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Sarah Holden, ICI Senior Director of Retirement and Investor Research; Jack VanDerhei, EBRI Director of Research; Luis Alonso, EBRI Director of Information Technology and Research Databases; and Steven Bass, ICI Associate Economist; prepared this report.

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This paper is an annual update to EBRI and ICI's ongoing research into 401(k) plan participants' activity. The previous update was "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2014," published in April 2016.

401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2015

Since 1996, the Employee Benefit Research Institute (EBRI) and the Investment Company Institute (ICI) have worked together on collecting and analyzing annual data on millions of 401(k) plan participants' accounts. This report reflects the year-end 2015 update of these data and EBRI and ICI's ongoing research into 401(k) plan participants' activity.

KEY FINDINGS

- » **The bulk of 401(k) assets were invested in stocks.** On average, at year-end 2015, 66 percent of 401(k) participants' assets were invested in equity securities through equity funds, the equity portion of balanced funds, and company stock. Twenty-seven percent of assets were in fixed-income securities such as stable value investments, bond funds, and money funds.
- » **More 401(k) plan participants held equities at year-end 2015 than before the financial market crisis (year-end 2007), and most had the majority of their accounts invested in equities.** For example, about three-quarters of participants in their twenties had more than 80 percent of their 401(k) plan accounts invested in equities at year-end 2015, up from less than half of participants in their twenties at year-end 2007. Overall, more than 90 percent of 401(k) participants had at least some investment in equities at year-end 2015.
- » **Nearly 65 percent of 401(k) plans, covering nearly three-quarters of 401(k) plan participants, included target date funds in their investment lineup at year-end 2015.** At year-end 2015, 20 percent of the assets in the EBRI/ICI 401(k) database were invested in target date funds and about half of 401(k) participants in the database held target date funds. Also known as lifecycle funds, these funds are designed to offer a diversified portfolio that automatically rebalances to be more focused on income over time.
- » **A majority of new or recent hires invested their 401(k) assets in balanced funds, including target date funds.** For example, at year-end 2015, 70 percent of recently hired participants held balanced funds in their 401(k) plan accounts. Balanced funds made up 41 percent of the account balances of recently hired 401(k) participants at year-end 2015. A significant subset of that balanced fund category is invested in target date funds. At year-end 2015, 34 percent of the account balances of recently hired participants were invested in target date funds.

- » **401(k) participants' investment in company stock continued at historically low levels.** Less than 7 percent of 401(k) assets were invested in company stock at year-end 2015, roughly the same share as in 2012, 2013, and 2014. This share has fallen by 66 percent since 1999 when company stock accounted for 19 percent of assets. Recently hired 401(k) participants contributed to this trend: they tend to be less likely to hold company stock. At year-end 2015, about one-quarter of recently hired 401(k) plan participants in plans offering company stock held company stock, compared with about 43 percent of all 401(k) participants.
- » **401(k) participants were less likely to have loans outstanding at year-end 2015 than at year-end 2014.** At year-end 2015, 18 percent of all 401(k) participants who were eligible for loans had loans outstanding against their 401(k) plan accounts, down from 20 percent at year-end 2014. Loans outstanding amounted to 12 percent of the remaining account balance, on average, at year-end 2015, up 1 percentage point from year-end 2014. Loan amounts also edged up a bit in 2015.
- » **The year-end 2015 average 401(k) plan account balance in the database was 3.1 percent higher among consistent participants in the database in both 2014 and 2015.** To understand changes in 401(k) participants' average account balances, it is important to analyze a sample of consistent participants. Among all participants, the average account balance in the year-end 2015 database was 3.8 percent lower than the average account balance in the year-end 2014 database. However, this reflects the changing composition of the sample, rather than the experience of typical 401(k) participants in 2015. As with previous EBRI/ICI updates, analysis of a sample of consistent 401(k) plan participants is expected to be published later this year.
- » **The average 401(k) plan account balance tends to increase with participant age and tenure.** For example, at year-end 2015, participants in their forties with more than two to five years of tenure had an average 401(k) plan account balance of about \$35,000, compared with an average 401(k) plan account balance of more than \$280,000 among participants in their sixties with more than 30 years of tenure.

Introduction

Over the past three decades, 401(k) plans have become the most widespread private-sector employer-sponsored retirement plan in the United States.¹ In 2015, an estimated 54 million American workers were active 401(k) plan participants.² By year-end 2015, 401(k) plan assets had grown to \$4.4 trillion, representing 19 percent of all retirement assets.³ In an ongoing collaborative effort, the Employee Benefit Research Institute (EBRI)⁴ and the Investment Company Institute (ICI)⁵ collect annual data on millions of 401(k) plan participants as a means to

examine how these participants manage their 401(k) plan accounts. This report is an update of EBRI and ICI's ongoing research into 401(k) plan participants' activity through year-end 2015.⁶ The report is divided into four sections: the first describes the EBRI/ICI 401(k) database; the second presents a snapshot of participant account balances at year-end 2015; the third looks at participants' asset allocations, including analysis of 401(k) participants' use of target date, or lifecycle, funds; and the fourth focuses on participants' 401(k) loan activity.

EBRI/ICI 401(k) Database

Sources and Types of Data

Several recordkeeping organizations provided records on active participants in 401(k) plans at year-end 2015. These plan recordkeepers include mutual fund companies, banks, insurance companies, and consulting firms. Although the EBRI/ICI project has collected data from 1996 through 2015, the universe of data providers may vary from year to year. In addition, the plans with any given provider may change from year to year, which changes the plans provided. Thus, aggregate figures in this report generally should not be used to estimate time trends. Records were encrypted before inclusion in the database to conceal the identity of employers and employees, but were coded so that both could be tracked by researchers over multiple years.⁷ Data provided for each participant included date of birth, from which an age group is assigned; date of hire,

from which a tenure range is assigned; outstanding loan balance; funds in the participant's investment portfolios; and asset values attributed to those funds. An account balance for each participant is the sum of the participant's assets in all funds.⁸ Plan balances are constructed as the sum of all participant balances in the plan. Plan size is estimated as the sum of active participants in the plan and, as such, does not necessarily represent the total number of employees at the sponsoring firm. Within the year-end 2015 EBRI/ICI database, it is possible to link individuals across plans across a majority of the recordkeepers. This improves the identification of active participants and resulted in the reclassification of 1.1 million participant accounts that were multiple accounts owned by single individuals. This procedure allows EBRI and ICI to begin to consolidate account balances for individuals across data providers to provide a more accurate estimate of average account balances per individual.⁹

About the EBRI/ICI Database

The EBRI/ICI Participant-Directed Retirement Plan Data Collection Project is the largest, most representative repository of information about individual 401(k) plan participant accounts. As of December 31, 2015, the EBRI/ICI database included statistical information about:

- » 26.1 million 401(k) plan participants, in
- » 101,625 employer-sponsored 401(k) plans, holding
- » \$1.9 trillion in assets.

The 2015 EBRI/ICI database covers 48 percent of the universe of 401(k) plan participants, 18 percent of plans, and 43 percent of 401(k) plan assets. The EBRI/ICI project is unique because it includes data provided by a wide variety of plan recordkeepers and, therefore, represents the activity of participants in 401(k) plans of varying sizes—from very large corporations to small businesses—with a variety of investment options.

Investment Options

Investment options are grouped into eight broad categories.¹⁰

- » **Equity funds** consist of pooled investments primarily invested in stocks, including equity mutual funds, bank collective trusts, life insurance separate accounts, and other pooled investments.
- » **Bond funds** are any pooled account primarily invested in bonds.
- » **Balanced funds** are pooled accounts invested in both stocks and bonds. They are classified into two subcategories: target date funds and non-target date balanced funds.
 - » A target date fund pursues a long-term investment strategy, using a mix of asset classes, or asset allocation, that the fund provider adjusts to become less focused on growth and more focused on income over time.¹¹
 - » Non-target date balanced funds include asset allocation, or hybrid, funds in addition to lifestyle funds.¹²
- » **Company stock** is equity in the plan's sponsor (the employer).
- » **Money funds** consist of those funds designed to maintain a stable share price.

- » **Stable value products**, such as **guaranteed investment contracts (GICs)**¹³ and **other stable value funds**,¹⁴ are reported as one category.
- » **Other** is the residual for other investments, such as real estate funds.
- » **Unknown**, which is the final category, consists of assets that could not be identified.¹⁵

Distribution of Plans, Participants, and Assets by Plan Size

The 2015 EBRI/ICI 401(k) database contains information on 101,625 401(k) plans with \$1.9 trillion in assets and 26.1 million participants (Figure 1). As in the 401(k) universe at large, most of the plans in the database are small: 59 percent of the plans have 25 or fewer participants, and 24 percent have 26 to 100 participants (Figure 2). In contrast, only 2 percent of the plans have more than 2,500 participants. However, participants and assets are concentrated in large plans. For example, 66 percent of participants are in plans with more than 2,500 participants, and these same plans account for 68 percent of all plan assets. Because most of the plans have a small number of participants, the asset size for many plans is modest. One-quarter of the plans have assets of \$250,000 or less, and another 29 percent have plan assets between \$250,001 and \$1,250,000 (Figure 3).

About Changes in Account Balances

When analyzing the change in participant account balances over time, it is important to have a consistent sample of participants. Comparing average account balances across different year-end snapshots can lead to false conclusions. For example, the addition of a large number of new plans with smaller balances to the database would tend to pull down the average account balance. This could then be mistakenly described as an indication that balances are declining, but actually would tell us nothing about consistently participating workers. Similarly, the aggregate average account balance would tend to be pulled down if a large number of older participants retired. In addition, changes in the sample of recordkeepers and changes in the set of plans for which they keep records also can influence the change in aggregate average account balance. Thus, to ascertain what is happening to 401(k) participants' account balances, a set of consistent participants must be analyzed. Future research will examine linked data to analyze the consistent sample of participants in the EBRI/ICI data collection effort.

Although the average account balance for the entire database at year-end 2015 is lower than the average account balance at year-end 2014, this is entirely the result of participants and plans entering and leaving the database. Among the sample of participants who were present in the database in both 2014 and 2015, the average account balance increased by 3.1 percent between year-end 2014 and year-end 2015, from \$83,175 to \$85,729.¹⁶

FIGURE 1

401(k) Plan Characteristics by Number of Plan Participants, 2015

Number of plan participants	Total plans	Total participants	Total assets	Average account balance
1 to 10	37,299	183,472	\$15,199,012,058	\$82,841
11 to 25	22,661	379,336	29,231,758,328	77,060
26 to 50	14,176	510,903	37,160,101,117	72,734
51 to 100	9,918	704,912	48,369,878,150	68,618
101 to 250	7,863	1,241,634	80,931,056,172	65,181
251 to 500	3,691	1,297,953	81,319,803,031	62,652
501 to 1,000	2,458	1,724,490	113,626,446,289	65,890
1,001 to 2,500	1,906	2,969,211	211,861,220,666	71,353
2,501 to 5,000	818	2,883,401	211,488,103,027	73,347
5,001 to 10,000	457	3,149,425	239,898,519,944	76,172
>10,000	378	11,091,709	848,198,372,615	76,471
All	101,625	26,136,446	1,917,284,271,397	73,357

Note: The median account balance at year-end 2015 was \$16,732.

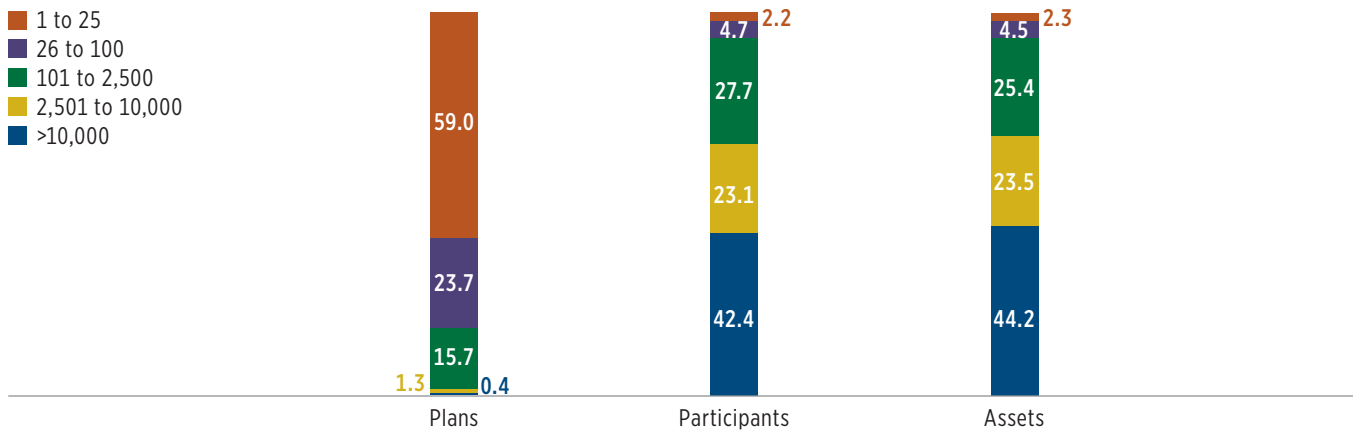
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 2

Distribution of 401(k) Plans, Participants, and Assets

Percentage of plans, participants, and assets by number of plan participants, 2015

Number of plan participants



Note: Components do not add to 100 percent because of rounding.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 3

401(k) Plan Characteristics by Plan Assets, 2015

Plan assets	Total plans	Total participants	Total assets*	Average account balance
\$0 to \$250,000	25,421	165,084	\$2,281,392,080	\$13,820
>\$250,000 to \$625,000	15,208	215,627	6,404,566,546	29,702
>\$625,000 to \$1,250,000	14,719	326,062	13,376,319,694	41,024
>\$1,250,000 to \$2,500,000	14,572	537,251	26,038,716,458	48,467
>\$2,500,000 to \$6,250,000	14,360	1,064,449	56,569,883,213	53,145
>\$6,250,000 to \$12,500,000	6,661	1,134,792	58,420,112,123	51,481
>\$12,500,000 to \$25,000,000	4,006	1,339,327	70,309,390,837	52,496
>\$25,000,000 to \$62,500,000	3,205	2,302,859	124,609,075,745	54,111
>\$62,500,000 to \$125,000,000	1,391	2,114,232	122,791,809,419	58,079
>\$125,000,000 to \$250,000,000	923	2,503,912	161,576,476,861	64,530
>\$250,000,000	1,159	14,432,851	1,274,906,528,419	88,334
All	101,625	26,136,446	1,917,284,271,397	73,357

* Assets do not add to the total because of rounding.

Note: The median account balance at year-end 2015 was \$16,732.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Relationship of EBRI/ICI 401(k) Database Plans to the Universe of All 401(k) Plans

The 2015 EBRI/ICI 401(k) database is a representative sample of the estimated universe of 401(k) plans. At year-end 2015, all 401(k) plans held a total of \$4.4 trillion in assets, and the database represents about 43 percent of that total.¹⁷ The database also covers 48 percent of the universe of active 401(k) plan participants and 18 percent of all 401(k) plans.¹⁸ The distribution of assets, participants, and plans in the database for 2015 is similar to the universe of plans as reported by the US Department of Labor (Figure 4).¹⁹

Age and Tenure of 401(k) Plan Participants

The database includes 401(k) participants across a wide range of age and tenure groups. At year-end 2015, 49 percent of participants were in their thirties or forties, while 14 percent of participants were in their twenties, 26 percent were in their fifties, and 11 percent were in their sixties (Figure 5, upper panel). The median age of the participants in the 2015 database is 45 years, down from 46 years in 2014. Because older participants tend to have larger account balances, assets in the database are more concentrated among the older 401(k) participant groups. At year-end 2015, 63 percent of 401(k) plan assets

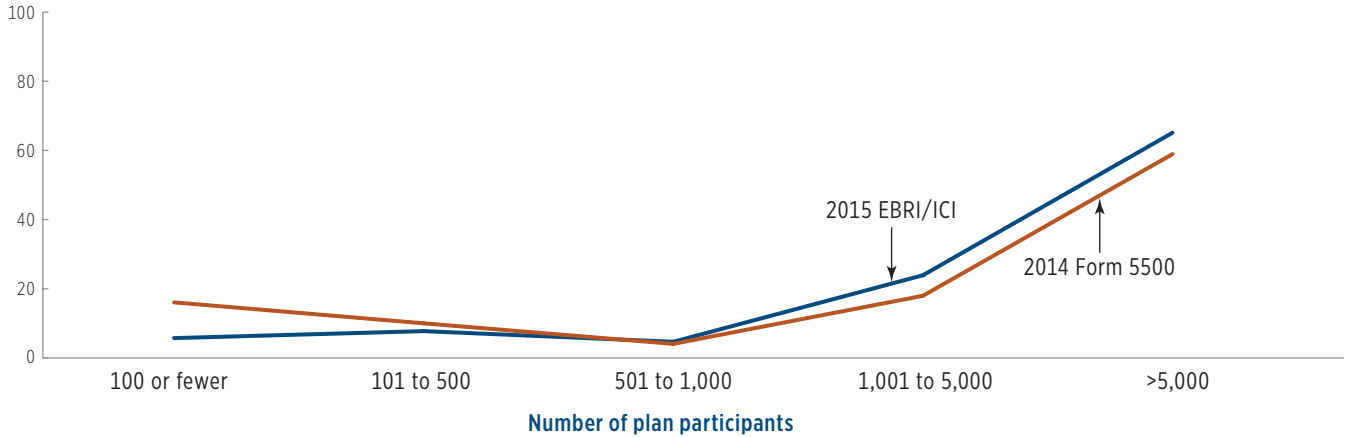
FIGURE 4

EBRI/ICI 401(k) Database Represents a Wide Cross Section of the 401(k) Universe

401(k) plan characteristics by number of participants: EBRI/ICI 401(k) database in 2015 versus 2014 DOL Form 5500 for all 401(k) plans

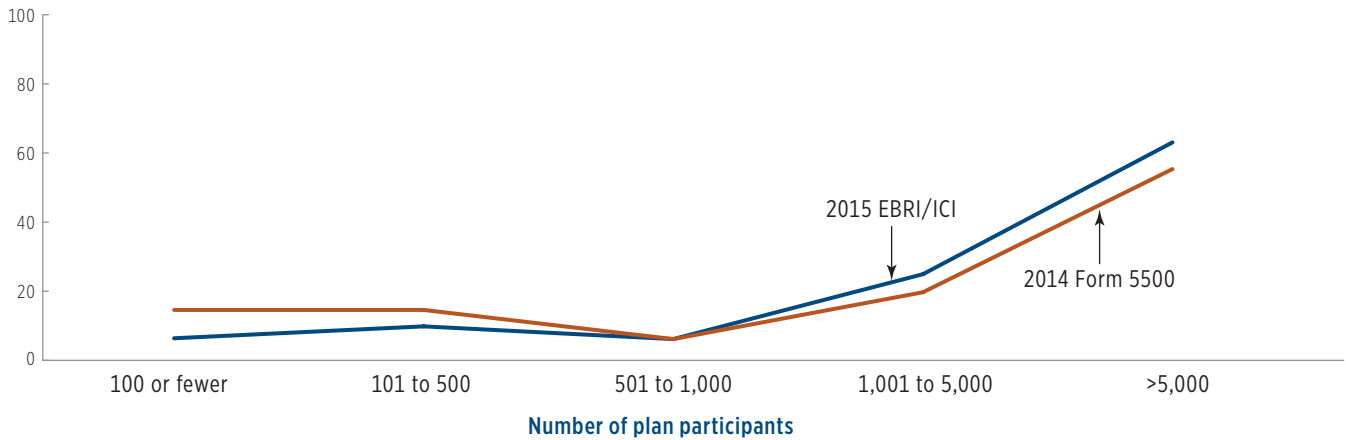
Plan assets

Percentage of plan assets



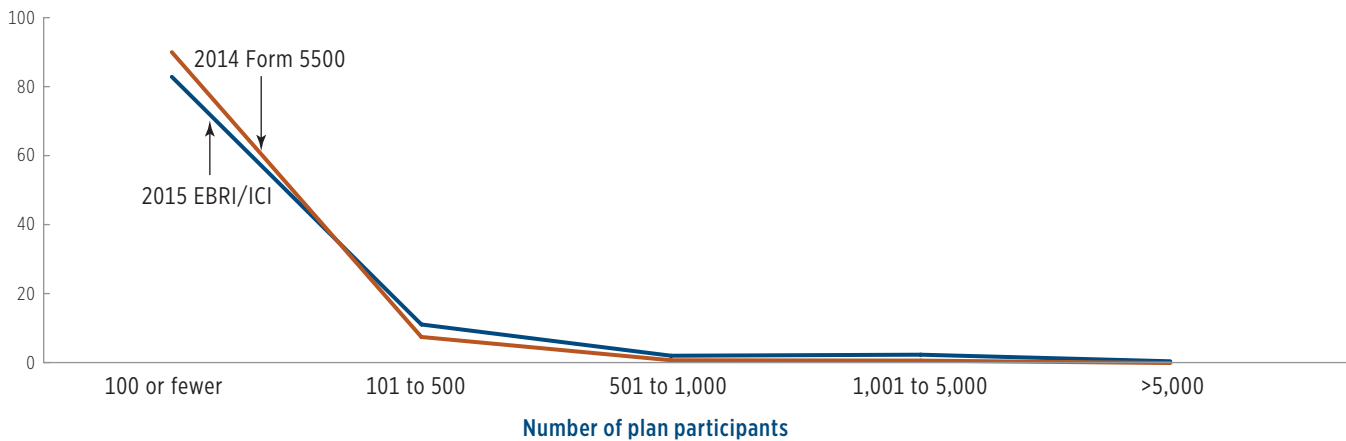
Participants

Percentage of participants



Plans

Percentage of plans



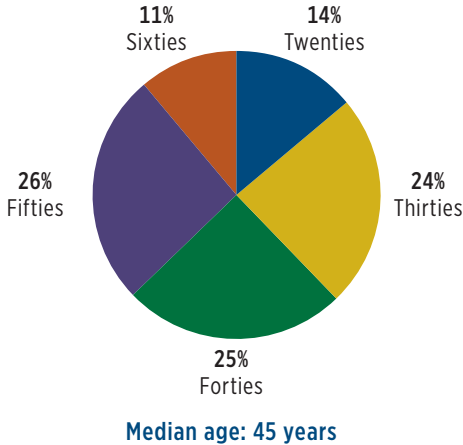
Sources: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project and US Department of Labor

were held by participants in their fifties or sixties, while 11 percent of 401(k) plan assets were held by participants in their twenties or thirties (Figure 5, lower panel). Participants in 401(k) plans represent a wide range of job tenure experiences. In 2015, 39 percent of the participants

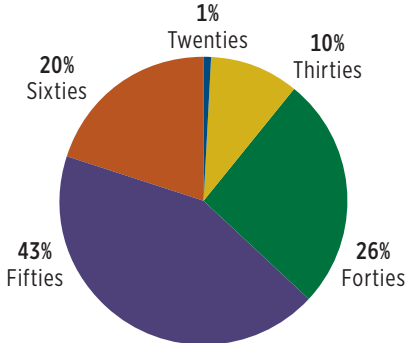
in the database had five or fewer years of tenure and 5 percent had more than 30 years of tenure (Figure 6). The median tenure at the current employer was eight years in 2015, the same as in 2014.

FIGURE 5
401(k) Participants Represent a Range of Ages
Percentage of active 401(k) plan participants and 401(k) plan assets by participant age, 2015

Active 401(k) plan participants



401(k) plan assets

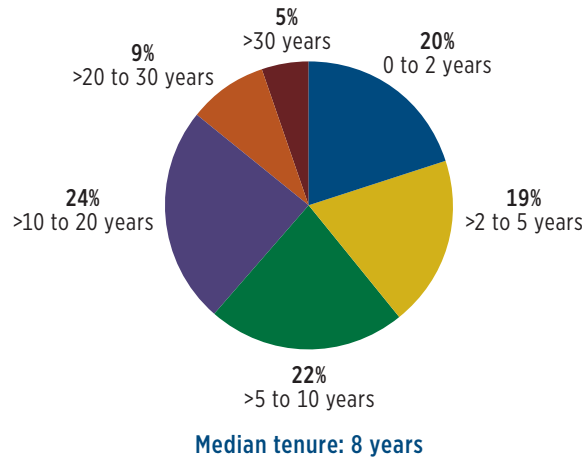


Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 6

401(k) Participants Represent a Range of Job Tenures

Percentage of active 401(k) plan participants by years of tenure, 2015



Note: The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan. Components do not add to 100 percent because of rounding.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Year-End 2015 Snapshot of 401(k) Participants' Account Balances

Factors That Affect 401(k) Participants' Account Balances

In any given year, the change in a participant's account balance in the database is the sum of three factors:

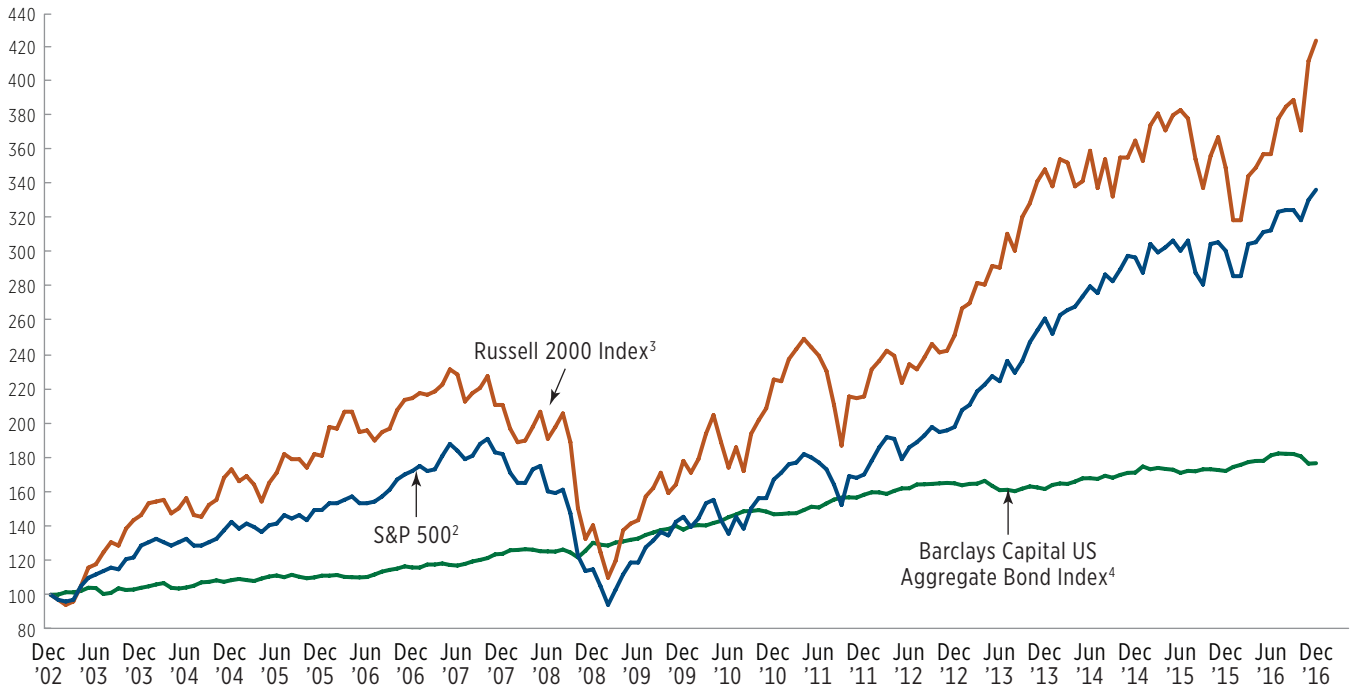
- » new contributions by the participant, the employer, or both;
- » total investment return on account balances, which depends on the performance of financial markets and on the allocation of assets in an individual's account; and
- » withdrawals, borrowing, and loan repayments.

The change in any individual participant's account balance in the database is influenced by the magnitude of these three factors relative to the starting account balance.²⁰ For example, a contribution of a given dollar amount produces a larger growth rate when added to a smaller account. On the other hand, investment returns of a given percentage produce larger dollar increases (or decreases) when compounded on a larger asset base. Asset allocation also influences investment returns and changes in assets. For example, stocks (as measured by the S&P 500 total return index) increased 1.4 percent during 2015, while bonds (as measured by the Barclays Capital US Aggregate Bond Index) increased 0.5 percent (Figures 7 and 8).

FIGURE 7

Domestic Stock and Bond Market Indexes

Month-end level,¹ December 2002 to December 2016



¹ All indexes are set to 100 in December 2002.

² The S&P 500 is an index of 500 stocks chosen for market size, liquidity, and industry group representation.

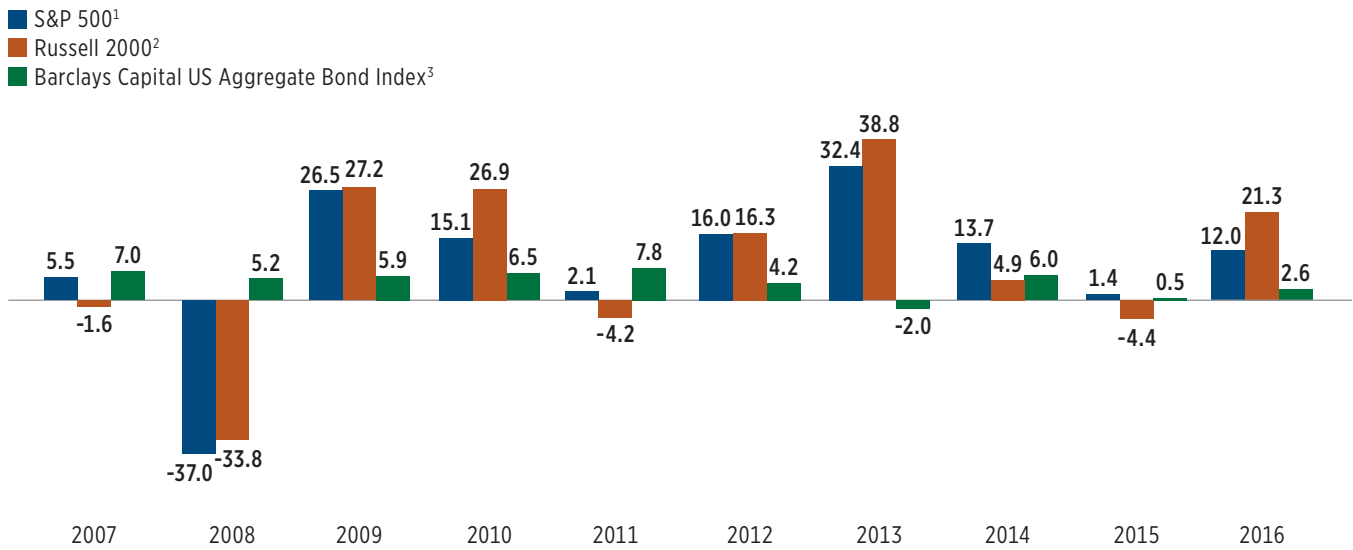
³ The Russell 2000 Index measures the performance of the 2,000 smallest US companies (based on total market capitalization) included in the Russell 3000 Index (which tracks the 3,000 largest US companies).

⁴ Formerly the Lehman Brothers US Aggregate Bond Index, the Barclays Capital US Aggregate Bond Index is composed of securities covering government and corporate bonds, mortgage-backed securities, and asset-backed securities (rebalanced monthly by market capitalization). The index's total return consists of price appreciation/depreciation plus income as a percentage of the original investment.

Sources: Bloomberg, Barclays Global Investors, Frank Russell Company, and Standard & Poor's

FIGURE 8

Percent Change in Total Return Indexes



¹ The S&P 500 is an index of 500 stocks chosen for market size, liquidity, and industry group representation.

² The Russell 2000 Index measures the performance of the 2,000 smallest US companies (based on total market capitalization) included in the Russell 3000 Index (which tracks the 3,000 largest US companies).

³ Formerly the Lehman Brothers US Aggregate Bond Index, the Barclays Capital US Aggregate Bond Index is composed of securities covering government and corporate bonds, mortgage-backed securities, and asset-backed securities (rebalanced monthly by market capitalization). The index's total return consists of price appreciation/depreciation plus income as a percentage of the original investment.

Sources: Bloomberg, Barclays Global Investors, Frank Russell Company, and Standard & Poor's

Definition of 401(k) Plan Account Balance

As a cross section, or snapshot, of the entire population of 401(k) plan participants, the database includes 401(k) participants who are young and those who are new to their jobs, as well as older participants and those who have been with their current employers for many years. These annual updates of the database provide snapshots of 401(k) plan account balances, asset allocation, and loan activity across wide cross sections of participants. However, the cross-sectional analysis is not well suited to addressing the question of the impact of participation in 401(k) plans over time. Cross sections change in composition over time because the selection of data providers and sample of plans

using a given provider vary from year to year and because 401(k) participants join or leave plans.²¹ In addition, the database contains only the account balances held in the 401(k) plans at participants' current employers. Retirement savings held in plans at previous employers or rolled over into individual retirement accounts (IRAs) are not included in the analysis.²² Furthermore, account balances are net of unpaid loan balances. Because of all these factors, it is not correct to presume that the change in the average or median account balance for the database as a whole reflects the experience of "typical" 401(k) plan participants. (See About Changes in Account Balances on page 4.)

Size of 401(k) Plan Account Balances

At year-end 2015, the average account balance was \$73,357 and the median account balance was \$16,732 (Figure 9), but balances varied widely. For example, about three-quarters of the participants in the 2015 EBRI/ICI 401(k) database had account balances that were lower than \$73,357, the size of the average account balance. In fact, 41.3 percent of participants had account balances of

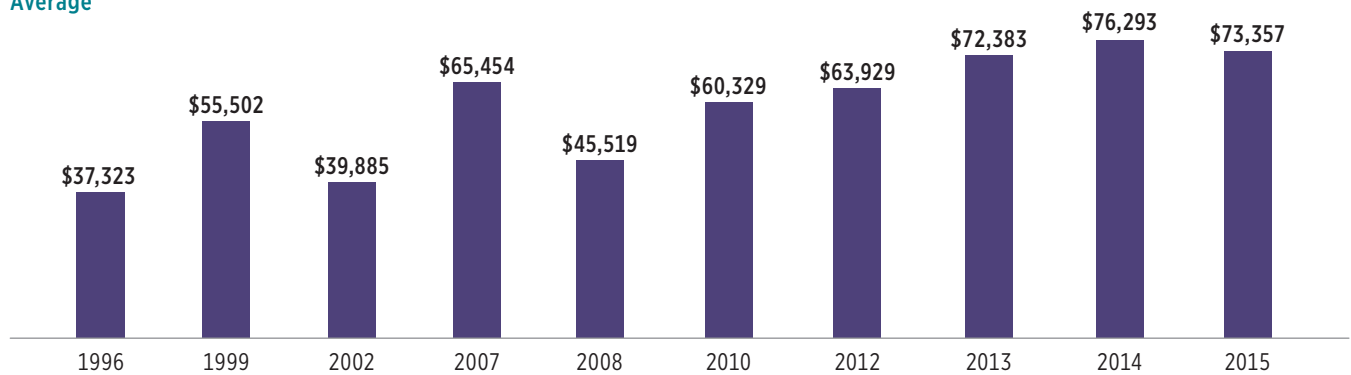
less than \$10,000, while 19.3 percent of participants had account balances greater than \$100,000 (Figure 10). The variation in account balances partly reflects the effects of participant age, tenure, salary, contribution behavior, rollovers from other plans, asset allocation, withdrawals, loan activity, and employer contribution rates. This paper examines the relationship between account balances and participants' age, tenure, and salary.

FIGURE 9

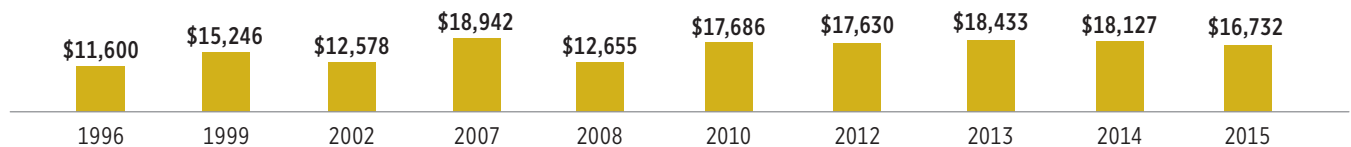
Snapshot of Year-End 401(k) Plan Account Balances

401(k) plan participant account balances,¹ selected years²

Average



Median



¹ Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included.

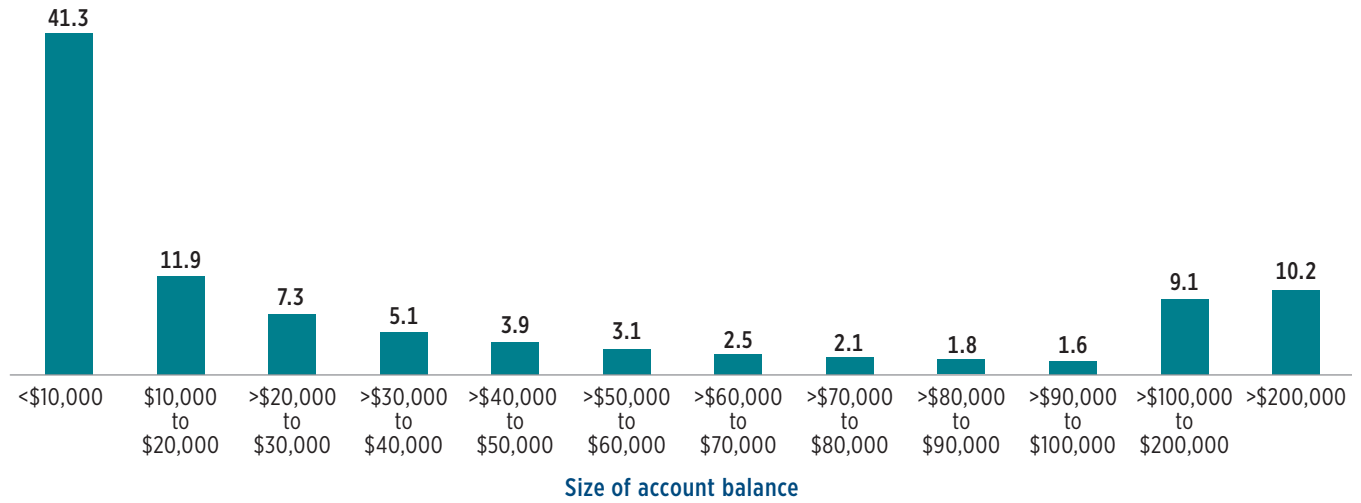
² The sample of participants changes over time.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 10

Distribution of 401(k) Plan Account Balances by Size of Account Balance

Percentage of participants with account balances in specified ranges, 2015



Note: At year-end 2015, the average account balance among all 26.1 million 401(k) participants was \$73,357; the median account balance was \$16,732. Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. Components do not add to 100 percent because of rounding.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Relationship of Age and Tenure to 401(k) Plan Account Balances

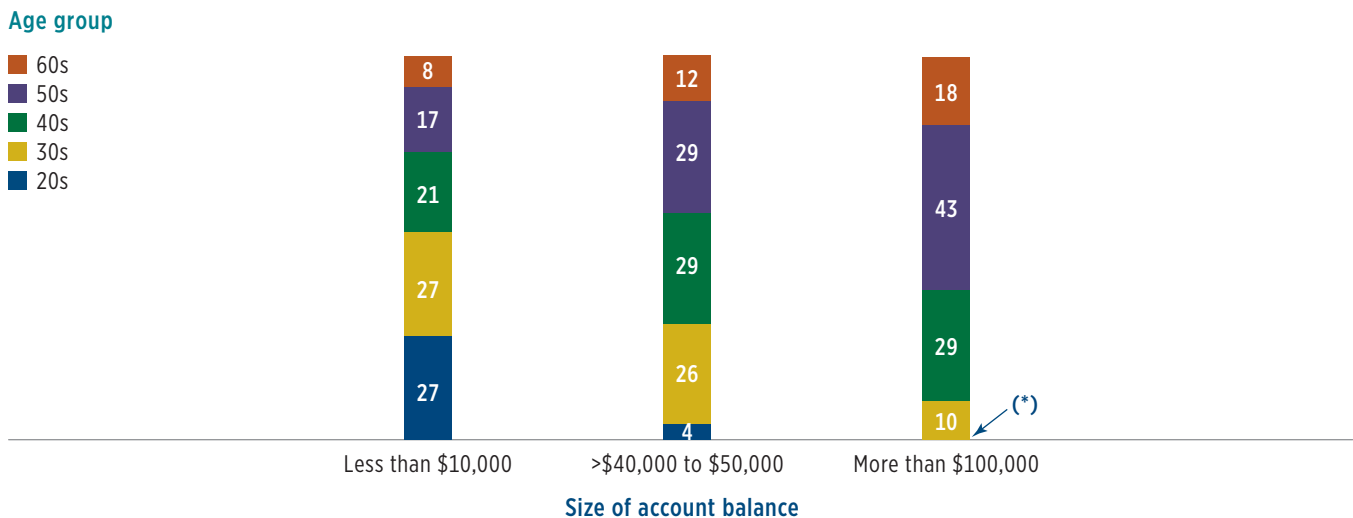
Age and account balance are positively correlated among participants covered by the 2015 database.²³ Examination of the age composition of account balances finds that 54 percent of participants with account balances of less than \$10,000 were in their twenties or thirties (Figure 11). Similarly, 61 percent of participants with account balances greater than \$100,000 were in their fifties or sixties. The positive correlation between age and account balance is expected because younger workers are likely to have lower incomes and to have had less time to accumulate a balance with their current employer. In addition, they are less likely to have rollovers from a previous employer’s plan in their current plan accounts.

Account balance and tenure are also positively correlated among participants in the 2015 database. A participant’s tenure with an employer serves as a proxy for the length of time a worker has participated in the 401(k) plan.²⁴ Indeed, 66 percent of participants with account balances of less than \$10,000 had five or fewer years of tenure, while 75 percent of participants with account balances greater than \$100,000 had more than 10 years of tenure (Figure 12).²⁵ Examining the interaction of both age and tenure with account balances reveals that, for a given age group, average account balances tend to increase with tenure. For example, the average account balance of participants in their sixties with up to two years of tenure was \$37,976, compared with \$280,976 for participants in their sixties with more than 30 years of tenure (Figure 13).²⁶

FIGURE 11

Age Composition of Selected 401(k) Plan Account Balance Categories

Percentage of participants with account balances in specified ranges, 2015



(*) = less than 0.5 percent

Note: Account balances are participant account balances held in 401(k) plans at the participants’ current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Similarly, the average account balance of participants in their forties with up to two years of tenure was \$19,088, compared with \$158,182 for participants in their forties with more than 20 years of tenure. The distribution of account balances underscores the effects of age and tenure

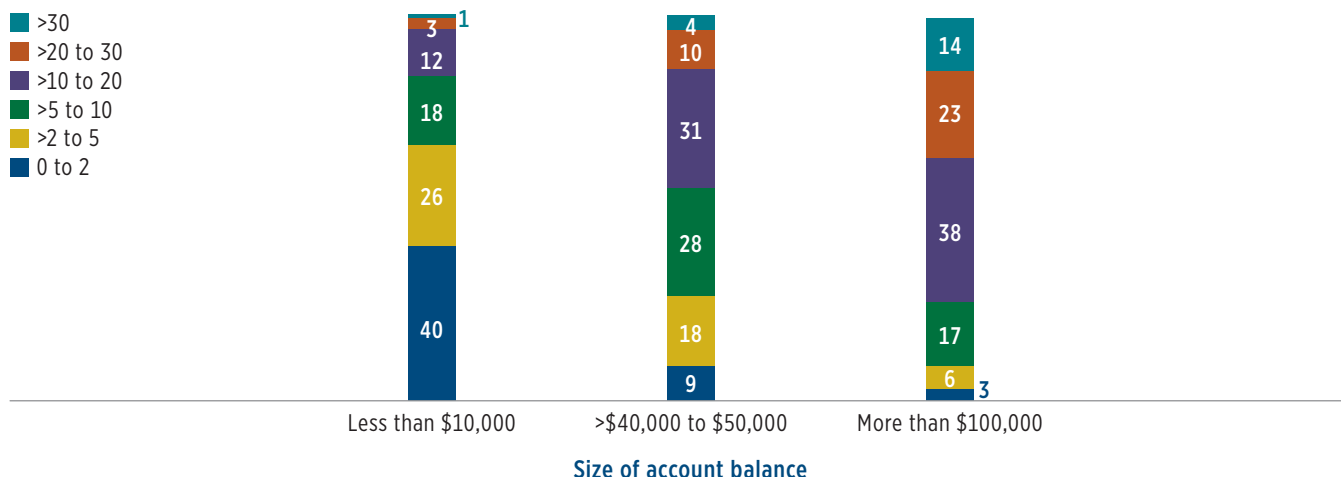
on account balances. In a given age group, shorter tenure tends to mean that a higher percentage of participants will have account balances of less than \$10,000. For example, 88 percent of participants in their twenties with two or fewer years of tenure had account balances of less than

FIGURE 12

Tenure Composition of Selected 401(k) Plan Account Balance Categories

Percentage of participants with account balances in specified ranges, 2015

Years of tenure



Note: Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan. Components may not add to 100 percent because of rounding.
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 13

401(k) Plan Account Balances Increase with Participant Age and Tenure

Average 401(k) plan account balance by participant age and tenure, 2015

Age group	Years of tenure					
	0 to 2	>2 to 5	>5 to 10	>10 to 20	>20 to 30	>30
20s	\$4,644	\$11,096	\$17,490			
30s	11,705	23,067	43,033	\$65,538		
40s	19,088	35,294	64,515	114,575	\$158,182	
50s	27,007	44,097	74,147	132,662	223,451	\$278,412
60s	37,976	47,301	70,469	113,375	189,387	280,976

Note: The average account balance among all 26.1 million 401(k) plan participants was \$73,357; the median account balance was \$16,732. Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

\$10,000 in 2015, compared with 55 percent of participants in their twenties with between five and 10 years of tenure (Figure 14). Older workers display a similar pattern. For example, 59 percent of participants in their sixties with two or fewer years of tenure had account balances of less than \$10,000. In contrast, less than one-sixth of those in their sixties with more than 20 years of tenure had account balances of less than \$10,000.²⁷

In a given age group, longer tenure tends to mean that a higher percentage of participants will have account balances greater than \$100,000. For example, 20 percent of participants in their sixties with five to 10 years of tenure had account balances in excess of \$100,000 in 2015 (Figure 15). However, 46 percent of participants in their sixties with between 20 and 30 years of tenure with their current employer had account balances greater than \$100,000. The percentage increases to 57 percent for participants in their sixties with more than 30 years of tenure.

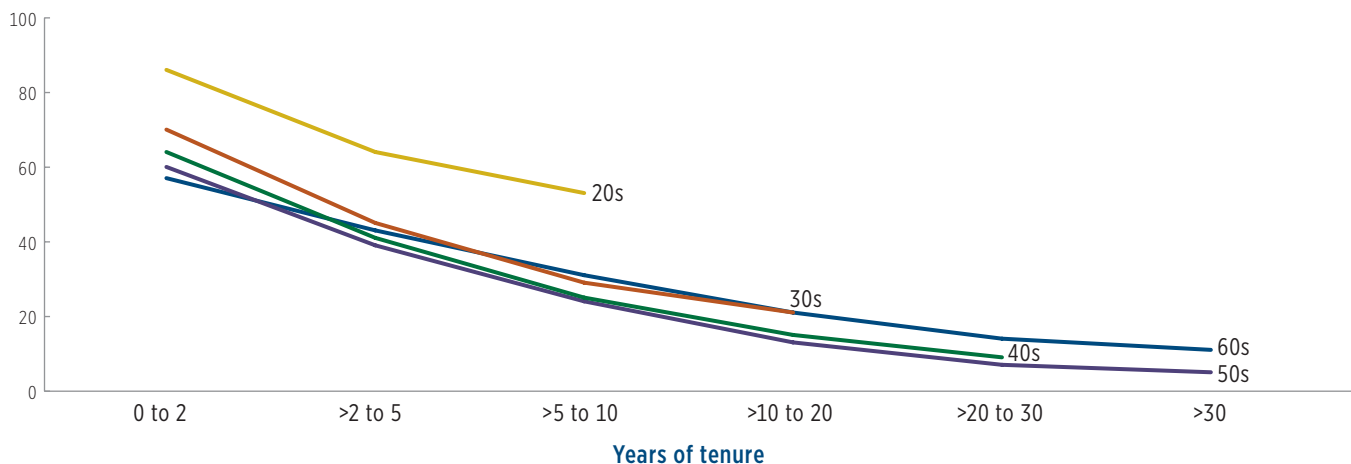
Relationship Between 401(k) Plan Account Balances and Salary

Participants' account balances vary not only with age and tenure, but also with salary. Figure 16 reports the account balances of longer-tenured participants at their current employers' 401(k) plans. Retirement savings held at previous employers or amounts rolled over to IRAs are not included in the analysis. To capture as long a savings history as possible, only longer-tenured participants are included in this analysis. However, it is important to note that the tenure variable indicates the time that individuals have been with their current employers and may not reflect the length of time they have participated in a 401(k) plan. One reason that job tenure may not reflect length of participation in the 401(k) plan, particularly among older participants, is that the proposed regulations for 401(k) plans were not introduced until 1981.²⁸

FIGURE 14

401(k) Plan Account Balances Less Than \$10,000 by Participant Age and Tenure

Percentage of participants with account balances less than \$10,000 at year-end 2015



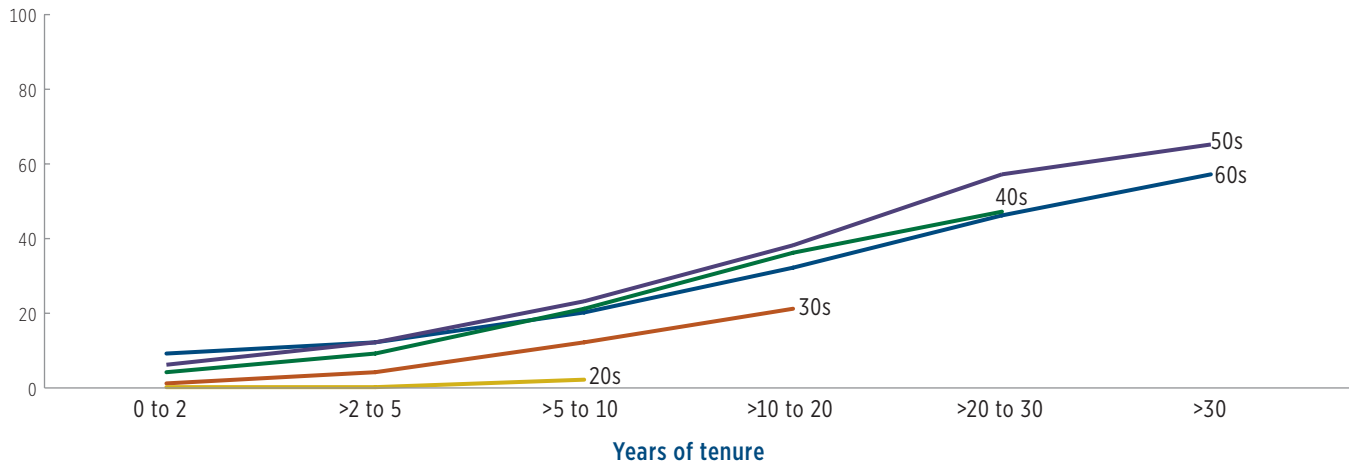
Note: Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 15

401(k) Plan Account Balances Greater Than \$100,000 by Participant Age and Tenure

Percentage of participants with account balances greater than \$100,000 at year-end 2015



Note: Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 16

Median 401(k) Plan Account Balance¹ Among Longer-Tenured² Participants by Age and Salary, 2015

Salary range	Participant age group				
	20s	30s	40s	50s	60s
\$20,000 to \$40,000	\$6,764	\$19,797	\$52,783	\$78,077	\$60,585
>\$40,000 to \$60,000	15,225	33,715	74,541	109,075	95,357
>\$60,000 to \$80,000	29,126	57,952	119,778	174,458	149,997
>\$80,000 to \$100,000	50,348	89,604	179,981	255,631	222,328
>\$100,000	40,378	141,511	305,302	420,852	376,091

¹ Account balances are based on administrative records and cover the account balance at the 401(k) plan participant's current employer. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. Account balances are net of loan balances.

² Longer-tenured participants are used in this analysis to capture the longest possible work and savings history (see note 1). The tenure variable tends to be years with the current employer rather than years of participation in the 401(k) plan. One reason that job tenure may not reflect length of participation in the 401(k) plan, particularly among older participants, is that the regulations for 401(k) plans were not introduced until 1981.

Source: Tabulations from the EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

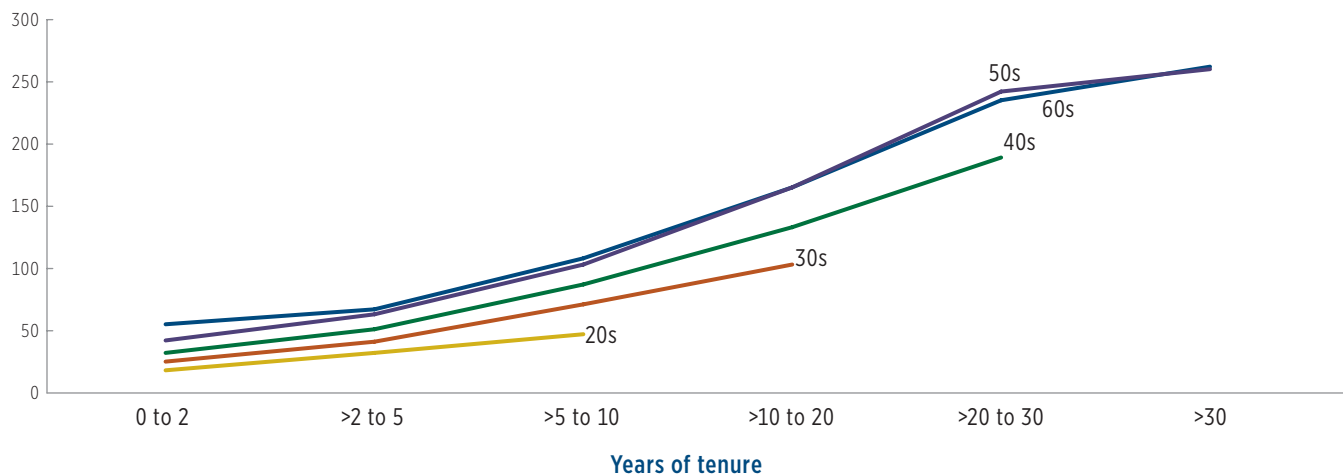
Older, longer-tenured, and higher-income participants tend to have larger account balances, which are important for meeting their income-replacement needs in retirement.²⁹ For longer-tenured participants in their twenties with salaries between \$20,000 and \$40,000, the median account balance was \$6,764 in 2015 (Figure 16). Longer-tenured participants in their twenties earning more than \$80,000 to \$100,000 had a median account balance of \$50,348, while those earning more than \$100,000 had a median account balance of \$40,378. Among longer-tenured participants in their sixties with \$20,000 to \$40,000 in salary in 2015, the median account balance was \$60,585. For longer-tenured participants in their sixties earning more than \$100,000, the median account balance was \$376,091.

The ratio of participant account balance to salary tends to be positively correlated with age and tenure.³⁰ Participants in their fifties and sixties—having had more time to accumulate assets—tended to have higher ratios, while those in their twenties had the lowest ratios (Figure 17). In addition, for any given age and tenure combination, the ratio of account balance to salary varies somewhat with salary. For example, among participants in their twenties, the ratio tends to increase slightly with salary for low-to-moderate salary groups (Figure 18). However, at high salary levels the ratio tends to decline somewhat. A similar pattern occurs among participants in their sixties (Figure 19).³¹

FIGURE 17

Ratio of 401(k) Plan Account Balance to Salary by Participant Age and Tenure

Percent, 2015



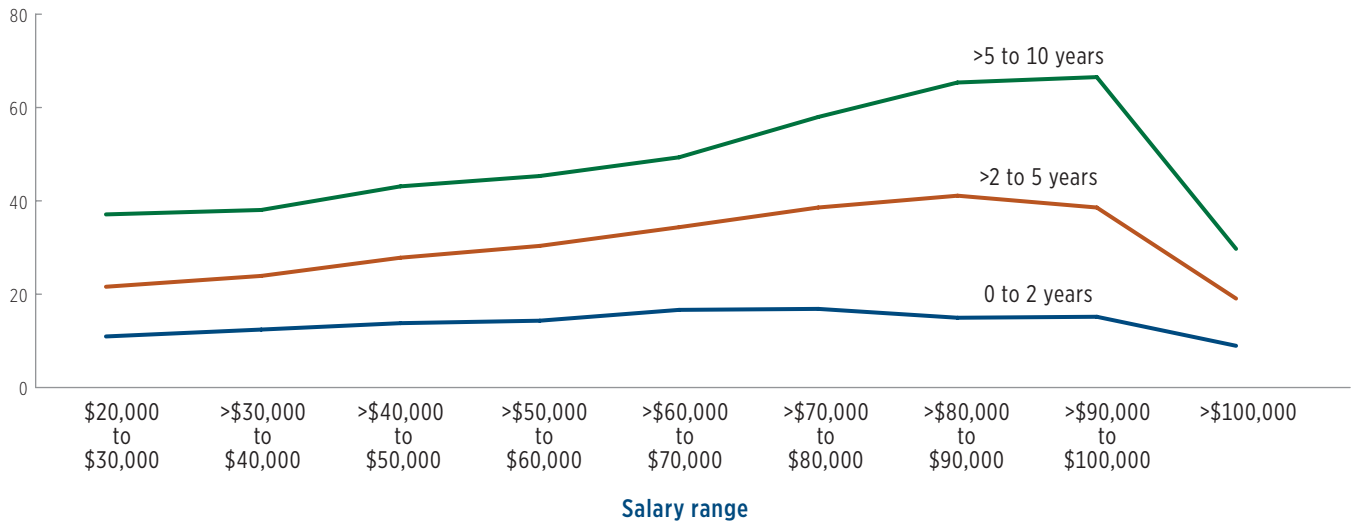
Note: Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 18

Ratio of 401(k) Plan Account Balance to Salary for Participants in Their Twenties by Tenure

Percent, 2015



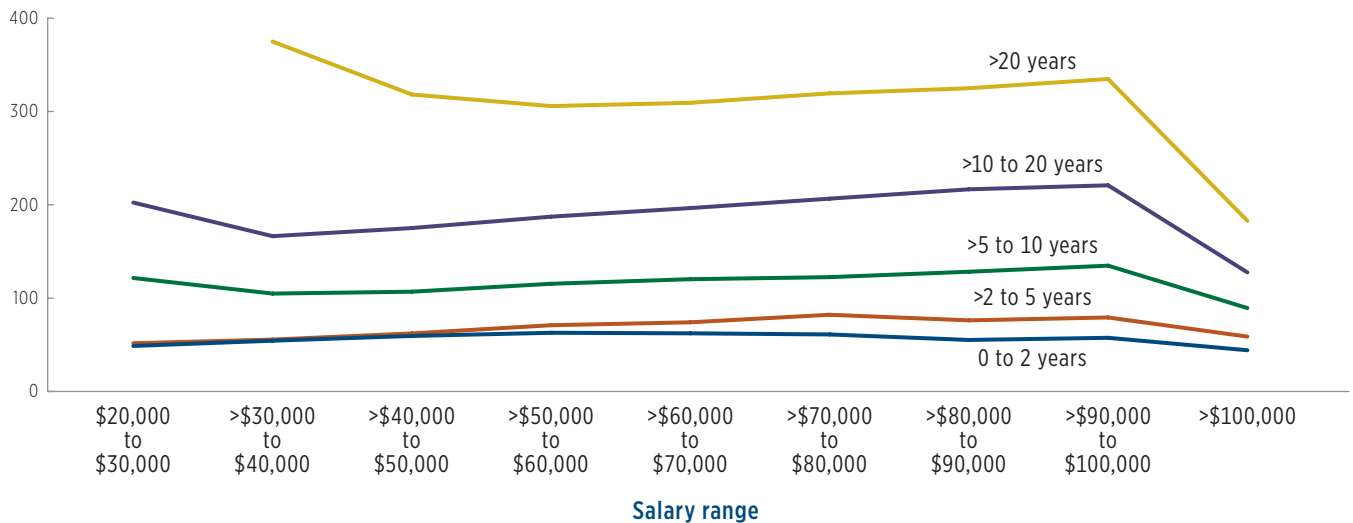
Note: Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 19

Ratio of 401(k) Plan Account Balance to Salary for Participants in Their Sixties by Tenure

Percent, 2015



Note: Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Year-End 2015 Snapshot of 401(k) Participants' Asset Allocation

At year-end 2015, 43 percent of 401(k) plan participants' account balances were invested in equity funds, on average, the same as in 2014, and compared with 44 percent at year-end 2013, 37 percent at year-end 2008, and 48 percent at year-end 2007 (Figure 20). Altogether, equity securities—equity funds, the equity portion of balanced funds,³² and company stock—represented 66 percent of 401(k) plan participants' assets at year-end 2015 (Figure 21).

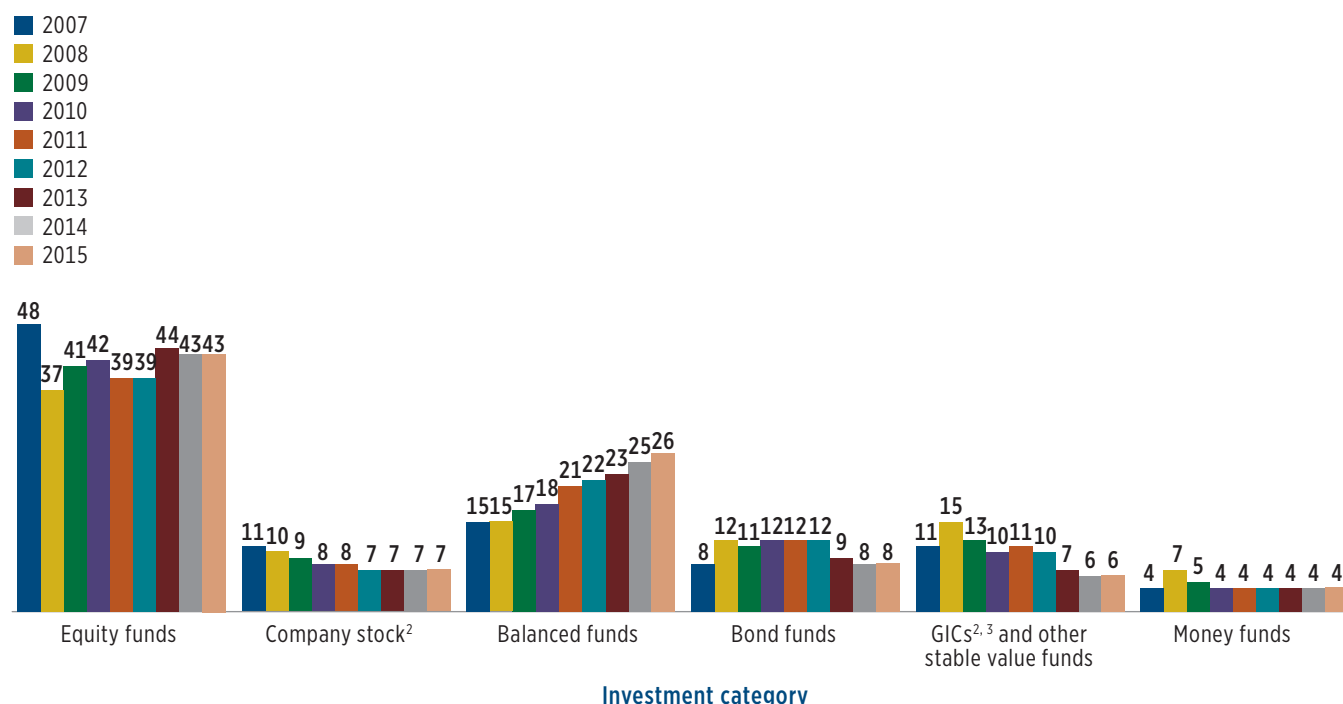
Changes in Asset Allocation Between Year-End 2014 and Year-End 2015

Investment performance likely explains a good deal of the fluctuation in 401(k) participants' asset allocations over time. Much of the movement in the largest component, equity funds, tends to reflect overall equity market prices, which generally rose from 2003 through 2007, dropped in 2008, rose from 2009 through 2010, moderated in 2011, rose from 2012 through 2014, and moderated in 2015 (Figures 7, 8, and 20). At year-end 2015, equity funds were 43 percent of the assets in the EBRI/ICI 401(k) database, the same as in 2014. Bonded funds, which invest in both equities and fixed-income securities, increased slightly in share, accounting for 26 percent of the assets in the database at year-end 2015. Despite minor shifts, most 401(k) participants appeared not to have made dramatic shifts in their asset allocations in 2015.³³

FIGURE 20

401(k) Plan Assets Are Concentrated in Equities

401(k) plan average asset allocation, percentage of total assets,¹ 2007–2015



¹ Minor investment options are not shown; therefore, components do not add to 100 percent. Percentages are dollar-weighted averages.

² Not all participants are offered this investment option (see Figure 22).

³ GICs are guaranteed investment contracts.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Asset Allocation and Participant Age

As in previous years, the database for year-end 2015 shows that participants' asset allocation varied considerably with age.³⁴ Younger participants tended to favor equity funds and balanced funds, while older participants were more likely to invest in fixed-income securities such as bond funds, GICs and other stable value funds, or money funds (Figure 21). For example, among participants in their twenties, the average allocation to equity and balanced funds was more than 80 percent of assets, compared with about 60 percent of assets among participants in their sixties. Younger participants had consistently higher

allocations to target date funds. A target date, or lifecycle, fund pursues a long-term investment strategy, using a mix of asset classes that follow a predetermined reallocation, typically rebalancing to shift its focus from growth to income as the fund approaches and passes its target date.³⁵ At year-end 2015, 20 percent of 401(k) assets in the database were invested in target date funds, up from 18 percent at year-end 2014.³⁶ Among participants in their twenties, 47 percent of their 401(k) assets were invested in target date funds at year-end 2015; among participants in their sixties, 17 percent of their 401(k) assets were invested in target date funds.

FIGURE 21

Average Asset Allocation of 401(k) Plan Accounts by Participant Age

Percentage of account balances,¹ 2015

Age group	Equity funds	Target date funds ^{2, 3}	Non-target date balanced funds	Bond funds	Money funds	GICs ^{3, 4} and other stable value funds	Company stock ³	Other	Unknown	Memo: equities ⁵
20s	28.3	46.6	7.5	4.9	1.3	1.4	4.7	3.5	1.8	79.5
30s	41.6	31.0	5.3	5.6	2.2	2.6	5.7	4.2	1.7	78.0
40s	48.1	20.5	5.3	6.7	2.9	3.6	6.5	4.6	1.7	74.1
50s	43.9	17.5	5.7	8.5	3.9	6.7	7.0	5.4	1.5	65.3
60s	37.7	16.9	5.9	10.1	5.7	9.8	6.2	6.1	1.6	55.2
All	43.1	19.8	5.7	8.1	3.9	6.1	6.5	5.3	1.6	66.4

¹ Row percentages may not add to 100 percent because of rounding. Percentages are dollar-weighted averages.

² A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

³ Not all participants are offered this investment option (see Figure 22).

⁴ GICs are guaranteed investment contracts.

⁵ Equities include equity funds, company stock, and the equity portion of balanced funds.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Asset Allocation and Investment Options

The investment options that a plan offers can significantly affect how participants allocate their 401(k) assets.

Figure 22 presents the distribution of plans, participants, and assets by four combinations of investment offerings.

The first category is the base group, which consists of plans that offer neither company stock nor GICs or other stable value funds. Forty-one percent of participants in the 2015 EBRI/ICI 401(k) database were in these plans, which generally offer equity funds, bond funds, money

FIGURE 22

Distribution of 401(k) Plans, Participants, and Assets by Investment Options, 2015

Investment options offered by plan	Plans	Participants	Assets ¹
Equity, bond, money, and/or balanced funds	76,479	10,718,267	\$639,486,832,441
Of which: target date funds ² are an option	49,597	8,185,523	475,102,536,915
Equity, bond, money, and/or balanced funds; and GICs³ and/or other stable value funds	23,127	6,926,866	515,936,218,799
Of which: target date funds ² are an option	14,566	4,721,893	355,831,919,842
Equity, bond, money, and/or balanced funds; and company stock	817	4,478,825	337,616,706,768
Of which: target date funds ² are an option	536	3,371,140	249,169,297,919
Equity, bond, money, and/or balanced funds; company stock; and GICs³ and/or other stable value funds	1,202	4,012,488	424,244,513,390
Of which: target date funds ² are an option	846	3,091,846	322,134,548,731
All	101,625	26,136,446	1,917,284,271,397
Of which: target date funds ² are an option	65,545	19,370,402	1,402,238,303,406

Investment options offered by plan	Percentage of plans ¹	Percentage of participants	Percentage of assets ¹
Equity, bond, money, and/or balanced funds	75.3%	41.0%	33.4%
Of which: target date funds ² are an option	48.8	31.3	24.8
Equity, bond, money, and/or balanced funds; and GICs³ and/or other stable value funds	22.8	26.5	26.9
Of which: target date funds ² are an option	14.3	18.1	18.6
Equity, bond, money, and/or balanced funds; and company stock	0.8	17.1	17.6
Of which: target date funds ² are an option	0.5	12.9	13.0
Equity, bond, money, and/or balanced funds; company stock; and GICs³ and/or other stable value funds	1.2	15.4	22.1
Of which: target date funds ² are an option	0.8	11.8	16.8
All	100.0	100.0	100.0
Of which: target date funds ² are an option	64.5	74.1	73.1

¹ Components may not add to the totals because of rounding.

² A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

³ GICs are guaranteed investment contracts.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

funds, and balanced funds as investment options. Another 27 percent of participants were in plans that offer GICs and other stable value funds as an investment option, in addition to the base options. Alternatively, 17 percent of participants were in plans that offer company stock but no stable value products, while the remaining 15 percent of participants were in plans that offered both company stock and stable value products in addition to the base options. Target date funds were available in 65 percent of the 401(k) plans in the year-end 2015 database (Figure 22).³⁷ These plans offered target date funds to 74 percent of the participants in the database.³⁸ Among participants who were offered target date funds, 67 percent held them at year-end 2015. Target date fund assets represented 27 percent of the assets of plans offering such funds in their investment lineups.

Asset Allocation by Investment Options and Age, Salary, and Plan Size

Asset allocation also varies with participant age; Figure 23 demonstrates this with an analysis of asset allocation by investment options and also by participant age. Figure 24 presents asset allocation by salary range and by investment options. Salary information is available for a subset of participants in the 2015 EBRI/ICI 401(k) database. Participant asset allocation also varies with plan size (Figure 25, top panel), but much of the variation can be explained by differences in the investment options offered by plan sponsors. For example, the percentage of plan assets invested in company stock rose with plan size, in part, because few small plans offered company stock as an investment option. For example, 1 percent of participants in small plans (100 participants or fewer) were offered company stock as an investment option, while 51 percent of participants in plans with more than 5,000 participants were offered company stock as an investment option in 2015. Thus, to analyze the potential effect of plan size, the remaining panels of Figure 25 group plans by investment options and plan size.

FIGURE 23

Average Asset Allocation of 401(k) Plan Accounts by Participant Age and Investment OptionsPercentage of account balances,¹ 2015

	Equity funds	Target date funds ²	Non-target date balanced funds	Bond funds	Money funds	GICs ³ and other stable value funds	Company stock
All ages combined							
<i>Investment options</i>							
Equity, bond, money, and/or balanced funds	47.8	22.9	6.9	10.3	5.2		
Equity, bond, money, and/or balanced funds; and GICs ³ and/or other stable value funds	45.3	19.0	5.4	8.1	2.0	12.8	
Equity, bond, money, and/or balanced funds; and company stock	36.8	19.9	3.6	6.8	5.7		20.1
Equity, bond, money, and/or balanced funds; company stock; and GICs ³ and/or other stable value funds	38.3	15.9	5.8	5.6	2.8	8.8	13.4
Plans without company stock, GICs,³ or other stable value funds							
<i>Age group</i>							
20s	29.0	50.4	8.4	4.9	1.8		
30s	43.8	34.7	6.6	6.5	2.8		
40s	52.2	23.4	6.4	8.0	3.7		
50s	49.7	20.9	6.7	10.9	5.1		
60s	43.6	19.9	7.3	13.9	7.7		
Plans with GICs³ and/or other stable value funds							
20s	32.6	40.6	9.0	6.2	0.9	3.5	
30s	45.0	28.1	5.3	6.7	1.4	5.8	
40s	51.0	19.4	4.9	7.4	1.9	7.9	
50s	46.3	17.4	5.3	8.4	2.1	13.3	
60s	38.1	16.5	5.9	9.2	2.5	20.2	
Plans with company stock							
20s	21.4	48.4	5.0	4.5	1.4		16.2
30s	35.4	31.4	3.1	4.4	2.9		18.3
40s	41.3	20.3	3.1	5.7	4.1		20.0
50s	37.2	17.2	3.9	7.5	5.9		20.6
60s	32.1	16.7	3.8	8.7	9.2		20.4
Plans with company stock and GICs³ and/or other stable value funds							
20s	27.9	46.3	6.1	3.3	0.8	2.7	8.7
30s	39.3	28.2	5.4	4.0	1.6	5.1	11.2
40s	44.1	17.5	5.9	4.8	2.1	7.2	12.9
50s	38.4	13.3	5.9	6.1	2.8	13.1	13.9
60s	31.8	12.9	5.4	6.4	4.3	18.6	13.8

¹ Minor investment options are not shown; therefore, row percentages do not add to 100 percent. Percentages are dollar-weighted averages.

² A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

³ GICs are guaranteed investment contracts.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 24

Average Asset Allocation of 401(k) Plan Accounts by Participant Salary and Investment Options*Percentage of account balances,¹ 2015*

Salary ²	Equity funds	Target date funds ³	Non-target date balanced funds	Bond funds	Money funds	GICs ⁴ and other stable value funds	Company stock
Plans without company stock, GICs,⁴ or other stable value funds							
\$20,000 to \$40,000	41.8	30.9	7.2	8.8	7.8		
>\$40,000 to \$60,000	40.3	29.9	8.2	9.1	7.5		
>\$60,000 to \$80,000	44.0	26.6	7.8	9.9	6.7		
>\$80,000 to \$100,000	47.5	23.0	7.9	10.6	6.1		
>\$100,000	52.4	18.4	6.9	10.6	5.7		
All	47.8	22.9	6.9	10.3	5.2		
Plans with GICs⁴ and/or other stable value funds							
\$20,000 to \$40,000	35.8	32.7	3.9	7.4	1.4	13.8	
>\$40,000 to \$60,000	37.2	28.2	4.2	8.5	1.7	13.1	
>\$60,000 to \$80,000	41.7	23.7	4.6	8.9	2.0	11.6	
>\$80,000 to \$100,000	43.9	22.6	4.6	9.2	2.0	11.0	
>\$100,000	49.9	17.6	3.6	8.7	1.9	11.8	
All	45.3	19.0	5.4	8.1	2.0	12.8	
Plans with company stock							
\$20,000 to \$40,000	33.2	14.8	5.0	7.2	4.1		30.8
>\$40,000 to \$60,000	30.0	23.9	4.8	7.0	5.9		22.1
>\$60,000 to \$80,000	31.6	26.2	4.6	7.3	5.2		18.2
>\$80,000 to \$100,000	35.2	23.1	4.4	8.2	5.0		16.8
>\$100,000	41.6	17.5	3.4	9.1	4.8		14.8
All	36.8	19.9	3.6	6.8	5.7		20.1
Plans with company stock and GICs⁴ and/or other stable value funds							
\$20,000 to \$40,000	34.7	20.1	3.8	4.8	1.8	13.8	13.2
>\$40,000 to \$60,000	35.2	20.8	5.6	5.7	2.0	12.8	14.1
>\$60,000 to \$80,000	35.3	20.3	5.8	5.2	2.4	12.7	13.8
>\$80,000 to \$100,000	36.1	18.9	7.2	5.1	2.6	13.1	12.9
>\$100,000	39.9	15.8	6.3	5.5	2.9	11.4	11.6
All	38.3	15.9	5.8	5.6	2.8	8.8	13.4

¹ Minor investment options are not shown; therefore, row percentages do not add to 100 percent. Percentages are dollar-weighted averages.

² Salary information is available for a subset of participants in the EBRI/ICI 401(k) database.

³ A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

⁴ GICs are guaranteed investment contracts.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 25

Average Asset Allocation of 401(k) Plan Accounts by Plan Size and Investment Options*Percentage of account balances,¹ 2015*

Plan size by number of participants	Equity funds	Target date funds ²	Non-target date balanced funds	Bond funds	Money funds	GICs ³ and other stable value funds	Company stock
All plans							
1 to 100	45.4	21.8	6.3	10.9	4.4	3.2	0.1
101 to 500	45.8	21.7	6.7	10.0	4.1	4.2	0.4
501 to 1,000	45.9	21.8	6.4	8.9	3.9	4.7	1.3
1,001 to 5,000	45.5	19.9	6.0	7.9	3.7	6.3	3.2
>5,000	41.1	19.0	5.2	7.4	3.9	6.8	10.0
All	43.1	19.8	5.7	8.1	3.9	6.1	6.5
Plans without company stock, GICs,³ or other stable value funds							
1 to 100	45.4	23.2	5.8	12.4	5.0		
101 to 500	46.6	23.7	6.8	11.3	5.1		
501 to 1,000	48.3	22.6	7.1	10.2	5.0		
1,001 to 5,000	49.6	22.0	7.5	8.9	5.2		
>5,000	48.0	23.2	6.8	10.0	5.3		
All	47.8	22.9	6.9	10.3	5.2		
Plans with GICs³ and/or other stable value funds							
1 to 100	46.2	17.4	8.0	6.3	2.2	13.8	
101 to 500	45.5	17.5	6.4	7.6	1.9	13.3	
501 to 1,000	44.1	20.9	5.0	7.1	1.6	13.6	
1,001 to 5,000	44.1	19.2	5.1	7.4	1.8	14.0	
>5,000	45.9	19.1	5.2	9.0	2.3	11.6	
All	45.3	19.0	5.4	8.1	2.0	12.8	
Plans with company stock							
1 to 100 ⁴	40.1	13.9	7.4	8.6	5.9		10.4
101 to 500	41.7	18.1	5.7	8.1	4.9		15.1
501 to 1,000	37.5	20.9	6.3	8.9	5.0		17.9
1,001 to 5,000	44.4	16.1	5.0	7.6	4.8		15.9
>5,000	35.3	20.6	3.3	6.6	5.8		21.0
All	36.8	19.9	3.6	6.8	5.7		20.1
Plans with company stock and GICs³ and/or other stable value funds							
1 to 100	35.0	16.4	6.9	6.5	1.9	14.5	5.7
101 to 500	34.8	18.9	6.5	6.3	3.5	12.4	4.4
501 to 1,000	35.6	17.4	6.4	5.2	3.4	9.3	13.1
1,001 to 5,000	36.4	18.6	4.5	5.9	2.8	11.4	11.0
>5,000	38.6	15.5	5.9	5.5	2.8	12.1	13.8
All	38.3	15.9	5.8	5.6	2.8	8.8	13.4

¹ Minor investment options are not shown; therefore, row percentages do not add to 100 percent. Percentages are dollar-weighted averages.

² A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

³ GICs are guaranteed investment contracts.

⁴ Because few plans fall into this category, these percentages may be heavily influenced by a few outliers.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Distribution of Equity Fund Allocations and Participant Exposure to Equities

Participants in 401(k) plans may hold equities through a variety of options including equity funds, company stock, and balanced funds. This section focuses first on the investing pattern of 401(k) plan participants with respect to equity funds. The asset allocation of participants without equity funds is explored next, because 401(k) participants holding no equity funds may hold equities in the form of company stock or through balanced funds. Finally, the overall investment in equities across all 401(k) plan participants is presented.

Asset Allocation to Equity Funds

The year-end 2015 EBRI/ICI 401(k) database shows that, on average, 43 percent of participant account balances were allocated to equity funds (Figure 21), which is one way to hold equities. However, individual asset allocations varied widely across participants. For example, 54 percent of participants held no equity funds, while about 16 percent of participants held more than 80 percent of their balances in equity funds (Figures 26 and 27). Furthermore, the percentage of participants holding no equity funds varied with age, with 71 percent of participants in their twenties, 49 percent of participants in their forties, and 51 percent of participants in their sixties holding no equity funds. The percentage of 401(k) participants holding no equity funds also varied with tenure—participants with five or fewer years of tenure were more likely not to be invested in equity funds (Figure 27). The percentage of participants holding no equity funds tends to fall as salary increases.

FIGURE 26

Asset Allocation Distribution of 401(k) Participant Account Balance to Equity Funds by Participant Age

Percentage of participants,^{1, 2} 2015

Age group	Percentage of account balance invested in equity funds										
	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
20s	71.1	1.1	1.2	1.6	1.8	2.3	2.4	2.6	3.4	3.5	9.1
30s	57.4	2.1	2.0	2.5	2.7	3.4	3.9	4.2	4.8	5.1	11.9
40s	48.8	2.6	2.3	3.0	3.4	4.2	5.1	5.4	6.2	5.5	13.5
50s	47.1	3.3	2.8	3.6	4.0	5.1	6.1	6.0	5.6	4.1	12.2
60s	50.9	3.8	3.2	4.1	4.6	5.3	5.8	4.9	4.1	2.9	10.4
All	53.9	2.6	2.3	3.0	3.3	4.1	4.7	4.8	5.1	4.4	11.8

¹ The analysis includes the 26.1 million participants in the year-end 2015 EBRI/ICI 401(k) database.

² Row percentages may not add to 100 percent because of rounding.

Note: Equity funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in equities. In addition, 401(k) participants may hold equities through balanced funds or company stock—see Figure 30 for the distribution of 401(k) account balances to equities.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 27

Asset Allocation Distribution of 401(k) Participant Account Balance to Equity Funds by Participant Age, Tenure, or Salary

Percentage of participants, 2015

	Percentage of account balance invested in equity funds			
	Zero	1 to 20 percent	>20 to 80 percent	>80 percent
All	53.9	4.9	25.0	16.2
Age group				
20s	71.1	2.2	14.1	12.6
30s	57.4	4.1	21.5	17.1
40s	48.8	5.0	27.3	18.9
50s	47.1	6.1	30.4	16.3
60s	50.9	7.0	28.8	13.3
Years of tenure				
0 to 2	67.3	2.3	17.3	13.1
>2 to 5	63.6	3.5	20.0	13.0
>5 to 10	54.7	5.1	24.9	15.3
>10 to 20	42.3	6.8	32.1	18.8
>20 to 30	35.9	8.5	36.1	19.4
>30	38.4	10.1	35.5	16.0
Salary				
\$20,000 to \$40,000	68.8	4.0	17.7	9.5
>\$40,000 to \$60,000	57.7	5.9	24.6	11.8
>\$60,000 to \$80,000	49.0	6.8	29.9	14.4
>\$80,000 to \$100,000	42.8	7.3	33.9	15.9
>\$100,000	31.8	8.1	40.4	19.7

Note: Row percentages may not add to 100 percent because of rounding. Equity funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in equities. In addition, 401(k) participants may hold equities through balanced funds or company stock—see Figure 30 for the distribution of 401(k) plan account balances to equities. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Asset Allocation of 401(k) Plan Participants Without Equity Funds

Participants with no equity fund balances may still have exposure to the stock market through company stock or balanced funds, which include target date funds. In fact, 84 percent of 401(k) participants with no equity fund allocation had investments in either company stock or balanced funds at year-end 2015 (Figure 28). For example, 90 percent of participants in their twenties without equity funds held equities through company stock, balanced funds, or both. Indeed, 74 percent of participants in their twenties without equity funds held target date funds—

which tend to be highly concentrated in equity securities for that age group—as their only equity investment. Another 8 percent of participants in their twenties without equity funds had equity exposure only through non-target date balanced funds, and another 3 percent held company stock as their only equity investment. Five percent had equity exposure through some combination of target date funds, non-target date balanced funds, or company stock. As a result, many participants with no equity funds had exposure to equity-related investments through company stock, balanced funds, or both (Figure 29).

FIGURE 28

Percentage of 401(k) Participants Without Equity Fund Balances Who Have Equity Exposure by Participant Age or Tenure, 2015

	Percentage of participants without equity funds				
	Company stock and/or balanced funds	Target date funds* as only equity investment	Non-target date balanced funds as only equity investment	Company stock as only equity investment	Combination of company stock and/or target date funds* and/or non-target date balanced funds
Age group					
20s	90.3	74.2	8.3	3.2	4.6
30s	87.8	68.5	7.7	3.9	7.7
40s	84.4	62.1	9.0	5.3	8.1
50s	81.4	57.1	8.7	6.8	8.9
60s	75.1	51.0	8.6	7.4	8.1
All	84.3	63.1	8.6	5.2	7.4
Years of tenure					
0 to 2	89.5	74.1	9.2	2.6	3.6
>2 to 5	87.9	70.8	8.3	3.3	5.5
>5 to 10	83.2	61.6	8.4	4.8	8.4
>10 to 20	77.0	44.7	8.2	8.8	15.3
>20 to 30	71.1	37.6	8.5	12.4	12.6
>30	66.6	32.7	9.0	16.4	8.5
All	84.3	63.1	8.6	5.2	7.4

* A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

Note: Row components may not add to total in first column because of rounding. Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 29

Average Asset Allocation for 401(k) Plan Participants Without Equity Fund Balances by Participant Age or Tenure

Percentage of account balances,¹ 2015

	Target date funds ²	Non-target date balanced funds	Bond funds	Money funds	GICs ³ and other stable value funds	Company stock	Other	Unknown
Age group								
20s	73.3	10.5	3.3	1.3	1.2	4.7	3.9	1.7
30s	69.1	8.4	3.0	2.9	3.1	6.6	5.4	1.5
40s	57.8	9.4	4.3	4.9	5.5	9.1	7.4	1.5
50s	47.0	9.1	5.8	6.5	10.4	10.5	9.2	1.5
60s	39.7	8.3	7.4	8.8	15.7	8.8	9.5	1.7
All ⁴	50.8	9.0	5.5	6.2	9.3	9.0	8.5	1.6
Years of tenure								
0 to 2	69.0	11.0	5.3	4.2	1.5	1.9	5.5	1.6
>2 to 5	71.0	8.9	4.4	3.1	2.2	3.3	5.6	1.5
>5 to 10	62.8	9.1	4.7	4.7	4.6	5.9	6.7	1.5
>10 to 20	48.7	9.2	5.2	7.0	9.5	10.0	8.6	1.8
>20 to 30	38.5	9.0	5.9	7.7	12.3	13.2	11.7	1.8
>30	29.9	8.3	7.6	8.2	18.7	14.2	11.3	1.7
All ⁴	50.8	9.0	5.5	6.2	9.3	9.0	8.5	1.6

¹ Row percentages may not add to 100 percent because of rounding. Percentages are dollar-weighted averages.

² A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

³ GICs are guaranteed investment contracts.

⁴ The analysis includes the 14.1 million participants with no equity funds at year-end 2015.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Asset Allocation to Equities

Among individual 401(k) plan participants, the allocation of account balances to equities (equity funds, company stock, and the equity portion of balanced funds) varies widely around the average of 66 percent for all participants in the 2015 database (Figure 21).³⁹ Forty-eight percent of participants had more than 80 percent of their account balances invested in equities, while 9 percent held no equities at all at the end of 2015 (Figure 30). Younger 401(k) plan participants were slightly more likely to hold at least some equities and much more likely to have high concentrations in equities. At year-end 2015, 7 percent of 401(k) plan participants in their twenties had no equities, compared with 13 percent of 401(k) plan participants in their sixties. About three-quarters of 401(k) plan participants in their twenties had more than 80 percent of their account balances invested in equities, compared with about one-fifth of 401(k) plan participants in their sixties.

Changes in Concentrations in Equities Since the Financial Crisis

More 401(k) plan participants held equities at year-end 2015 compared with year-end 2007, and more had higher concentrations in equities. Overall, at year-end 2015, 9 percent of 401(k) plan participants held no equities, down from 13 percent at year-end 2007, and 48 percent had more than 80 percent of their account balances invested in equities at year-end 2015, compared with 44 percent at year-end 2007 (Figure 31). Younger 401(k) participants were much more likely to hold equities and to hold high concentrations in equities at year-end 2015 compared with year-end 2007. For example, about three-quarters of 401(k) plan participants in their twenties had more than 80 percent of their account balances invested in equities at year-end 2015, compared with less than half at year-end 2007. Older 401(k) participants were a little less likely to have such high concentrations in equities at year-end 2015 compared with year-end 2007: 21 percent of 401(k) plan participants in their sixties had more than 80 percent of their account balances invested in equities at year-end 2015, compared with 30 percent of 401(k) plan participants in their sixties at year-end 2007, although a lower share held no equities.

FIGURE 30

Asset Allocation to Equities Varied Widely Among 401(k) Plan Participants

Asset allocation distribution of 401(k) participant account balance to equities¹ by age; percentage of participants,^{2, 3} 2015

Age group	Percentage of account balance invested in equities ¹					
	Zero	1 to 20 percent	>20 to 40 percent	>40 to 60 percent	>60 to 80 percent	>80 percent
20s	6.9	0.6	1.2	3.3	12.6	75.3
30s	7.0	1.4	2.2	5.0	14.5	69.9
40s	7.6	2.3	3.2	6.7	33.4	46.7
50s	8.7	3.8	5.2	22.7	33.9	25.7
60s	12.7	5.7	14.2	30.4	16.4	20.6
All ²	8.5	2.7	4.7	12.5	24.1	47.5

¹ Equities include equity funds, company stock, and the equity portion of balanced funds. Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

² Participants include the 26.1 million 401(k) plan participants in the year-end 2015 EBRI/ICI 401(k) database.

³ Row percentages may not add to 100 percent because of rounding.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

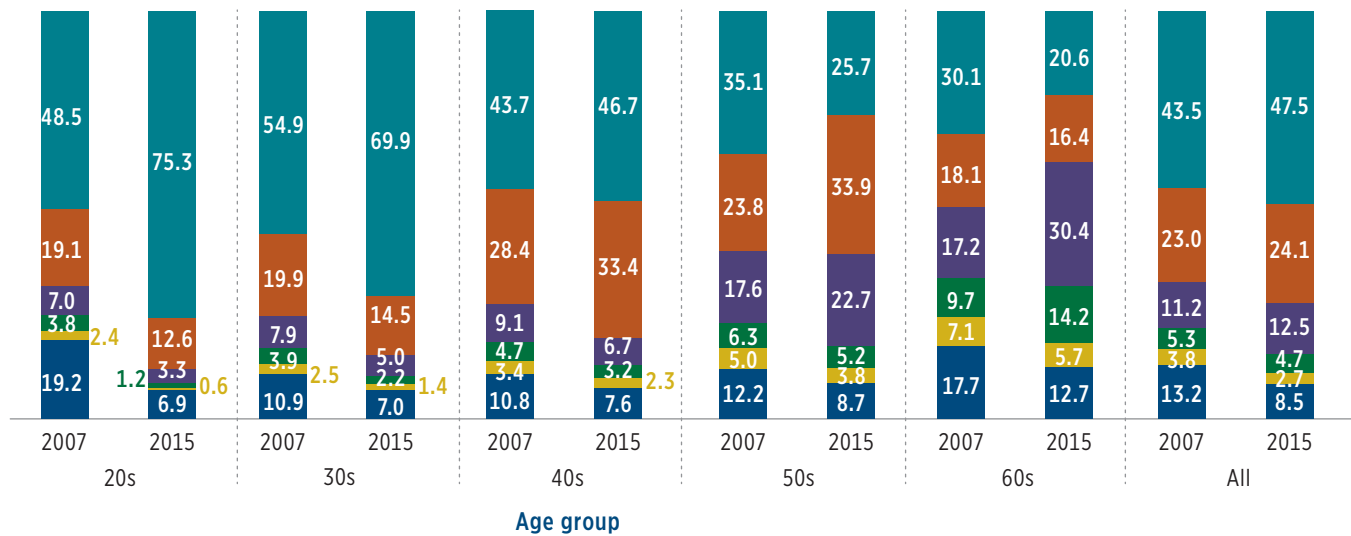
FIGURE 31

Exposure to Equities Increased Among 401(k) Participants Between 2007 and 2015

Percentage of 401(k) participants by age of participant,^{1, 2} year-end 2007 and year-end 2015

Percentage of account balance invested in equities³

- >80 percent
- >60 to 80 percent
- >40 to 60 percent
- >20 to 40 percent
- 1 to 20 percent
- Zero



¹ Participants include the 26.1 million 401(k) plan participants in the year-end 2015 EBRI/ICI 401(k) database and the 21.8 million 401(k) plan participants in the year-end 2007 EBRI/ICI database.

² Components may not add to 100 percent because of rounding.

³ Equities include equity funds, company stock, and the equity portion of balanced funds. Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Distribution of 401(k) Participants' Balanced Fund Allocations by Age

Individual 401(k) participants' asset allocation to balanced funds varied widely around an average of 26 percent at year-end 2015 (Figure 20). For example, 39 percent of participants held no balanced funds, while 40 percent of participants held more than 80 percent of their accounts in balanced funds at the end of 2015 (Figure 32). At year-end 2015, 61 percent of 401(k) participants held balanced funds through target date funds and non-target date balanced funds, similar to the share in 2014.⁴⁰ About half of 401(k) participants held target date funds, 14 percent held non-target date balanced funds, and 2 percent held both.

Target date fund use varies with participant age and tenure. Younger participants were more likely to hold target date funds than older participants. At year-end 2015, 63 percent of participants in their twenties held target date funds, compared with 41 percent of participants in their sixties. Recently hired participants were more likely to hold target date funds than those with more years on the job: at year-end 2015, 60 percent of participants with two or fewer years of tenure held target date funds, compared with about half of participants with more than five to 10 years of tenure, and 31 percent of participants with more than 30 years of tenure (Figure 33).

FIGURE 32

Asset Allocation Distribution of 401(k) Participant Account Balance to Balanced Funds by Age*Percentage of participants,^{1,2} 2015*

Age group	Percentage of account balance invested in balanced funds										
	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
20s	28.1	1.8	1.6	1.6	1.3	1.4	2.0	1.3	1.3	1.1	58.4
30s	35.2	3.7	3.1	2.9	2.1	1.9	2.2	1.5	1.6	1.7	44.0
40s	40.9	5.1	4.2	3.7	2.5	2.2	2.1	1.5	1.6	1.7	34.6
50s	43.4	5.7	4.5	4.0	2.7	2.3	2.1	1.5	1.5	1.6	30.7
60s	46.1	5.5	4.1	3.8	2.6	2.3	2.0	1.4	1.4	1.5	29.4
All	39.2	4.5	3.6	3.3	2.3	2.1	2.1	1.5	1.5	1.6	38.5

Age group	Percentage of account balance invested in target date funds ³										
	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
20s	37.1	1.2	1.1	1.2	1.0	1.2	1.8	1.2	1.1	1.0	52.1
30s	44.9	2.6	2.1	2.0	1.6	1.5	1.8	1.3	1.4	1.5	39.2
40s	52.6	3.6	2.6	2.3	1.7	1.6	1.6	1.2	1.3	1.5	30.0
50s	55.9	4.1	2.7	2.4	1.8	1.6	1.5	1.1	1.2	1.4	26.4
60s	58.6	3.9	2.5	2.2	1.6	1.5	1.4	1.0	1.1	1.2	25.1
All	50.5	3.2	2.3	2.1	1.6	1.5	1.6	1.2	1.2	1.4	33.6

Age group	Percentage of account balance invested in non-target date balanced funds										
	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
20s	89.7	1.4	0.9	0.7	0.4	0.3	0.2	0.2	0.2	0.1	5.9
30s	88.0	2.6	1.8	1.3	0.6	0.5	0.4	0.2	0.2	0.2	4.3
40s	85.5	3.3	2.5	1.8	0.9	0.6	0.5	0.3	0.2	0.2	4.2
50s	84.7	3.5	2.7	2.1	1.1	0.8	0.6	0.3	0.3	0.2	3.8
60s	84.8	3.2	2.6	2.1	1.1	0.8	0.6	0.3	0.3	0.2	3.8
All	86.3	2.9	2.2	1.7	0.8	0.6	0.5	0.3	0.2	0.2	4.4

¹ The analysis includes the 26.1 million participants in the year-end 2015 EBRI/ICI 401(k) database.

² Row percentages may not add to 100 percent because of rounding.

³ A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 33

Asset Allocation Distribution of 401(k) Participant Account Balance to Balanced Funds by Tenure*Percentage of participants,^{1,2} 2015*

Years of tenure	Percentage of account balance invested in balanced funds										
	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
0 to 2	30.4	1.8	1.8	1.9	1.4	1.5	2.1	1.3	1.3	1.0	55.4
>2 to 5	32.4	2.7	2.4	2.4	1.8	1.8	2.2	1.4	1.5	1.5	49.9
>5 to 10	38.6	4.4	3.7	3.3	2.4	2.2	2.1	1.7	1.7	1.8	38.2
>10 to 20	46.6	6.9	5.4	4.6	3.0	2.5	2.1	1.6	1.6	2.3	23.4
>20 to 30	51.5	8.3	6.0	5.1	3.3	2.8	2.3	1.9	1.9	1.8	15.3
>30	55.0	8.5	5.7	4.8	3.2	2.6	2.0	1.4	1.3	1.3	14.2
All	39.2	4.5	3.6	3.3	2.3	2.1	2.1	1.5	1.5	1.6	38.5

Years of tenure	Percentage of account balance invested in target date funds ³										
	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
0 to 2	40.3	1.2	1.1	1.3	1.0	1.2	1.9	1.1	1.1	0.8	49.0
>2 to 5	41.9	1.9	1.6	1.7	1.5	1.5	1.9	1.2	1.3	1.3	44.2
>5 to 10	49.3	3.3	2.5	2.3	1.8	1.6	1.7	1.4	1.4	1.6	33.0
>10 to 20	59.2	5.1	3.4	2.7	2.0	1.7	1.5	1.2	1.3	2.0	19.8
>20 to 30	65.7	5.9	3.5	2.8	2.0	1.8	1.6	1.4	1.5	1.5	12.5
>30	69.1	6.1	3.4	2.6	1.9	1.6	1.2	1.0	1.0	1.0	11.1
All	50.5	3.2	2.3	2.1	1.6	1.5	1.6	1.2	1.2	1.4	33.6

Years of tenure	Percentage of account balance invested in non-target date balanced funds										
	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
0 to 2	88.7	1.4	1.2	0.9	0.5	0.4	0.3	0.2	0.2	0.1	6.1
>2 to 5	88.5	1.9	1.4	1.1	0.5	0.4	0.3	0.2	0.2	0.2	5.2
>5 to 10	86.6	2.9	2.1	1.5	0.7	0.6	0.5	0.3	0.3	0.3	4.4
>10 to 20	84.0	4.1	3.1	2.3	1.1	0.8	0.6	0.3	0.3	0.3	3.1
>20 to 30	82.4	4.8	3.5	2.8	1.4	1.0	0.7	0.4	0.3	0.3	2.5
>30	82.4	4.7	3.4	2.7	1.4	1.0	0.7	0.4	0.3	0.3	2.8
All	86.3	2.9	2.2	1.7	0.8	0.6	0.5	0.3	0.2	0.2	4.4

¹ The analysis includes the 26.1 million participants in the year-end 2015 EBRI/ICI 401(k) database.

² Row percentages may not add to 100 percent because of rounding.

³ A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Distribution of 401(k) Participants' Company Stock Allocations

Participants' allocations to company stock remained in line with recent previous years. Nearly one-third (or 8.5 million) of the 401(k) participants in the 2015 EBRI/ICI 401(k) database were in plans that offered company stock as an investment option (Figure 22). Among these participants, 77 percent held 20 percent or less of their account balances in company stock, including 58 percent who held none (Figure 34). On the other hand, 8 percent had more than 80 percent of their account balances invested in company stock.

Asset Allocations of Recently Hired Participants

Comparing snapshots of newly hired 401(k) plan participants' asset allocations provides further insight into recent investment allocations. Balanced funds, which include lifestyle and target date funds, have increased in popularity among 401(k) participants. Recently hired participants in 2015 tended to be more likely to hold balanced funds compared with recent hires in the past. About 70 percent of recently hired 401(k) plan participants in 2015 held balanced funds compared with about two-thirds from 2011 through 2014, less than half in 2006, and one-third in 2002 (Figure 35). At year-end 2015, 60 percent of recently hired 401(k) participants held target date funds, while 11 percent held non-target date balanced funds, and 1 percent held both target date and non-target date balanced funds (Figure 36).

FIGURE 34

Asset Allocation Distribution of 401(k) Participant Account Balance to Company Stock in 401(k) Plans with Company Stock by Participant Age

Percentage of participants,^{1,2} 2015

Age group	Percentage of account balance invested in company stock										
	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
20s	73.9	5.0	3.8	3.4	2.3	1.6	1.6	0.9	0.6	0.4	6.6
30s	59.5	12.2	6.8	4.6	3.1	2.3	2.1	1.5	1.0	0.7	6.2
40s	53.6	13.9	8.1	5.4	3.8	2.8	2.3	1.6	1.1	0.9	6.5
50s	51.4	15.2	8.3	5.4	3.8	2.8	2.3	1.6	1.2	0.9	7.1
60s	54.2	14.4	7.5	4.9	3.4	2.5	2.1	1.5	1.1	0.9	7.5
All	57.5	12.6	7.1	4.8	3.4	2.5	2.1	1.5	1.1	0.8	6.7

¹ The analysis includes the 8.5 million participants in plans with company stock at year-end 2015.

² Row percentages may not add to 100 percent because of rounding.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 35

Many Recently Hired 401(k) Plan Participants Hold Balanced Funds

Percentage of recently hired participants¹ holding balanced funds,² 1998–2015

Year	Age group					All
	20s	30s	40s	50s	60s	
1998	27.0	29.0	30.5	30.9	28.4	28.9
1999	28.3	31.0	33.6	34.9	34.9	31.3
2000	27.1	28.3	30.8	32.1	33.2	29.1
2001	27.3	26.5	27.9	29.2	29.1	27.4
2002	32.7	33.1	33.7	33.9	30.2	33.0
2003	35.1	36.2	35.7	35.5	30.7	35.4
2004	38.9	39.8	39.8	40.3	36.3	39.3
2005	43.5	42.8	42.1	43.3	41.6	42.8
2006	48.5	47.9	46.6	47.8	45.5	47.6
2007	51.1	54.2	52.8	53.4	50.1	52.7
2008	63.6	59.6	57.8	58.0	53.9	59.9
2009	64.1	61.2	59.3	58.7	53.6	60.9
2010	69.6	63.0	59.9	59.1	55.2	63.0
2011	72.0	68.1	65.0	64.2	60.7	67.5
2012	70.8	69.5	67.2	66.7	63.9	68.6
2013	67.6	67.8	65.6	64.5	60.6	66.3
2014	68.1	67.5	67.6	65.6	63.9	67.2
2015	72.7	69.9	68.3	67.0	63.6	69.6

¹ The analysis includes 401(k) plan participants with two or fewer years of tenure in the year indicated.

² Balanced funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in a mix of equities and fixed-income securities.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 36

Many Recently Hired 401(k) Plan Participants Hold Target Date Funds*Percentage of recently hired participants, 2006–2015*

Age group	Holding balanced funds									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
20s	48.5	51.1	63.6	64.1	69.6	72.0	70.8	67.6	68.1	72.7
30s	47.9	54.2	59.6	61.2	63.0	68.1	69.5	67.8	67.5	69.9
40s	46.6	52.8	57.8	59.3	59.9	65.0	67.2	65.6	67.6	68.3
50s	47.8	53.4	58.0	58.7	59.1	64.2	66.7	64.5	65.6	67.0
60s	45.5	50.1	53.9	53.6	55.2	60.7	63.9	60.6	63.9	63.6
All	47.6	52.7	59.9	60.9	63.0	67.5	68.6	66.3	67.2	69.6
Age group	Holding target date funds*									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
20s	29.4	32.4	47.5	50.5	55.3	59.3	59.4	58.6	60.6	64.0
30s	28.5	35.5	44.3	48.3	49.8	55.9	58.7	58.2	59.7	61.0
40s	27.4	34.6	42.6	46.6	47.2	52.8	55.8	54.8	57.7	57.8
50s	28.1	35.3	42.7	46.2	46.8	52.4	55.5	53.6	57.0	55.9
60s	26.1	32.3	39.1	41.8	43.1	49.0	51.5	48.9	55.4	51.0
All	28.3	34.3	44.4	47.9	49.8	55.2	57.3	56.3	58.9	59.7
Age group	Holding non-target date balanced funds									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
20s	22.5	21.2	18.5	16.7	15.8	14.0	12.8	10.1	8.6	9.7
30s	22.5	21.9	18.2	16.2	15.1	14.0	12.6	11.2	11.9	10.4
40s	21.3	21.1	17.7	15.8	14.4	13.9	13.3	12.4	14.8	12.0
50s	21.4	20.9	17.6	15.4	13.8	13.5	13.0	12.4	13.3	12.4
60s	19.8	20.1	16.7	14.0	13.2	13.1	13.9	13.0	13.1	13.5
All	21.9	21.3	18.0	16.1	14.8	13.9	13.0	11.4	11.8	11.3

* A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

Note: The analysis includes the 2.8 million recently hired participants (those with two or fewer years of tenure) in 2006, the 3.8 million recently hired participants in 2007, the 4.0 million recently hired participants in 2008, the 3.1 million recently hired participants in 2009, the 3.2 million recently hired participants in 2010, the 3.4 million recently hired participants in 2011, the 3.6 million recently hired participants in 2012, the 4.4 million recently hired participants in 2013, the 4.1 million recently hired participants in 2014, and the 4.8 million recently hired participants in 2015. Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Among those who held balanced funds, recently hired participants in 2015 were more likely to hold a high concentration of their accounts in balanced funds compared with past years. At year-end 2015, 80 percent of recently hired participants holding balanced funds had more than 90 percent of their account balance invested in balanced funds, compared with 79 percent in 2014, 61 percent in 2009, 43 percent in 2006, and 7 percent in 1998 (Figure 37). Concentration is highest among recently hired participants with target date funds; at year-end 2015, 82 percent of recently hired participants holding target date funds held more than 90 percent of their account balance in target date funds (Figure 38). Fifty-four percent of recently hired participants holding non-target date balanced funds had more than 90 percent of their account balance invested in those funds at year-end 2015.

Balanced fund, target date fund, and non-target date balanced fund use varied somewhat by age among recently hired participants—recently hired participants in their twenties were more likely to be highly concentrated in such funds. For example, 60 percent of recently hired participants in their twenties held more than 90 percent of their account balances in balanced funds, compared with 53 percent of recent hires in their forties, and 50 percent of recent hires in their sixties in 2015 (Figure 39). Concentrated target date fund use ranged

from 54 percent of recent hires in their twenties holding more than 90 percent of their account balances in target date funds to 43 percent of recently hired participants in their sixties. In addition, at year-end 2015, 58 percent of the account balances of recently hired participants in their twenties were invested in balanced funds, compared with 54 percent in 2012, 42 percent in 2009, 24 percent in 2006, and about 7 percent among that age group in 1998 (Figure 40).⁴¹ At year-end 2015, among recently hired participants in their twenties, target date funds accounted for 83 percent of their balanced fund assets, or 48 percent of their account balances overall. The pattern of target date and non-target date balanced fund use varied with participant age.

Comparing recently hired participants in 2015 with similar age groups in 1998 also illustrates that asset allocation to balanced funds tended to be higher in 2015 than in 1998, rising from 9 percent of the account balances of recently hired participants in 1998 to 41 percent in 2015 (Figure 40). The share of account balances invested in equity funds decreased over the same period, from 65 percent for recently hired participants in 1998 to 38 percent for recently hired participants in 2015. Company stock also declined for the two groups of recently hired participants, from 9 percent of 401(k) plan account balances in 1998 to 2 percent in 2015.

FIGURE 37

Many Recently Hired 401(k) Participants Hold High Concentrations in Balanced Funds*Percentage of recently hired participants holding balanced fund assets,^{1,2} selected years*

Percentage of account balance invested in balanced funds			
1998			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	84.9	7.3	7.8
30s	86.0	7.6	6.4
40s	84.1	8.9	7.0
50s	81.1	10.7	8.2
60s	77.0	12.4	10.6
All	84.5	8.2	7.3
2006			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	40.1	13.7	46.2
30s	47.7	12.8	39.5
40s	46.0	13.1	40.9
50s	43.3	13.3	43.4
60s	39.5	12.6	47.9
All	43.9	13.3	42.8
2007			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	36.3	14.7	49.0
30s	40.9	12.6	46.5
40s	40.1	12.9	47.0
50s	38.1	13.0	48.8
60s	36.4	12.8	50.8
All	38.8	13.3	47.9
2008			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	26.1	11.8	62.2
30s	33.5	13.3	53.2
40s	33.9	13.5	52.6
50s	32.8	13.5	53.6
60s	32.1	12.8	55.1
All	31.0	12.9	56.1

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FIGURE 37 CONTINUED

Many Recently Hired 401(k) Participants Hold High Concentrations in Balanced Funds

Percentage of recently hired participants holding balanced fund assets,^{1,2} selected years

2009			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	20.4	13.3	66.3
30s	27.8	13.9	58.3
40s	28.8	13.9	57.4
50s	28.7	13.7	57.6
60s	29.4	13.3	57.3
All	25.9	13.6	60.5
2010			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	14.8	10.0	75.2
30s	21.2	11.3	67.5
40s	22.7	10.7	66.6
50s	22.4	10.1	67.5
60s	22.3	9.2	68.5
All	19.7	10.5	69.8
2011			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	11.6	10.2	78.2
30s	16.8	10.4	72.7
40s	18.4	10.3	71.2
50s	18.2	9.9	71.8
60s	17.6	8.9	73.5
All	15.8	10.2	74.0
2012			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	11.3	8.8	79.9
30s	15.5	10.1	74.4
40s	17.3	9.8	73.0
50s	16.9	9.3	73.8
60s	16.4	8.3	75.3
All	14.9	9.4	75.7

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FIGURE 37 CONTINUED

Many Recently Hired 401(k) Participants Hold High Concentrations in Balanced Funds*Percentage of recently hired participants holding balanced fund assets,^{1,2} selected years*

2013			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	11.2	8.1	80.7
30s	15.0	8.9	76.2
40s	17.1	8.3	74.6
50s	17.3	7.9	74.9
60s	16.7	7.5	75.8
All	14.7	8.2	77.0
2014			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	10.4	7.5	82.1
30s	13.4	8.7	77.9
40s	14.4	8.2	77.4
50s	14.7	7.4	77.8
60s	13.9	6.7	79.4
All	12.9	7.9	79.2
2015			
Age group	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	9.0	8.2	82.8
30s	12.5	9.0	78.4
40s	14.2	8.1	77.7
50s	14.7	7.4	77.9
60s	14.9	6.7	78.4
All	12.2	8.2	79.6

¹ The analysis includes the 0.4 million recently hired participants (those with two or fewer years of tenure) holding balanced funds in 1998; the 1.4 million recently hired participants holding balanced funds in 2006; the 2.0 million recently hired participants holding balanced funds in 2007; the 2.4 million recently hired participants holding balanced funds in 2008; the 1.9 million recently hired participants holding balanced funds in 2009; the 2.0 million recently hired participants holding balanced funds in 2010; the 2.3 million recently hired participants holding balanced funds in 2011; the 2.5 million recently hired participants holding balanced funds in 2012; the 2.9 million recently hired participants holding balanced funds in 2013; the 2.8 million recently hired participants holding balanced funds in 2014, and the 3.3 million recently hired participants holding balanced funds in 2015.

² Row percentages may not add to 100 percent because of rounding.

Note: Balanced funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in a mix of equities and fixed-income securities.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 38

Many Recently Hired 401(k) Participants Hold High Concentrations in Target Date Funds

Percentage of recently hired participants holding the type of fund indicated,^{1, 2} 2015

Age group	Percentage of account balance invested in balanced funds		
	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	9.0	8.2	82.8
30s	12.5	9.0	78.4
40s	14.2	8.1	77.7
50s	14.7	7.4	77.9
60s	14.9	6.7	78.4
All	12.2	8.2	79.6

Age group	Percentage of account balance invested in target date funds ³		
	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	7.5	8.3	84.2
30s	10.2	9.2	80.6
40s	11.3	8.2	80.5
50s	11.1	7.2	81.6
60s	10.6	6.1	83.3
All	9.7	8.3	82.1

Age group	Percentage of account balance invested in non-target date balanced funds		
	>0 to 50 percent	>50 to 90 percent	>90 percent
20s	31.9	6.7	61.5
30s	41.4	6.6	52.0
40s	41.3	6.6	52.1
50s	43.2	7.1	49.7
60s	42.2	8.7	49.1
All	38.9	6.8	54.3

¹ The analysis includes the 3.3 million recently hired participants (those with two or fewer years of tenure) holding balanced funds in 2015; the 2.9 million recently hired participants holding target date funds in 2015; and the 0.5 million recently hired participants holding non-target date balanced funds in 2015.

² Row percentages may not add to 100 percent because of rounding.

³ A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 39

Asset Allocation Distribution of 401(k) Plan Account Balance to Balanced Funds Among Recently Hired 401(k) Participants by Participant Age

Percentage of recently hired participants,^{1, 2} 2015

Percentage of account balance invested in balanced funds											
Age group	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
20s	27.4	1.4	1.4	1.4	1.1	1.3	2.2	1.4	1.4	1.0	60.2
30s	30.1	1.9	1.9	1.9	1.5	1.5	2.3	1.4	1.5	1.1	54.9
40s	31.7	2.1	2.2	2.2	1.6	1.6	2.0	1.2	1.3	1.0	53.1
50s	33.0	2.1	2.2	2.4	1.5	1.7	1.8	1.1	1.2	0.9	52.2
60s	36.4	2.2	2.1	2.2	1.4	1.6	1.7	0.8	0.9	0.8	49.8
All	30.4	1.8	1.8	1.9	1.4	1.5	2.1	1.3	1.3	1.0	55.4

Percentage of account balance invested in target date funds ³											
Age group	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
20s	36.0	0.9	0.9	1.0	0.9	1.1	2.1	1.2	1.2	0.8	53.9
30s	39.0	1.2	1.3	1.4	1.1	1.2	2.1	1.3	1.4	0.9	49.1
40s	42.2	1.3	1.3	1.5	1.2	1.2	1.8	1.0	1.1	0.8	46.5
50s	44.1	1.3	1.2	1.4	1.1	1.2	1.5	0.9	1.0	0.7	45.6
60s	48.6	1.3	1.0	1.2	0.9	1.0	1.2	0.6	0.7	0.6	42.8
All	40.3	1.2	1.1	1.3	1.0	1.2	1.9	1.1	1.1	0.8	49.0

Percentage of account balance invested in non-target date balanced funds											
Age group	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
20s	90.3	1.1	0.8	0.6	0.3	0.3	0.2	0.2	0.2	0.1	6.0
30s	89.6	1.4	1.1	0.9	0.5	0.4	0.2	0.2	0.2	0.1	5.4
40s	88.0	1.5	1.4	1.1	0.6	0.4	0.3	0.2	0.2	0.1	6.3
50s	87.6	1.5	1.5	1.3	0.6	0.5	0.4	0.2	0.2	0.1	6.2
60s	86.5	1.5	1.5	1.4	0.7	0.7	0.5	0.2	0.2	0.2	6.6
All	88.7	1.4	1.2	0.9	0.5	0.4	0.3	0.2	0.2	0.1	6.1

¹ The analysis includes the 4.8 million recently hired participants (those with two or fewer years of tenure) in 2015.

² Row percentages may not add to 100 percent because of rounding.

³ A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 40

Average Asset Allocation of 401(k) Plan Accounts by Participant Age Among Recently Hired 401(k) Plan Participants¹

Percentage of account balances,² 1998 and 2015

Age group	Balanced funds													
	Equity funds		Total		Target date funds ³	Non-target date balanced funds	Bond funds		Money funds		GICs ⁴ and other stable value funds		Company stock	
	1998	2015	1998	2015	2015	2015	1998	2015	1998	2015	1998	2015	1998	2015
20s	66.9	28.5	7.4	58.0	48.1	9.9	5.1	4.6	4.0	1.1	3.7	0.9	10.5	3.0
30s	67.8	37.0	8.0	47.8	41.1	6.7	5.1	5.1	4.1	1.6	3.2	1.4	9.4	2.1
40s	64.5	40.7	9.7	41.2	34.8	6.4	5.9	6.8	5.1	2.4	4.4	1.3	8.0	1.8
50s	60.5	38.8	11.3	37.6	31.1	6.4	6.6	10.2	5.9	3.7	6.7	1.7	6.5	1.4
60s	50.0	34.5	12.1	31.6	24.8	6.8	8.7	16.0	7.8	6.4	13.3	1.8	5.7	0.9
All	64.8	37.5	9.1	41.2	34.1	7.1	5.7	8.6	4.9	3.3	4.6	1.4	8.6	1.7

¹ The analysis is based on samples of 1.2 million recently hired participants (those with two or fewer years of tenure) in 1998 and 4.8 million recently hired participants in 2015.

² Minor investment options are not shown; therefore, row percentages do not add to 100 percent. Percentages are dollar-weighted averages.

³ A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

⁴ GICs are guaranteed investment contracts.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

In addition to devoting a greater share of their assets to balanced funds, recently hired participants also have become more likely to hold these diversified investment options. At year-end 2015, 70 percent of recently hired 401(k) participants held balanced funds, compared with 29 percent at year-end 1998 (Figure 35). Over the same

period, recently hired 401(k) participants have become less likely to hold company stock (Figure 41) and less likely to hold equity funds.⁴² Recently hired 401(k) participants also tend not to hold a high concentration of their account balances in company stock (Figures 42 and 43).⁴³

FIGURE 41

Recently Hired 401(k) Participants Tend to Be Less Likely to Hold Company Stock

Percentage of recently hired participants offered and holding company stock by participant age, 1998–2015

	Age group					All
	20s	30s	40s	50s	60s	
1998	60.8	61.9	59.8	57.6	54.1	60.5
1999	61.1	62.3	60.6	58.8	55.5	61.0
2000	60.5	61.6	59.5	57.4	53.6	60.0
2001	58.1	60.0	58.8	57.9	55.7	58.7
2002	53.9	57.2	55.9	53.9	51.0	55.3
2003	49.6	53.3	52.6	51.2	49.5	51.6
2004	49.8	52.3	52.0	49.5	47.8	51.0
2005	45.4	47.6	47.3	45.2	43.9	46.3
2006	40.0	43.6	43.6	42.3	40.4	42.0
2007	35.4	40.4	40.7	39.6	38.4	38.7
2008	32.9	37.4	37.9	37.8	38.7	36.2
2009	32.3	36.2	37.0	37.6	40.5	35.5
2010	30.3	33.6	34.4	34.4	36.8	33.0
2011	26.2	30.0	31.4	31.3	30.8	29.3
2012	23.0	26.4	27.5	26.9	26.7	25.7
2013	27.9	30.7	31.3	30.8	30.0	29.9
2014	26.9	29.2	29.1	29.1	27.6	28.3
2015	24.4	27.4	26.7	25.7	23.3	25.7

Note: The analysis includes 401(k) plan participants with two or fewer years of tenure in the year indicated and in a plan offering company stock as an investment option.

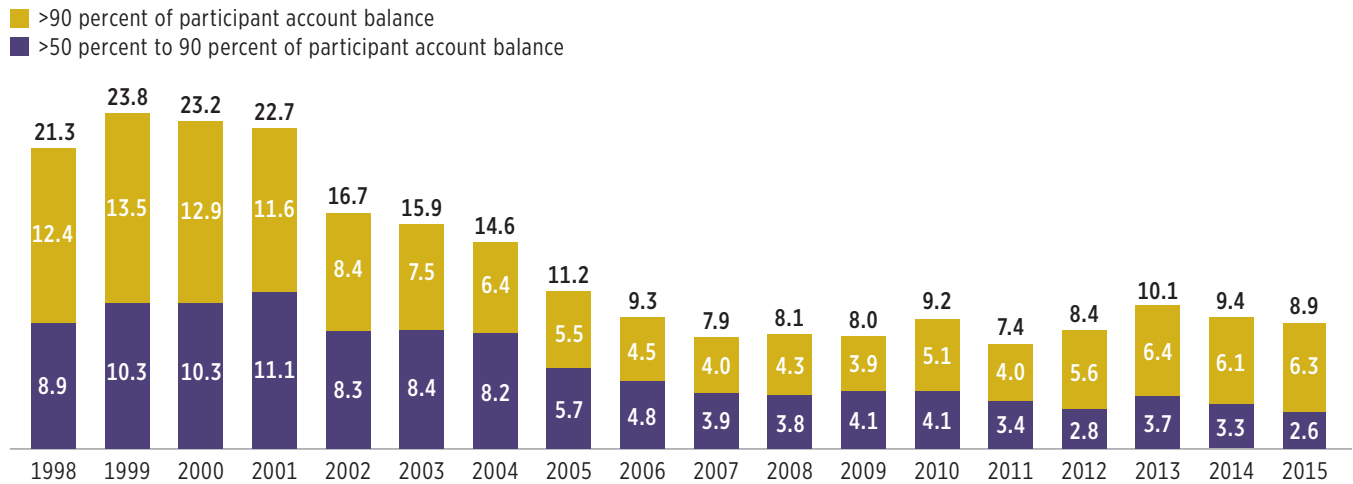
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 42

New 401(k) Participants Tend Not to Hold High Concentrations in Company Stock

Percentage of recently hired participants offered company stock holding the percentage of their account balance indicated in company stock, 1998–2015

Percentage of account balance invested in company stock



Note: The analysis includes 401(k) plan participants with two or fewer years of tenure in the year indicated and in a plan offering company stock as an investment option.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 43

Asset Allocation Distribution of Recently Hired 401(k) Participant Account Balance to Company Stock in 401(k) Plans with Company Stock by Participant Age

Percentage of recently hired participants in plans offering company stock as an investment option,^{1, 2} 2015

Percentage of account balance invested in company stock

Age group	Percentage of account balance invested in company stock										
	Zero	1 to 10	>10 to 20	>20 to 30	>30 to 40	>40 to 50	>50 to 60	>60 to 70	>70 to 80	>80 to 90	>90 to 100
20s	75.6	4.2	3.5	3.6	2.1	1.4	1.4	0.6	0.4	0.2	7.0
30s	72.6	6.1	4.6	4.5	2.3	1.6	1.4	0.6	0.4	0.3	5.7
40s	73.3	5.9	4.8	3.9	2.2	1.5	1.4	0.6	0.4	0.3	5.6
50s	74.3	5.6	4.4	3.6	2.0	1.3	1.4	0.5	0.3	0.2	6.3
60s	76.7	4.4	3.6	2.9	1.7	1.1	1.2	0.4	0.3	0.2	7.3
All	74.3	5.2	4.1	3.8	2.2	1.4	1.4	0.6	0.4	0.3	6.3

¹ The analysis includes the 1.3 million participants with two or fewer years of tenure in 2015 and in plans offering company stock as an investment option.

² Row percentages may not add to 100 percent because of rounding.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Year-End 2015 Snapshot of 401(k) Plan Loan Activity

Availability and Use of 401(k) Plan Loans by Plan Size

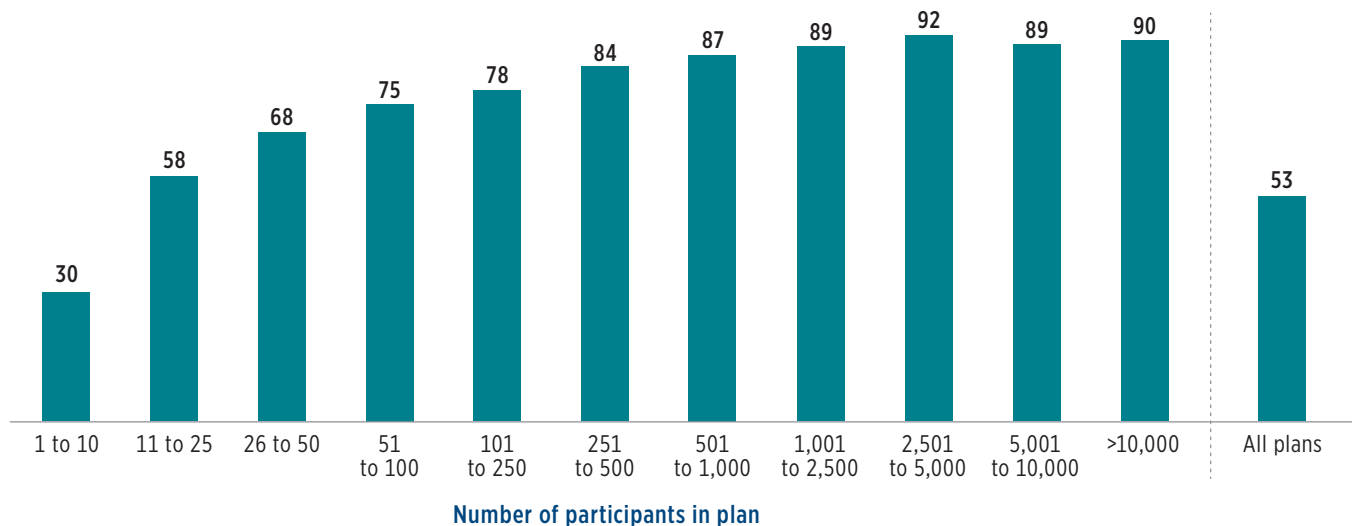
Fifty-three percent of the 401(k) plans for which loan data were available in the 2015 EBRI/ICI 401(k) database offered a plan loan provision to participants (Figure 44).⁴⁴

The loan feature was more commonly associated with large plans (as measured by the number of participants in the plan). About 90 percent of plans with more than 1,000 participants included a loan provision, compared with 30 percent of plans with 10 or fewer participants. Participant loan activity varied modestly by plan size,

ranging from 17 percent of participants with loans outstanding in 401(k) plans with 26 to 100 or 1,001 to 2,500 participants to 23 percent of participants in 401(k) plans with 10 or fewer participants (Figure 45). Loan ratios—the amount of the loan outstanding divided by the remaining account balance—vary only slightly when participants are grouped based on the size of their 401(k) plans (as measured by the number of plan participants). Among those in plans with 100 or fewer participants, the loan ratio was 14 percent of the remaining assets in 2015, while in plans with more than 5,000 participants, the loan ratio was 11 percent (Figure 46).

FIGURE 44

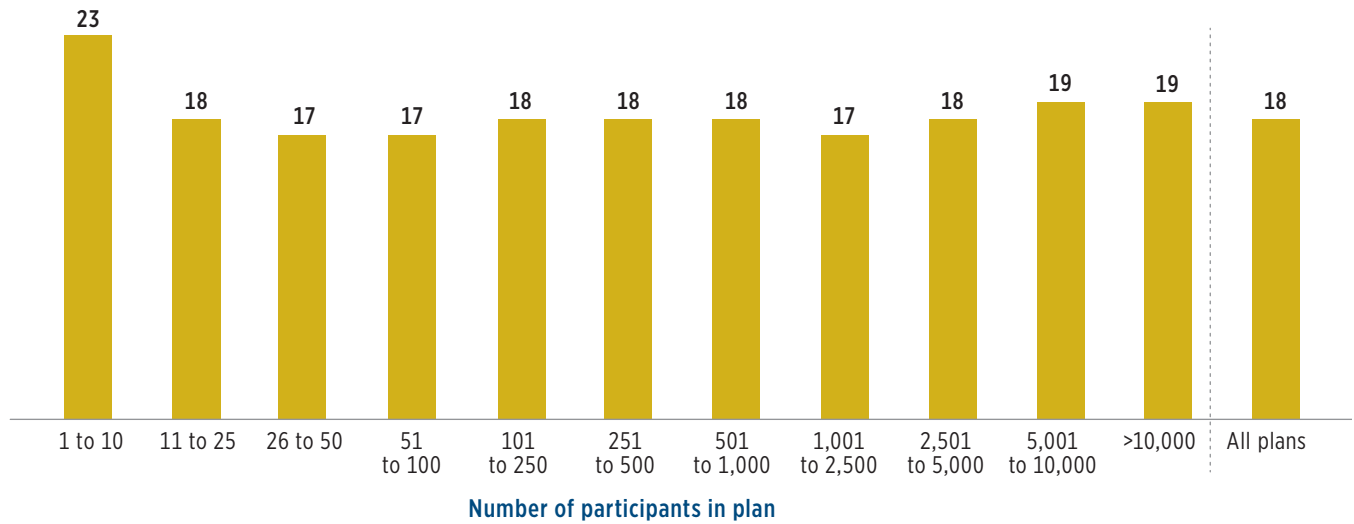
Percentage of 401(k) Plans Offering Loans by Plan Size, 2015



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 45

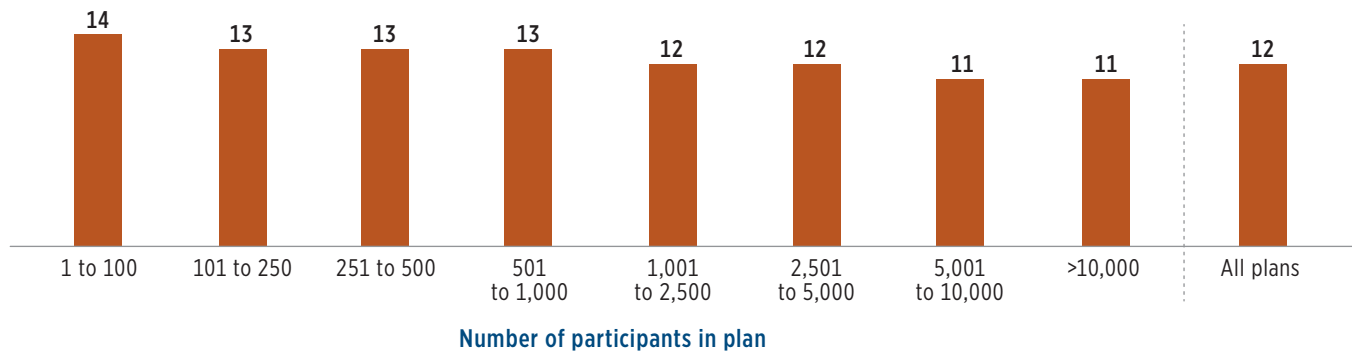
Percentage of Eligible 401(k) Participants with 401(k) Loans by Plan Size, 2015



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 46

401(k) Loan Balances as a Percentage of 401(k) Plan Account Balances for Participants with 401(k) Loans by Plan Size, 2015



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

In the 20 years that the database has been tracking loan activity among 401(k) plan participants, there has been little variation. From 1996 through 2008, on average, less than one-fifth of 401(k) participants with access to loans had loans outstanding. At year-end 2009, the percentage of participants who were offered loans with loans outstanding ticked up to 21 percent and remained at that level from year-end 2010 through year-end 2013 before falling to 20 percent at year-end 2014 and 18 percent at year-end 2015 (Figure 47).⁴⁵ However, not all participants have access to 401(k) plan loans—factoring in all 401(k) participants with and without loan access in the database, only 16 percent had loans outstanding at year-end 2015.⁴⁶ On average, over the past 20 years, among participants with loans outstanding, about 14 percent of the remaining account balance remained unpaid. US Department of Labor data indicate that loan amounts tend to be a negligible portion of plan assets.⁴⁷

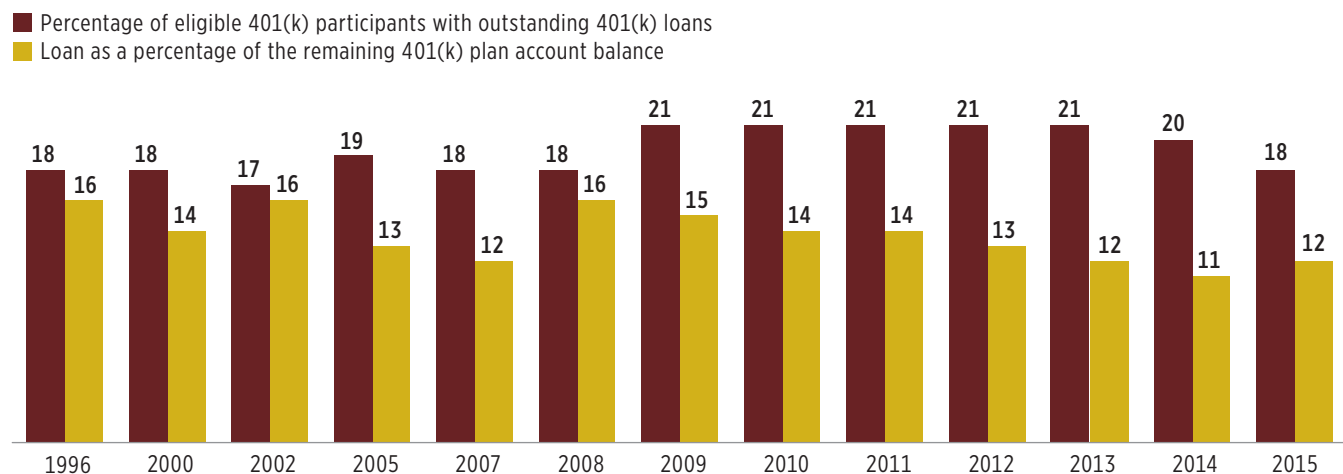
401(k) Plan Loan Activity Varies with Participant Age, Tenure, Account Balance, and Salary

In the 2015 EBRI/ICI 401(k) database, 87 percent of participants were in plans offering loans. However, relatively few participants made use of this borrowing privilege—which has been the case for the 20 years that the database has tracked 401(k) plan participants. At year-end 2015, 18 percent of those eligible for loans had 401(k) plan loans outstanding (Figure 47). As in previous years, loan activity varies with age, tenure, account balance, and salary. Of those participants in plans offering loans, the highest percentages of participants with outstanding loan balances were among participants in their thirties, forties, or fifties (Figure 48). In addition, participants with five or fewer years of tenure or with more than 30 years of tenure were less likely to use the loan provision than other participants. Eleven percent of participants with account balances of less than \$10,000 had loans outstanding.

FIGURE 47

Few 401(k) Participants Had Outstanding 401(k) Loans; Loans Tended to Be Small

Selected years



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 48

401(k) Loan Activity Varied Across 401(k) Plan Participants

Percentage of eligible 401(k) participants with 401(k) loans by participant age, tenure, account size, or salary; selected years

	1996	2000	2002	2005	2007	2008	2009	2010	2011	2012	2013	2014	2015
All	18	18	17	19	18	18	21	21	21	21	21	20	18
Age group													
20s	12	11	10	11	10	10	13	13	13	13	12	11	8
30s	20	19	18	20	20	20	23	23	22	23	23	22	19
40s	22	21	20	22	22	22	26	26	25	26	27	26	24
50s	17	17	17	19	19	19	22	22	22	23	23	23	21
60s	9	9	9	10	10	11	12	13	13	14	14	13	13
Years of tenure*													
0 to 2	6	5	4	5	7	6	9	7	5	6	9	9	8
>2 to 5	15	14	12	14	15	15	17	18	18	18	19	19	17
>5 to 10	24	23	21	22	23	23	25	27	26	27	28	26	24
>10 to 20	27	26	26	26	26	26	29	29	29	30	30	28	27
>20 to 30	25	26	25	24	24	25	27	26	26	28	28	26	25
>30	13	16	15	17	17	18	19	19	19	20	20	18	17
Size of account balance													
<\$10,000	12	11	11	12	11	12	16	16	15	15	14	13	11
\$10,000 to \$20,000	26	23	22	26	25	26	28	29	30	30	30	28	26
>\$20,000 to \$30,000	26	25	22	27	26	26	28	29	30	31	31	30	28
>\$30,000 to \$40,000	25	25	23	26	26	26	28	28	29	30	31	30	28
>\$40,000 to \$50,000	24	25	23	25	26	25	27	27	27	29	30	29	28
>\$50,000 to \$60,000	24	24	22	24	25	24	25	26	26	28	29	28	27
>\$60,000 to \$70,000	23	24	22	23	24	23	25	25	25	27	28	27	27
>\$70,000 to \$80,000	26	23	22	22	23	22	24	24	24	26	27	27	26
>\$80,000 to \$90,000	23	23	21	21	23	21	23	23	23	25	26	26	25
>\$90,000 to \$100,000	22	22	21	20	22	20	23	22	22	24	26	25	25
>\$100,000 to \$200,000	22	20	19	18	19	18	19	19	19	21	23	23	22
>\$200,000	18	15	13	13	13	12	13	12	12	13	15	14	14
Salary range													
\$20,000 to \$40,000	18	17	13	19	20	19	24	22	25	25	21	23	22
>\$40,000 to \$60,000	20	23	21	26	28	27	30	26	26	28	27	28	27
>\$60,000 to \$80,000	18	23	20	24	24	24	26	23	22	25	22	24	23
>\$80,000 to \$100,000	17	21	17	22	21	20	23	20	19	21	19	21	20
>\$100,000	14	16	13	16	14	14	16	14	14	16	15	16	15

* The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Average Loan Balances

Among participants with outstanding 401(k) loans at the end of 2015, the average unpaid balance was \$7,982, compared with \$7,780 in the year-end 2014 database (Figure 49). The median loan balance outstanding was \$4,359 at year-end 2015, compared with \$4,239 in the year-end 2014 database. The ratio of the loan outstanding to the remaining account balance increased slightly, from

11 percent at year-end 2014 to 12 percent at year-end 2015 (Figures 47 and 50). In addition, as in previous years, variation around this average tends to correspond with age (the older the participant, the lower the average), tenure (the higher the tenure of the participant, the lower the average), account balance (the higher the account balance, the lower the average),⁴⁸ and salary (the higher the participant's salary, the lower the average) (Figure 50).

FIGURE 49

401(k) Loan Balances

Average and median loan balances for 401(k) participants with 401(k) loans, 1998–2015

Year	Average loan outstanding	Median loan outstanding
1998	\$6,717	\$3,902
1999	6,815	4,400
2000	6,856	3,824
2001	6,644	3,659
2002	6,659	3,700
2003	6,839	3,832
2004	6,946	3,893
2005	6,821	3,661
2006	7,292	4,089
2007	7,495	4,167
2008	7,191	3,889
2009	7,346	3,972
2010	6,846	3,619
2011	7,027	3,785
2012	7,153	3,858
2013	7,421	3,973
2014	7,780	4,239
2015	7,982	4,359

Note: Average and median 401(k) loan amounts are calculated among participants with 401(k) loans at year-end.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

FIGURE 50

401(k) Loan Amounts Varied Across 401(k) Participants

401(k) loan balances as a percentage of 401(k) plan account balances for 401(k) participants with loans by participant age, tenure, account size, or salary; selected years

	1996	2000	2002	2005	2007	2008	2009	2010	2011	2012	2013	2014	2015
All	16	14	16	13	12	16	15	14	14	13	12	11	12
Age group													
20s	30	30	28	24	25	29	26	24	26	25	26	26	25
30s	22	20	22	19	19	25	22	20	21	20	19	18	19
40s	16	15	16	13	13	18	16	15	16	15	13	13	13
50s	12	11	12	10	10	13	12	11	11	11	10	9	9
60s	10	9	10	8	8	11	10	9	9	9	8	8	8
Years of tenure*													
0 to 2	27	24	27	23	21	25	22	19	21	22	17	16	19
>2 to 5	24	25	25	21	22	26	23	20	21	21	19	18	19
>5 to 10	23	21	23	19	18	24	20	19	20	18	17	16	16
>10 to 20	15	14	16	13	13	17	16	14	15	14	12	12	12
>20 to 30	11	10	11	9	8	12	11	9	10	9	8	8	7
>30	7	8	10	8	7	9	9	7	7	7	6	6	6
Size of account balance													
<\$10,000	39	39	37	35	36	39	39	35	37	38	41	42	38
\$10,000 to \$20,000	32	32	31	29	30	33	31	28	30	30	31	32	31
>\$20,000 to \$30,000	28	28	28	25	26	29	27	25	27	26	27	28	27
>\$30,000 to \$40,000	23	24	25	22	23	26	25	23	24	24	24	24	24
>\$40,000 to \$50,000	22	21	22	20	21	24	22	20	21	21	21	21	22
>\$50,000 to \$60,000	19	19	20	18	19	21	21	19	19	19	19	19	20
>\$60,000 to \$70,000	16	17	18	16	17	19	19	17	18	17	17	17	18
>\$70,000 to \$80,000	16	15	16	15	16	18	17	16	16	16	16	16	16
>\$80,000 to \$90,000	14	14	15	14	14	16	16	15	15	15	14	14	15
>\$90,000 to \$100,000	13	13	13	13	13	15	15	14	14	14	13	13	13
>\$100,000 to \$200,000	10	9	10	9	10	11	11	10	11	10	10	10	10
>\$200,000	5	5	5	4	5	5	5	5	5	5	4	4	4
Salary range													
\$20,000 to \$40,000	17	19	18	18	17	21	19	17	17	17	16	14	15
>\$40,000 to \$60,000	17	16	16	16	15	19	17	15	16	15	13	12	13
>\$60,000 to \$80,000	15	13	14	13	12	17	14	13	13	13	11	11	12
>\$80,000 to \$100,000	14	12	12	11	11	14	12	11	12	11	10	10	10
>\$100,000	14	10	10	9	9	11	10	9	9	9	7	7	8

* The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Overall, loans from 401(k) plans tended to be small, with a sizable majority of eligible 401(k) participants in all age groups having no loan outstanding at all. For example, 92 percent of participants in their twenties, 76 percent of

participants in their forties, and 87 percent of participants in their sixties had no loans outstanding at year-end 2015 (Figure 51).

FIGURE 51

Loans from 401(k) Plans Tended to Be Small

Percentage of eligible participants by participant age, 2015

401(k) loan as a percentage of remaining 401(k) account balance	Age group					
	20s	30s	40s	50s	60s	All
Zero (no loan)	92	81	76	79	87	82
1 to 10 percent	2	5	8	9	6	7
>10 to 20 percent	2	4	5	5	2	4
>20 to 30 percent	1	3	3	3	1	2
>30 to 80 percent	3	6	7	4	2	5
>80 percent	(*)	1	1	1	(*)	1

(*) = less than 0.5 percent

Note: Components may not add to 100 percent because of rounding.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Additional Reading

- » *The BrightScope/ICI Defined Contribution Plan Profile: A Close Look at 401(k) Plans, 2014*
www.ici.org/pdf/ppr_16_dcplan_profile_401k.pdf
- » *The BrightScope/ICI Defined Contribution Plan Profile: A Close Look at ERISA 403(b) Plans, 2013*
www.ici.org/pdf/ppr_16_dcplan_profile_403b.pdf
- » **Defined Contribution Plan Participants' Activities, 2016**
www.ici.org/pdf/ppr_16_rec_survey_q4.pdf
- » **Target Retirement Date Funds Resource Center**
www.ici.org/trdf
- » **401(k) Resource Center**
www.ici.org/401k
- » **The Economics of Providing 401(k) Plans: Services, Fees, and Expenses, 2016**
www.ici.org/pdf/per23-04.pdf
- » **The US Retirement Market, First Quarter 2017**
www.ici.org/info/ret_17_q1_data.xls

Notes

- ¹ For data on 401(k) plan assets, participants, and plans through 2014, see US Department of Labor, Employee Benefits Security Administration 2016a and 2016b. For total retirement assets (including those in 401(k) plans) through the first quarter of 2017, see Investment Company Institute 2017. For a discussion of trends between defined benefit (DB) and defined contribution (DC) plans, see Poterba, Venti, and Wise 2007; Holden, Brady, and Hadley 2006; Brady and Bogdan 2010 and 2016; and Brady, Burham, and Holden 2012.
- ² Before 2005, the US Department of Labor private pension plan bulletins reported a count of active 401(k) plan participants that had been adjusted from the number of active participants actually reported in the Form 5500 filings to exclude: (1) individuals eligible to participate in a 401(k) plan who had not elected to have their employers make contributions; and (2) nonvested former employees who had not (at the time the Form 5500 filings were submitted) incurred the break-in service period established by their plan (see US Department of Labor, Employee Benefits Security Administration 2012a for further detail). This change in methodology results in a dramatic increase in the number of individuals reported as active participants in 401(k) plans; in 2004, the number of active participants increased to 53.1 million (new method) from 44.4 million (old method; see US Department of Labor, Employee Benefits Security Administration 2016b). As the US Department of Labor notes: “In a purely economic sense and for research purposes, individuals in these groups should not be included in the count of active participants.” However, the form schedule needed to make the adjustment is no longer required. Using National Compensation Survey data and historical relationships and trends evident in the Form 5500 data, EBRI and ICI estimate the number of active 401(k) participants to be about 54 million in 2015 and the number of 401(k) plans to be about 550,000. The estimate of the number of active 401(k) plan participants is based on a combination of data from US Department of Labor, Bureau of Labor Statistics 2012, 2013, 2014, 2015, and 2016; and US Department of Labor, Employee Benefits Security Administration 2012a, 2012b, 2012c, 2012d, 2012e, 2014, 2015a, 2015b, 2015c, and 2016a.
- ³ See Investment Company Institute 2017. At year-end 2016, 401(k) plans had \$4.8 trillion in assets.
- ⁴ The Employee Benefit Research Institute (EBRI) is a nonprofit, nonpartisan, public policy research organization that does not lobby or take positions on legislative proposals.
- ⁵ The Investment Company Institute (ICI) is the leading association representing regulated funds globally, including mutual funds, exchange-traded funds (ETFs), closed-end funds, and unit investment trusts (UITs) in the United States, and similar funds offered to investors in jurisdictions worldwide. ICI seeks to encourage adherence to high ethical standards, promote public understanding, and otherwise advance the interests of funds, their shareholders, directors, and advisers. ICI’s members manage total assets of US\$20.0 trillion in the United States, serving more than 95 million US shareholders, and US\$6.0 trillion in assets in other jurisdictions. ICI carries out its international work through ICI Global, with offices in London, Hong Kong, and Washington, DC.
- ⁶ This update extends previous findings from the project for 1996 through 2014. For year-end 2014 results, see Holden et al. 2016a. Results for earlier years are available in earlier issues of *ICI Research Perspective* (www.ici.org/research/investors/ebri) and *EBRI Issue Brief* (www.ebri.org/publications/ib).
- ⁷ The EBRI/ICI 401(k) database environment is certified to be fully compliant with the ISO-27002 Information Security Audit standard. Moreover, EBRI has obtained a legal opinion that the methodology used meets the privacy standards of the Gramm-Leach-Bliley Act. At no time has any nonpublic personal information that is personally identifiable, such as a Social Security number, been transferred to or shared with EBRI.
- ⁸ Account balances are net of unpaid loan balances. Thus, unpaid loan balances are not included in any of the eight asset categories described.
- ⁹ The cross-sectional analysis for this publication found that consolidating the multiple accounts across a majority of the providers to the single individual owning them resulted in an overall increase of 2.6 percent in the average 401(k) plan account balance. This statistic should be interpreted with caution, as it may not represent the total 401(k) assets owned by the individual. The impact of account consolidation varied with the participant’s age and tenure with the current employer. The largest increases in average account balance occurred among older participants with fewer years of tenure. For example, among participants in their sixties with two or fewer years of tenure, the average account balance increased 7.3 percent with the consolidation of their multiple accounts. Among participants in their fifties or sixties with more than 30 years of tenure, the average account balance increased 2.0 percent with the consolidation of their multiple accounts. Future joint research with this feature will explore the longitudinal aspects of this consolidation in more detail.

- ¹⁰ This system of classification does not consider the number of distinct investment options presented to a given participant, but rather the types of options presented. Preliminary research analyzing 1.4 million participants drawn from the 2000 EBRI/ICI 401(k) database suggests that the sheer number of investment options presented does not influence participants. On average, participants have 10.4 distinct options but, on average, choose only 2.5 (Holden and VanDerhei 2001b). In addition, the preliminary analysis found that 401(k) participants are not naive—that is, when given n options, they do not divide their assets among all n . Indeed, less than 1 percent of participants followed a $1/n$ asset allocation strategy. Plan Sponsor Council of America 2016 indicates that in 2015, the average number of investment fund options available for participant contributions was 19 among more than 600 plans surveyed. Deloitte Consulting LLP, International Foundation of Employee Benefit Plans, and the International Society of Certified Employee Benefit Specialists 2015 reports that the average number of funds offered by the nearly 400 401(k) plan sponsors surveyed was 22 in 2015. BrightScope and Investment Company Institute 2016 reports an average of 28 investment options in 2014, and an average of 22 investment options when a target date fund suite is counted as a single investment option.
- ¹¹ The asset allocation path that the target date fund follows to shift its focus from growth to income over time is typically referred to as the glide path. Because discussions of asset allocation usually focus on the percentage of the portfolio invested in equities, the glide path generally reflects the declining percentage of equities in the portfolio as it approaches and passes the target date, which is usually indicated in the fund's name. The target date generally is the date at which the typical investor for whom that fund is designed would reach retirement age and stop making new investments in the fund.
- ¹² Lifestyle funds maintain a predetermined risk level and generally use words such as “conservative,” “moderate,” or “aggressive” in their name to indicate the fund's risk level. Lifestyle funds generally are included in the non-target date balanced fund category.
- ¹³ GICs are insurance company products that guarantee a specific rate of return on the invested capital over the life of the contract.
- ¹⁴ Other stable value funds include synthetic GICs, which consist of a portfolio of fixed-income securities “wrapped” with a guarantee (typically by an insurance company or a bank) to provide benefit payments according to the plan at book value.
- ¹⁵ Some recordkeepers supplying data were unable to provide complete asset allocation detail on certain pooled asset classes for one or more of their clients. The final EBRI/ICI 401(k) database includes only plans for which at least 90 percent of all plan assets could be identified.
- ¹⁶ The average account balance is calculated for the 19.4 million 401(k) plan participants who had account balances at both year-end 2014 and year-end 2015.
- ¹⁷ For 401(k) asset figures, see Investment Company Institute 2017.
- ¹⁸ Estimates of the number of 401(k) plans and active participants are based on a combination of data from the US Department of Labor's Bureau of Labor Statistics and Employee Benefits Security Administration. See discussion in note 2.
- ¹⁹ The latest available data from the US Department of Labor are for plan year 2014 (see US Department of Labor, Employee Benefits Security Administration 2016a).
- ²⁰ For an analysis of the changes in account balances of consistent participants in the EBRI/ICI 401(k) database in the wake of the financial crisis (over the six-year period from year-end 2007 to year-end 2014), see Holden et al. 2016b.
- ²¹ Because of these changes in the cross sections, comparing average account balances across different year-end cross-sectional snapshots can lead to false conclusions. For example, newly formed plans would tend to pull down the average account balance, but would tell us nothing about consistently participating workers. Similarly, the aggregate average account balance would tend to be pulled down if a large number of participants retired.
- ²² Tabulations of the Survey of Consumer Finances reveal that about half of traditional IRA assets in 2013 resulted from rollovers from employer-sponsored retirement plans.
- ²³ At year-end 2015, 2.0 percent of the participants in the database were missing a birth date entry, were younger than 20, or were older than 69. They were not included in this analysis.
- ²⁴ At year-end 2015, 10.3 percent of the participants in the database were missing a date of hire entry and were not included in this analysis.
- ²⁵ The positive correlation between tenure and account balance is expected because long-term employees have had more time to accumulate an account balance. However, a rollover from a previous employer's plan could interfere with this positive correlation because a rollover could give a short-tenured employee a high account balance. There is some discernible evidence of rollover assets among the participants with account balances greater than \$100,000, as 3 percent of them had two or fewer years of tenure, and 6 percent of them had between two and five years of tenure (see Figure 12).

- ²⁶ Because 401(k) plans were introduced nearly 35 years ago, older and longer-tenured employees would not have participated in 401(k) plans for their entire careers. The Revenue Act of 1978 contained a provision that became Internal Revenue Code Section 401(k). The law went into effect on January 1, 1980, but it was not until November 1981 that proposed regulations were issued (see Holden, Brady, and Hadley 2006; Employee Benefit Research Institute 2005; and US Internal Revenue Service 1981).
- ²⁷ Low account balances among this group can be explained in two possible ways: (1) their employer's 401(k) plan has only recently been established (74 percent of all 401(k)-type plans in existence in 2014 were established after 1995 [tabulations of US Department of Labor Form 5500 data for 2014]), or (2) the employee only recently joined the plan (whether on his or her own or through automatic enrollment). In either event, job tenure would not accurately reflect actual 401(k) plan participation.
- ²⁸ It is possible that these older, longer-tenured workers accumulated DC plan assets (e.g., in a profit-sharing plan) before the introduction of 401(k) plan features. However, such DC plan arrangements generally did not permit employee contributions and often were designed to be supplemental to other employer plans. Participants' account balances that predate the 401(k) plan are not included in this analysis, which focuses on 401(k) plan balance amounts.
- ²⁹ Social Security replaces a much higher fraction of preretirement earnings for lower-income workers. For example, the first-year replacement rate (mean scheduled Social Security first-year benefits as a percentage of average inflation-indexed career earnings for retired workers in the 1960–1969 birth cohort [individuals aged 47 to 56 in 2016]) decreased as income increased. The mean replacement rate for the lowest lifetime household earnings quintile was 83 percent; for the middle quintile, the mean Social Security replacement rate was 54 percent; and for the highest quintile, it was 34 percent. See “Replacement Rate—Prices” in Congressional Budget Office 2016b. For additional discussion, see Brady and Bogdan 2016 and Brady, Burham, and Holden 2012.
- ³⁰ The ratio of 401(k) plan account balance (at the current employer) to salary alone is not an indicator of preparedness for retirement, nor is it the only measure that can be used to judge retirement readiness or savings adequacy (see Brady, Burham, and Holden 2012). A complete analysis of preparedness for retirement would require estimating projected balances at retirement by also considering retirement income from Social Security, defined benefit plans, IRAs, and other DC plans, possibly from previous employment (for example, see VanDerhei 2014). For references to other such research, see MacDonald and Moore 2011 and Holden and VanDerhei 2005. For an analysis of the possible impact of automatic increases in participants' contribution rates in automatic enrollment plans, see VanDerhei and Copeland 2008, VanDerhei 2010, and VanDerhei and Lucas 2010. For a discussion of the variety of factors (e.g., taxes, savings, mortgages, children) that affect replacement rates, see Brady 2010. For analysis of the impact of changes in Social Security on retirement patterns, see Gustman and Steinmeier 2008 and 2013. For a discussion of the variety of measures that can be used to evaluate Americans' retirement readiness, see Brady, Burham, and Holden 2012. For simulation results showing the contributions of employer-sponsored retirement plans and Social Security to income in retirement, see Brady 2016. For an analysis of income near Social Security claiming, see Brady et al. 2017.
- ³¹ The ratio of account balance to salary tends to peak at higher salary levels and then fall off, likely reflecting the influence of two competing forces. First, empirical research suggests that higher earners tend to contribute higher percentages of salary; therefore, one would expect the ratio of account balance to salary to rise with salary. However, tax code contribution limits and nondiscrimination rules, which aim to ensure that employees of all income ranges attain the benefits of the 401(k) plan, constrain the ability of high-income individuals to save in the plan. See Holden and VanDerhei 2001c for a complete discussion of EBRI/ICI findings and other research on the relationship between contribution rates and salary. For an analysis of 401(k) participants' contribution activity during the bear market of 2000 to 2002, see Holden and VanDerhei 2004c. For summary statistics on contribution activity in 2015, see Utkus and Young 2016 and Aon 2016.
- ³² At year-end 2015, 59 percent of non-target date balanced mutual fund assets were assumed to be invested in equities (see Investment Company Institute, Quarterly Supplementary Data). Allocation to equities in target date funds is assumed to vary with investor age. Asset allocation to equities for target date funds was based on Morningstar analysis of target date fund asset allocation (see Morningstar 2015 and note 39 for additional discussion).
- ³³ Other research suggests that most 401(k) participants do not make active changes to their asset allocations during any given year. For example, an ICI survey of recordkeepers covering more than 29 million DC plan participant accounts found that 9.4 percent of DC plan participants changed the asset allocation of their account balances in 2016 and 5.6 percent changed the asset allocation of their contributions during 2016 (see Holden and Schrass 2017). Analyzing 2015 data, Utkus and Young 2016 reported that “only 9 [percent] of DC plan participants traded within their accounts,” and Utkus and Young 2017 reported that “only 8 [percent] of DC plan participants traded within their accounts.” Similarly, Utkus and Young 2012 reported that “only 11 [percent] of DC plan participants traded in their accounts” in 2011, down

from 16 percent in 2008, making it at that time “the lowest level observed” since they began tracking the data in 1999. Aon 2016 found that 14 percent of participants traded in their accounts in 2015. Furthermore, Choi et al. 2001 found that 401(k) participants rarely made changes after the initial point of enrollment. (For household survey results from fall 2016 reflecting households’ sentiment toward and confidence in 401(k) plans, see Holden, Schrass, and Bogdan 2017.)

³⁴ For the age distribution of 401(k) plan participants and assets at year-end 2015, see Figure 5.

³⁵ See note 11 for additional detail on target date funds.

³⁶ See Figure 21 in Holden et al. 2016a (the year-end 2014 EBRI/ICI 401(k) database update).

³⁷ For an analysis tracking target date fund use and the persistence of their use from 2007 through 2009, see Copeland 2011. For an analysis of target date fund use among defaulted and non-defaulted 401(k) plan participants, see Mitchell and Utkus 2012.

³⁸ Target date funds often are used as the default investment in automatic enrollment plans and in plans’ investment lineups (see Plan Sponsor Council of America 2016). At year-end 2015, 67 percent of target date mutual fund assets were held in DC plans (see Investment Company Institute 2017). Plan Sponsor Council of America 2016 reported an increase in the incidence of automatic enrollment in 2015. Of the more than 600 plans surveyed, 57.5 percent had automatic enrollment in 2015, compared with 52.4 percent in 2014, 39.6 percent in 2008, and 10.5 percent in 2004. Utkus and Young 2017 reports that 45 percent of DC plans in their recordkeeping system in 2016 offer automatic enrollment, up from 41 percent in 2015, and 36 percent in 2014.

³⁹ At year-end 2015, 59 percent of non-target date balanced fund assets were assumed to be invested in equities (see Investment Company Institute, Quarterly Supplementary Data). The allocation to equities in target date funds varies with the funds’ target dates. For target date funds, investors were assumed to be in a fund whose target date was nearest to their 65th birthday. The equity portion was estimated using the industry average equity percentage for the assigned target date fund calculated using the Morningstar Lifecycle Allocation Indexes (see Morningstar 2015). For the average 401(k) plan asset allocation to equities (through equity funds, company stock, and the equity portion of balanced funds) by participant age, see Figure 21.

⁴⁰ For year-end 2014 data, see Holden et al. 2016a.

⁴¹ See Holden et al. 2008; Holden, VanDerhei, and Alonso 2009; Holden, VanDerhei, and Alonso 2010; and Holden et al. 2011, 2012, 2013, 2014, and 2016a for data for earlier years.

⁴² For year-end 1998 data, see Holden, VanDerhei, and Quick 2000.

⁴³ In the database, 401(k) plan participants’ holdings of, and concentration in, company stock have tended to decline. In the wake of the collapse of Enron in 2001, participants’ awareness of the need to diversify may have increased and some plan sponsors may have changed plan design (see VanDerhei 2002). In addition, some of this movement may be the result of regulations put in place by the Pension Protection Act of 2006 (PPA), which limited the length of time participants could be required to hold company stock contributed to their accounts by their employer; specified rules regarding the notification of blackout periods; and required quarterly statements that must include a notice highlighting the importance of diversification (see US Joint Committee on Taxation 2006).

⁴⁴ Plan-specific information on loan provisions is available for the majority of the plans in the sample (including virtually all of the small plans). Some plans without this information are classified as having a loan provision if any participant in the plan has an outstanding loan balance. This may understate the number of plans offering loans (or participants eligible for loans) because some plans may have offered a plan loan, but no participant had taken out a loan. It is likely that this omission is small, as US Government Accountability Office 1997 found that more than 95 percent of 401(k) plans that offer loans had at least one plan participant with an outstanding loan.

⁴⁵ For a complete time series of the percentage of eligible 401(k) participants with outstanding 401(k) loans and loan amounts as a percentage of the remaining 401(k) plan account balance, see Holden et al. 2013.

⁴⁶ The percentage of 401(k) participants with 401(k) loans outstanding across all participants both with and without 401(k) plan loan access was similar in earlier years. For example, in 2014, this measure was 17 percent; from 2010 through 2013, 18 percent; in 2009, 19 percent; in 2008, 16 percent; in 2007, 16 percent; and in 2006, 15 percent.

⁴⁷ In plan year 2014 (latest data available), only 1.5 percent of the \$4.4 trillion in 401(k) plan assets were participant loans. See Table D6 in US Department of Labor, Employee Benefits Security Administration 2016a.

⁴⁸ This pattern is driven in part by restrictions placed on loan amounts.

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Sarah Holden

Sarah Holden heads ICI's research on investor demographics and behavior and retirement and tax policy. Holden, who joined ICI in 1999, heads efforts to track trends in household retirement saving activity and ownership of funds as well as other investments inside and outside retirement accounts. She is responsible for analysis of 401(k) plan participant activity using data collected in a collaborative effort with the Employee Benefit Research Institute (EBRI), known as the EBRI/ICI Participant-Directed Retirement Plan Data Collection Project. In addition, she oversees The IRA Investor Database™, which contains data on nearly 17 million IRA investors and allows analysis of IRA investors' contribution, rollover, conversion, and withdrawal activity, and asset allocation. Before joining ICI, Holden served as an economist at the Federal Reserve Board of Governors. She has a PhD in economics from the University of Michigan and a BA in mathematics and economics from Smith College.

Jack VanDerhei

Jack VanDerhei is the research director of the Employee Benefit Research Institute (EBRI), a private, nonprofit, nonpartisan organization committed to original public policy research and education on economic security and employee benefits. He is also the director of the EBRI Retirement Security Research Center. Information on his simulation studies can be found on EBRI's website: [Retirement Security Projection Model](http://bit.ly/ebri-rspm) (bit.ly/ebri-rspm). He received his BBA and MBA from the University of Wisconsin-Madison and his MA and PhD from the Wharton School of the University of Pennsylvania.

Luis Alonso

Luis Alonso is director of information technology and research databases at EBRI. Alonso, who joined EBRI in 2000, is responsible for managing the EBRI/ICI Participant-Directed Retirement Plan Data Collection Project data warehouses. He works closely with the research group at EBRI to support the overall retirement research efforts and with ICI on all collaborative research using the EBRI/ICI 401(k) database. Alonso earned his BS in management from George Mason University.

Steven Bass

Steven Bass is an associate economist in the retirement and investor research division at ICI. Since joining the Institute in 2008, Bass has participated in research examining 401(k) fees and expenses, investor behavior in retirement accounts, and retiree income sources. Before joining the Institute, Bass worked as an economist in the Division of Consumer Expenditure Surveys at the US Bureau of Labor Statistics. Bass is a graduate of Wheaton College (IL) and holds a master's degree in applied economics from Johns Hopkins University.



1401 H Street, NW
Washington, DC 20005
202-326-5800
www.ici.org

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