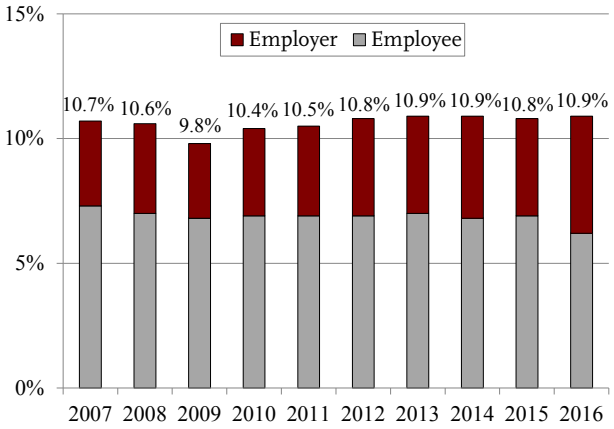


Sources: U.S. Bureau of Labor Statistics (2003); and authors' calculations based on the 1998-2016 SCF.

Contributions

Average employee contribution rates declined between 2015 and 2016 (see the gray bars in Figure 6). The decline can be attributed mainly to auto-enrollment, which increases participation rates but has a depressing effect on contributions. The reason is that default contribution levels are often set at 3 percent or lower, and since less than 40 percent of plans with auto-enrollment have auto-escalation in the default contribution, many of those who are enrolled at low contribution rates remain at those rates.[6] Employer contributions bring the total average deferral rate to around 11 percent.[7]

Figure 6. Average Employer and Employee Contribution Rates, 2007-2016



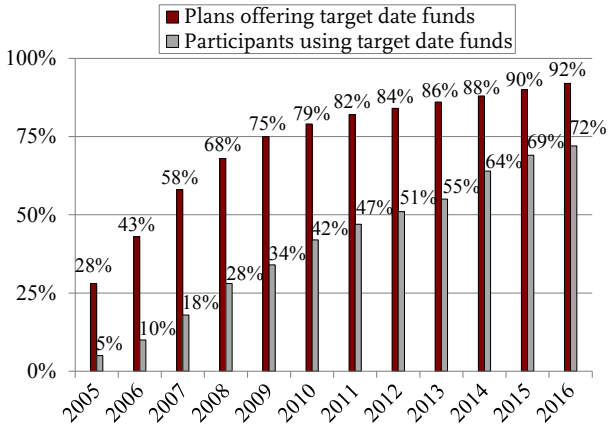
Source: Vanguard (2017).

Moving from the average to the maximum, in 2016, most employees were entitled to contribute $18,000 on a tax-deductible basis to their 401(k) plan in 2016. Workers approaching retirement could contribute another $6,000 under "catch-up" provisions introduced in 2002. In 2016, 10 percent of Vanguard participants reached their limit. Since Vanguard tends to have a disproportionate number of large plans with higher earners, the percentage maxing out is probably slightly lower for the 401(k) population as a whole.

Investment Decisions

In addition to participation and contribution decisions, employees must decide how to invest their money. This process has been simplified significantly with the advent of target date funds, which ensure that investments are diversified and rebalanced over time (see Figure 7).[8] The other benefit of these funds is that they reduce the likelihood of investing in company stock, which helps to further diversify the participant's portfolio both across stocks and away from the employer. According to Vanguard, only 9 percent of firms offer company stock in their defined contribution plans.

Figure 7. Target Date Fund Adoption, 2005-2016

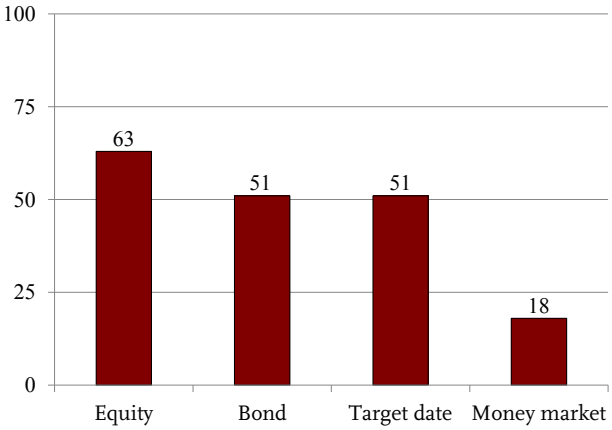


Source: Vanguard (2017).

Even with the spread of target date funds, fees remain an important issue. An expense ratio of 1 percent – 100 basis points – over a 40-year work life will reduce assets at retirement by almost 20 percent.[9] And despite a decline over time, expense ratios on mutual funds – the primary investment vehicle in

401(k) plans – remain high. Based on how people actually invest, the expense ratio in 2016 was 63 basis points for equity funds, 51 basis points for bond funds and for target date funds, and 18 basis points for money market funds (see Figure 8).

Figure 8. Asset-Weighted Expense Ratios by Type of Fund, Basis Points, 2016



Source: Investment Company Institute (2017).

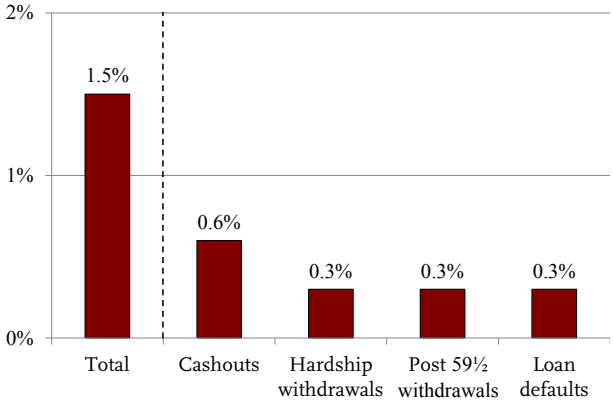
Keeping Money in the Plan

In the last few years, researchers have made a lot of progress in estimating the magnitude of leakages out of 401(k)s and IRAs.[10] In addition, each year Vanguard provides data on flows into and out of the defined contribution accounts that it administers. The Vanguard number, however, must be viewed as a lower bound, since the company administers only about 14 percent of the market, and large plans are overrepresented in its data. Large plans – with higher-paid employees – most likely have lower leakage rates. Indeed, a study looking at leakages out of 401(k)s and IRAs put the figure at 1.5 percent.[11] And studies using tax data suggest an even higher leakage rate.[12] As shown in Figure 9, leakages from cashouts at the time of job change remain the most serious problem.

401(k) Balances: 2013 and 2016

As a prelude to looking at the new data from the SCF, it is useful to examine how the changes since 2013 affected median balances in 401(k) plans as reported

Figure 9. Annual Leakages Out of 401(k)s/IRAs as a Percentage of Assets, 2016



Sources: Authors' estimates. Allocations to specific leakage channels are based on Vanguard (2017). The total level of leakages is based on Munnell and Webb (2015).

by Vanguard.[13] As Table 1 shows, median balances in plans managed by Vanguard declined between 2013 and 2016. This decline occurred despite the fact that returns averaged 4.7 percent over the period. Two factors account for this pattern. First, the rise in auto-enrollment described above resulted in a growing number of smaller balances. Second, new plans converting to Vanguard in 2016 had lower account balances.

Table 1. Median 401(k) Balances by Age, 2013 and 2016

Age	2013	2016
All	$31,396	$24,713
35-44	27,747	23,491
45-54	52,236	43,467
55-64	76,381	66,643

Source: Vanguard (2017).

Aside from the impact of auto-enrollment and the change in Vanguard's business mix, three other factors make it impossible to determine from individual 401(k) balances how much money households have accumulated for retirement. First, when participants change jobs their 401(k) accounts may remain with their old employer, so individuals may have more than one 401(k) account. Second, 401(k) balances may be rolled over to an IRA, and financial services

companies cannot track combined 401(k)/IRA holdings. Third, by necessity, balances are provided on an individual, rather than a household, basis. For all these reasons, the new SCF data are crucial.

401(k)/IRA Balances in the 2016 SCF

To relate the Federal Reserve's 2016 *Survey of Consumer Finances* to the numbers from financial service firms, the best place to start is with single individuals. Table 2 shows SCF median 401(k) and 401(k)/IRA balances for working individuals with a 401(k) in 2013 and 2016. At younger ages, the SCF numbers show the same decline in median 401(k) balances as reported by Vanguard, most likely due to the spread of auto-enrollment. At older ages, median balances show an increase, perhaps due to the aggregation of the individual's accounts from previous employers and perhaps due to our focus just on working households. Adding IRA balances produces the same pattern – a decline among the younger group and increases for older workers. In 2016, the typical older worker with a 401(k) approaching retirement (ages 55-64) had a balance of $104,000 in combined 401(k)/IRA accounts, up from $100,000 in 2013. Note that the gain is a little less in real terms since these figures are not adjusted for inflation.

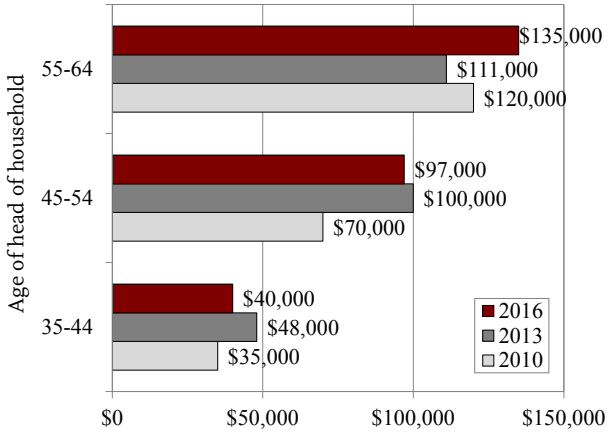
Table 2. Median 401(k) and 401(k)/IRA Balances from 2013 and 2016 SCF

Age	Median 401(k)		Median 401(k)/IRA	
	2013	2016	2013	2016
35-44	$32,000	$29,000	$40,000	$37,000
45-54	52,000	60,000	77,000	80,000
55-64	65,000	76,000	100,000	104,000

Sources: Authors' calculations from the 2013 and 2016 SCF.

Individuals live in households, and the great virtue of the SCF is that it provides data on retirement assets at the household level. In 2016, the typical working household approaching retirement with a 401(k) had $135,000 in 401(k)/IRA balances (see Figure 10).[14] This amount compares to $111,000 in 2013. In contrast, households 35-44 and 45-54 had lower 401(k)/IRA balances in 2016 than 2013. Again, this pattern for younger age groups may reflect auto-enrollment.

Figure 10. Median 401(k)/IRA Balances of Working Households with 401(k)s by Age, 2010, 2013, and 2016

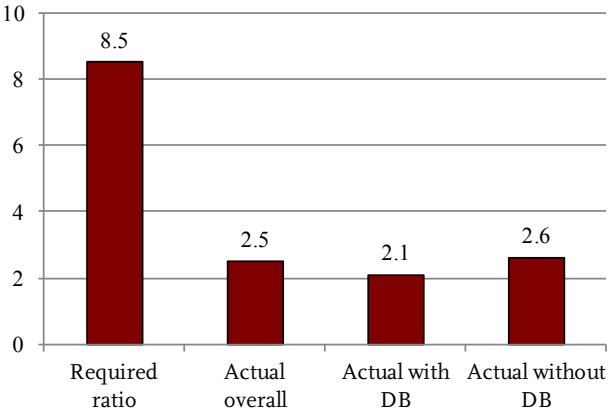


Note: Sample excludes households that are not working and those that have only an IRA.
Sources: Author's calculations from the 2010-2016 SCF.

The 401(k)/IRA balances for the households approaching retirement will produce only a modest supplement to Social Security. Simple calculations show that the median working couple aiming to retire at 65 with a 75-percent replacement rate needs assets equal to 8.5 times income at age 60.[15] As shown in Figure 11 (on the next page), for households ages 55-64 in the middle of the income distribution, this ratio was just 2.5 overall, 2.1 for the 20 percent of households who had a defined benefit plan as well, and 2.6 for the 80 percent solely reliant on 401(k)s.

In dollar terms, if the median couple approaching retirement uses their $135,000 to buy a joint-and-survivor annuity, they will receive $600 per month.[16] Since this amount is not indexed for inflation, its purchasing power will decline over time. Moreover, this $600 is likely to be the only source of additional income, because the typical household holds virtually no financial assets outside of its 401(k).[17]

Figure 11. Required and Actual Ratio of 401(k)/IRA Balances to Income for Middle-Income Households ages 55-64 with/without a DB Plan, 2016



Sources: Authors' calculations; and actuals calculated from the 2016 SCF.

Table 3. 401(k)/IRA Balances for Median Working Household with a 401(k), Ages 55-64, by Income Quintile, 2013 and 2016

Income quintile	Median 401(k)/IRA balance		Percentage with a 401(k)	
	2013	2016	2013	2016
Lowest	$13,000	$26,700	22%	25%
2nd	53,800	72,000	48	45
3rd	100,000	104,000	60	58
4th	132,000	335,400	65	62
Highest	452,000	780,000	68	70
Total	111,000	135,000	52	52

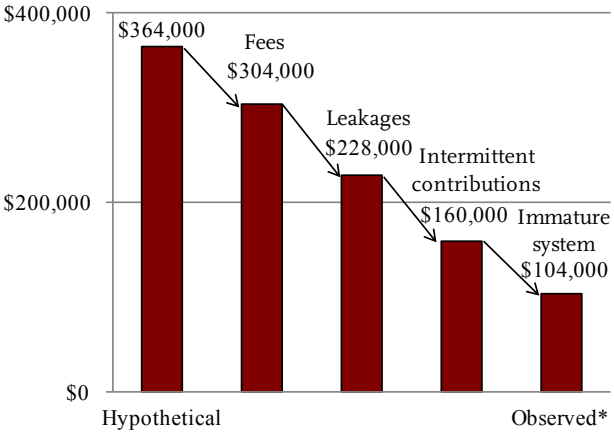
Sources: Authors' calculations from the 2013 and 2016 SCF.

While the overall median for households approaching retirement was $135,000, up from $111,000 in 2013, the amount and pattern of increase varied significantly by income. Balances for the highest quintile were $780,000 in 2016, a dramatic increase from $452,000 in 2013, and the share of high-income households with 401(k) balances rose to 70 percent (see Table 3). In contrast, for the lowest quintile, even with rapid growth, balances amounted to only $26,700 and only 25 percent of households had a 401(k). Retirement accounts appear to serve as a meaningful source of saving only for the upper three quintiles. Even there, however, a significant percentage of households have no 401(k) balances.

One interesting question is how much should we expect to see in these 401(k)/IRA accounts. In an attempt to answer that question, take a representative individual age 25 with median earnings in 1981 who reaches 60 in 2016, assume that he contributed 6 percent of salary and received a 50-percent match from his employer, that he had a 50:50 stock/bond allocation, and that he received actual investment returns over the period. This individual would have accumulated $364,000 (see Figure 12).[18]

But this calculation ignores expenses; using expense data for equity and bonds from the Investment Company Institute (2017) reduces the expected balance to $304,000. Assuming 1.5 percent of assets leak out each year reduces the pile still further, to $228,000. The remaining gap between the $228,000 and the observed individual 401(k)/IRA balances of $104,000 is due to a failure to contribute. About half this failure is attributed to the fact that workers move in and out of coverage and half to the fact that 401(k)s only came into existence in the 1980s so many workers would not have been able to contribute early in their careers. If the system were fully mature so that workers could spend their whole lives covered by 401(k) plans, individual holdings in retirement accounts for those approaching retirement might be $160,000.[19] But even $160,000 is less than half of contributions and earnings under the hypothetical example. Surely, this system could function more efficiently.

Figure 12. Impact of Fees, Leakages, and Contributions on 401(k)/IRA Balances, 2016



Source: Authors' calculations.

Conclusion

The 401(k) system has evolved over time into a collection mechanism for retirement saving; the bulk of the money now resides in IRAs. The 2016 *Survey of Consumer Finances* offers the first glimpse of the current level of household combined 401(k)/IRA holdings. The typical household approaching retirement had $135,000 in combined 401(k)/IRA assets. These assets will provide $600 per month in retirement, an amount whose purchasing power will decline over time with inflation. Moreover, only half of households have any 401(k)-related holdings.

A number of factors contribute to low balances – less than full participation, low contributions, high fees, and leakages. Outcomes could be greatly improved with lower fees, a clamp-down on leakages, a fully automated 401(k) system – auto-enrollment for both existing and new employees and auto-escalation in the default contribution rate – and contribution rates set at realistic levels.

This whole discussion has focused on the accumulation stage of retirement saving, and has not even considered what participants will do with their money when they reach 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.

Endnotes

1 This *brief* covers assets in all defined contribution plans but refers to them as 401(k)s for simplicity.

2 For a comparison of different measures of pension coverage, see Munnell and Bleckman (2014).

3 For examples, see Nessmith, Utkus, and Young (2007), Beshears at al. (2009, 2010), Butrica and Karamcheva (2012), and Clark, Utkus, and Young (2015). In 2016, among Vanguard's recordkeeping plans, the voluntary enrollment participation rate was 63 percent and the auto-enrollment participation rate was 90 percent.

4 For example, based on its recordkeeping data, Vanguard (2017) reported that 45 percent of plans had auto-enrollment in 2016.

5 Vanguard reports that while participation rates at plans with auto enrollment rose from 89 to 92 percent from 2013 to 2015, participation rates at plans without auto enrollment fell from 70 to 64 percent. The preliminary numbers for 2016 are 90 percent and 63 percent respectively.

6 For default contribution rates, see Vanguard (2017). The estimate for auto-escalation is based on survey data from the Plan Sponsor Council of America (2013, 2016) on plans with *mandatory* auto-escalation.

7 Median employee and employer contribution rates show the same pattern as the average rates in Figure 6.

8 Historically, employers that offered auto-enrollment defaulted participants into stable value or money market funds – safe, but low-return, investments. Given inertia, most participants stayed in these investments. In response, the PPA defined a list of "qualified default investment alternatives," which included target date funds, balanced funds, and managed accounts. Plans that use these investments as the default avoid fiduciary liability.

9 The calculations assume real stock and bond returns of 6.6 percent and 2.3 percent respectively, a stock asset allocation of 50 percent, 40 years of saving, and real wage growth of 1.1 percent per year. If individuals respond to the decline in projected balances by saving more, the ultimate impact on wealth at retirement will be smaller.

10 For an overview, see Munnell and Webb (2015). For a detailed study of leakages through loan defaults, see Lu et al. (2014).

11 Butrica, Zedlewski, and Issa (2010).

12 Argento, Bryant, and Sabelhaus (2013); and Bryant, Holden, and Sabelhaus (2011).

13 Historically, these balances have closely matched median individual balances reported in the SCF.

14 This figure differs from the value of "retirement accounts" reported in Bricker et al. (2017) because it pertains to only those households that are working and have a 401(k) plan; those that are not working or only have an IRA are excluded.

15 Lower-income households would need less and higher-income households would need more because of Social Security's progressive benefit structure.

16 This number comes from ImmediateAnnuity.com and assumes the husband is 65 and the wife is 62, the average retirement ages for men and women, respectively.

17 Financial assets outside of 401(k) plans made up only 2-3 percent of total assets for the typical household ages 55-64 in 2016.

18 The hypothetical assets assume real stock and bond returns of 6.6 percent and 2.3 percent respectively, 35 years of saving beginning at age 25, a contribution rate of 9.0 percent a year, and real wage growth of 1.1 percent per year. If individuals respond to the decline in projected balances by saving more, the ultimate impact on wealth at retirement will be smaller.

19 To move from $228,000 to $160,000, the analysis assumes what would have occurred if 100 percent of eligible workers had consistently participated in a 401(k) vs. only a 70-percent participation rate based on historical data from Vanguard. The residual – the difference between $160,000 and the observed balance of $104,000 – is attributed to the immaturity of the system.

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APPENDIX

Table A1. Plan Participation of All Workers, by Type of Plan, by Selected Ages, 1989-2016

All Workers

Type of plan	1989	1992	1995	1998	2001	2004	2007	2010	2013	2016
Defined contribution only	15%	19%	26%	29%	29%	29%	30%	31%	32%	34%
Defined benefit only	22	21	13	11	11	9	8	8	7	8
Both	10	8	7	8	8	8	9	6	6	5
None	53	53	54	53	52	54	53	55	55	54

Ages 30-39

Type of plan	1989	1992	1995	1998	2001	2004	2007	2010	2013	2016
Defined contribution only	17%	21%	30%	32%	33%	31%	32%	34%	32%	36%
Defined benefit only	21	21	12	9	10	9	7	8	6	8
Both	11	7	6	8	8	6	7	4	5	4
None	51	52	52	50	49	54	54	53	57	53

Ages 40-49

Type of plan	1989	1992	1995	1998	2001	2004	2007	2010	2013	2016
Defined contribution only	15%	19%	29%	30%	34%	33%	32%	35%	36%	38%
Defined benefit only	28	23	17	14	13	10	10	8	8	7
Both	13	11	10	10	10	10	11	7	6	5
None	44	47	44	47	44	47	47	50	49	50

Ages 50-59

Type of plan	1989	1992	1995	1998	2001	2004	2007	2010	2013	2016
Defined contribution only	16%	19%	23%	30%	27%	32%	33%	34%	36%	38%
Defined benefit only	28	29	20	15	18	13	11	12	8	9
Both	15	12	9	11	11	11	15	9	8	7
None	41	41	48	45	45	44	41	46	49	46

Source: Author's estimates based on the 1989-2016 SCF.

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