

## 401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2013

*By Jack VanDerhei, EBRI director of Research; Sarah Holden, ICI senior director of Retirement and Investor Research; Luis Alonso, EBRI director of Information Technology and Research Databases; Steven Bass, ICI associate economist; and AnnMarie Pino, ICI research assistant*

### A T A G L A N C E

- **The bulk of 401(k) assets continued to be invested in stocks.** On average, at year-end 2013, 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-eight percent was in fixed-income securities such as stable-value investments, bond funds, and money funds.
- **More 401(k) plan participants held equities at year-end 2013 than before the financial market crisis (year-end 2007), and most had the majority of their accounts invested in equities.** For example, almost two-thirds of participants in their 20s had more than 80 percent of their 401(k) accounts invested in equities at year-end 2013, up from less than half of participants in their 20s at year-end 2007. Overall, 90 percent of 401(k) participants had at least some investment in equities at year-end 2013.
- **Seventy-one percent of 401(k) plans included target-date funds in their investment lineup at year-end 2013.** At year-end 2013, 15 percent of the assets in the EBRI/ICI 401(k) database were invested in target-date funds and 41 percent of 401(k) participants in the database held target-date funds.
- **A majority of new or recent hires invested their 401(k) assets in balanced funds, including target-date funds.** For example, at year-end 2013, nearly two-thirds of recently hired participants held balanced funds in their 401(k) accounts. Balanced funds were 41 percent of the account balances of recently hired 401(k) participants at year-end 2013.
- **401(k) participants continued to seek diversification of their investments.** Only 7 percent of 401(k) accounts were invested in company stock at year-end 2013, the same share as in 2012. This share has fallen by 62 percent since 1999. Recently hired 401(k) participants contributed to this trend: they tended to be less likely to hold company stock.
- **Participants' 401(k) loan activity in 2013 was little changed from year-end 2012.** At year-end 2013, 21 percent of all 401(k) participants who were eligible for loans had loans outstanding against their 401(k) accounts, the same as in the prior four years, although up from 18 percent at year-end 2008.
- **The year-end 2013 average 401(k) account balance in the database was 13.2 percent higher than the year before, but may not accurately reflect the experience of typical 401(k) participants in 2013.** To understand changes in 401(k) participants' average account balances, it is important to analyze a sample of consistent participants.
- **The average 401(k) account balance tends to increase with participant age and tenure.** For example, at year-end 2013, participants in their 30s with more than two to five years of tenure had an average 401(k) account balance of nearly \$25,000, compared with an average 401(k) account balance of nearly \$250,000 among participants in their 60s with more than 30 years of tenure.

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This paper is an annual update to ICI and EBRI’s ongoing research into 401(k) plan participants’ activity. The previous update was “401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2012,” published in December 2013.

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## Introduction

Over the past three decades, 401(k) plans have grown to be the most widespread private-sector employer-sponsored retirement plan in the United States.<sup>1</sup> In 2013, an estimated 53 million American workers were active 401(k) plan participants.<sup>2</sup> By year-end 2013, 401(k) plan assets had grown to represent 18 percent of all retirement assets, amounting to \$4.2 trillion.<sup>3</sup> In an ongoing collaborative effort, the Employee Benefit Research Institute (EBRI)<sup>4</sup> and the Investment Company Institute (ICI)<sup>5</sup> collect annual data on millions of 401(k) plan participants as a means to examine how these participants manage their 401(k) accounts.

This report is an update of EBRI and ICI's ongoing research into 401(k) plan participants' activity through year-end 2013.<sup>6</sup> 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 2013; 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.

### 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, 2013, the EBRI/ICI database included statistical information about:

- 26.4 million 401(k) plan participants, in
- 72,676 employer-sponsored 401(k) plans, holding
- \$1.912 trillion in assets.

The 2013 EBRI/ICI database covers about half of the universe of 401(k) plan participants, nearly 15 percent of plans, and 46 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.

## 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 2013. These plan recordkeepers include mutual fund companies, insurance companies, and consulting firms. Although the EBRI/ICI project has collected data from 1996 through 2013, the universe of data providers may vary from year to year. In addition, the sample of plans at any given provider can change. Thus, aggregate figures in this report generally should not be used to estimate time trends. Records were encrypted prior to 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.<sup>7</sup> 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.<sup>8</sup> 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 2013 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.<sup>9</sup>

## Investment Options

Investment options are grouped into eight broad categories.<sup>10</sup> **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. Similarly, **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.<sup>11</sup> Non-target-date balanced funds include asset allocation or hybrid funds, in addition to lifestyle funds.<sup>12</sup> **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)**<sup>13</sup> and **other stable-value funds**,<sup>14</sup> are reported as one category. The **other** category is the residual for other investments, such as real estate funds. The final category, **unknown**, consists of assets that could not be identified.<sup>15</sup>

## About Changes in Account Balances

When analyzing the change in participant account balances over time, it is important to have a consistent sample. 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 from 2007 through 2013.

## Distribution of Plans, Participants, and Assets by Plan Size

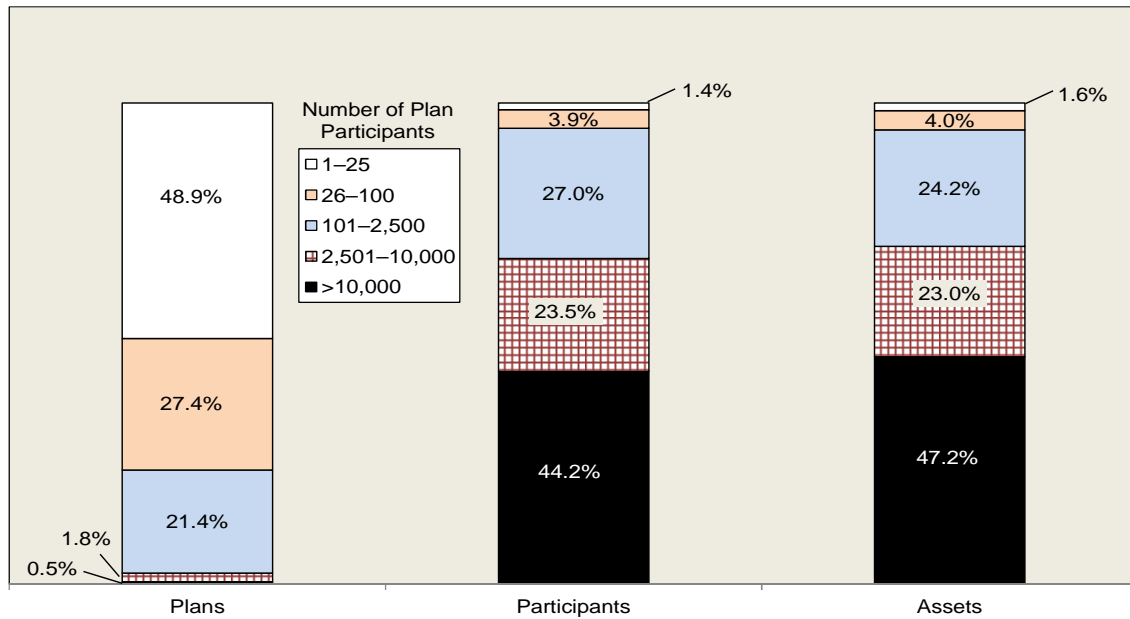
The 2013 EBRI/ICI 401(k) database contains information on 72,676 401(k) plans with \$1.912 trillion in assets and 26.4 million participants (Figure 1). As in the 401(k) universe at large, most of the plans in the database are small: 49 percent of the plans have 25 or fewer participants, and 27 percent 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, 68 percent of participants are in plans with more than 2,500 participants, and these same plans account for 70 percent of all plan assets. Because most of the plans have a small number of participants, the asset size for many plans is modest. Seventeen percent of the plans have assets of \$250,000 or less, and another 26 percent have plan assets between \$250,001 and \$1,250,000 (Figure 3).

**Figure 1**  
**401(k) Plan Characteristics, by Number of Plan Participants, 2013**

Number of Plan Participants	Total Plans	Total Participants	Total Assets*	Average Account Balance
1-10	20,177	103,321	\$9,019,376,706	\$87,295
11-25	15,387	261,895	\$21,722,813,268	\$82,945
26-50	11,133	404,680	\$31,619,682,269	\$78,135
51-100	8,753	620,667	\$44,557,323,397	\$71,789
101-250	7,538	1,200,891	\$78,902,914,348	\$65,704
251-500	3,643	1,284,710	\$80,225,170,694	\$62,446
501-1000	2,461	1,724,113	\$108,748,226,149	\$63,075
1,001-2,500	1,894	2,932,892	\$194,616,877,046	\$66,357
2,501-5,000	852	2,997,718	\$200,073,225,872	\$66,742
5,001-10,000	458	3,208,543	\$239,447,398,574	\$74,628
> 10,000	380	11,681,930	\$903,529,287,709	\$77,344
<b>All</b>	<b>72,676</b>	<b>26,421,360</b>	<b>\$1,912,462,296,033</b>	<b>\$72,383</b>

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: The median account balance at year-end 2013 was \$18,433.  
 \* Assets do not add to the total because of rounding.

**Figure 2**  
**Distribution of 401(k) Plans, Participants, and Assets**  
Percentage of plans, participants, and assets by number of plan participants, 2013



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

**Figure 3**  
**401(k) Plan Characteristics, by Plan Assets, 2013**

Plan Assets	Total Plans	Total Participants	Total Assets*	Average Account Balance
\$0-\$250,000	12,352	81,973	\$1,108,856,465	\$13,527
>\$250,000-\$625,000	9,112	128,416	\$3,884,536,866	\$30,250
>\$625,000-\$1,250,000	10,041	224,547	\$9,157,550,220	\$40,782
>\$1,250,000-\$2,500,000	11,346	432,210	\$20,379,123,022	\$47,151
>\$2,500,000-\$6,250,000	12,718	1,001,034	\$50,629,115,806	\$50,577
>\$6,250,000-\$12,500,000	6,470	1,117,226	\$56,981,739,293	\$51,003
>\$12,500,000-\$25,000,000	4,019	1,351,431	\$70,918,428,406	\$52,477
>\$25,000,000-\$62,500,000	3,245	2,369,458	\$126,089,474,578	\$53,214
>\$62,500,000-\$125,000,000	1,401	2,211,718	\$123,839,628,580	\$55,993
>\$125,000,000-\$250,000,000	857	2,536,729	\$151,590,330,754	\$59,758
>\$250,000,000	1,115	14,966,618	\$1,297,883,512,042	\$86,719
<b>All</b>	<b>72,676</b>	<b>26,421,360</b>	<b>\$1,912,462,296,033</b>	<b>\$72,383</b>

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: The median account balance at year-end 2013 was \$18,433.  
 \* Assets do not add to the total because of rounding.

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

The 2013 EBRI/ICI 401(k) database is a representative sample of the estimated universe of 401(k) plans. At year-end 2013, all 401(k) plans held a total of \$4.2 trillion in assets, and the database represents about 46 percent of that total.<sup>16</sup> The database also covers about half of the universe of active 401(k) plan participants and nearly 15 percent of all 401(k) plans.<sup>17</sup> The distribution of assets, participants, and plans in the database for 2013 is similar to the universe of plans as reported by the U.S. Department of Labor (Figure 4).<sup>18</sup>

### **The Typical 401(k) Plan Participant**

The database includes 401(k) participants across a wide range of age and tenure groups. At year-end 2013, 50 percent of participants were in their 30s or 40s, while 13 percent of participants were in their 20s, 27 percent were in their 50s, and 11 percent were in their 60s (Figure 5, upper panel). The median age of the participants in the 2013 database is 46 years, a year older than in 2012. 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 2013, 61 percent of 401(k) plan assets were held by participants in their 50s or 60s, while 13 percent of 401(k) plan assets were held by participants in their 20s or 30s (Figure 5, lower panel).

Participants in 401(k) plans represent a wide range of job tenure experiences. In 2013, 37 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 2013, the same as in 2012.

## **Year-end 2013 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 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 is influenced by the magnitude of these three factors relative to the starting account balance.<sup>19</sup> 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 32.4 percent during 2013, while bonds (as measured by the Barclays Capital U.S. Aggregate Bond Index) decreased 2.0 percent (Figures 7 and 8).

### **Definition of 401(k) 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) 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.<sup>20</sup> In addition, the database contains only the account balances held in the 401(k) plans at participants' current employers. Retirement savings held



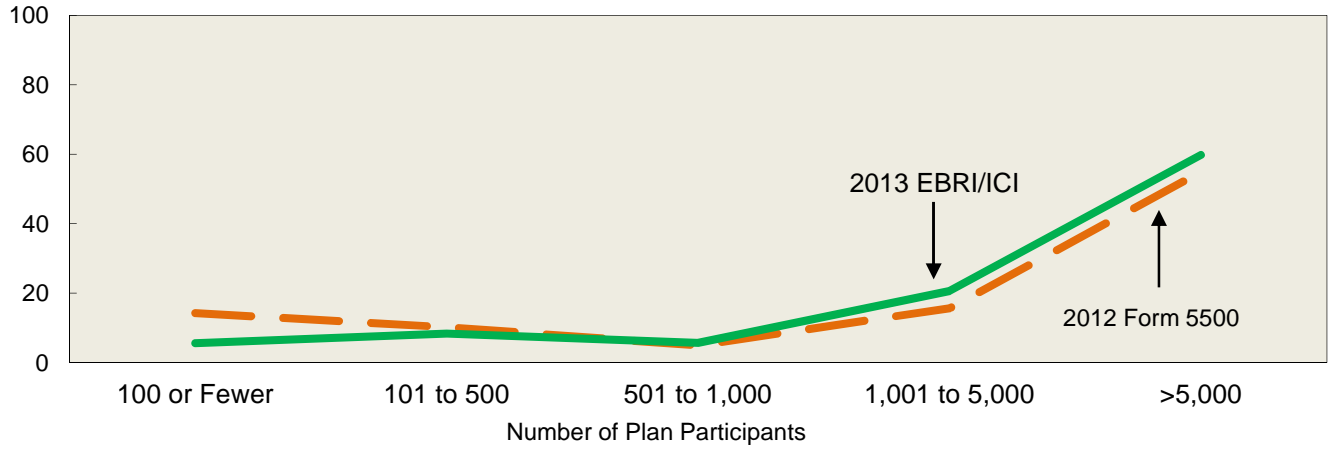
Figure 4

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

*401(k) plan characteristics by number of plan participants: EBRI/ICI 401(k) database in 2013 versus 2012 DOL Form 5500 for all 401(k) plans*

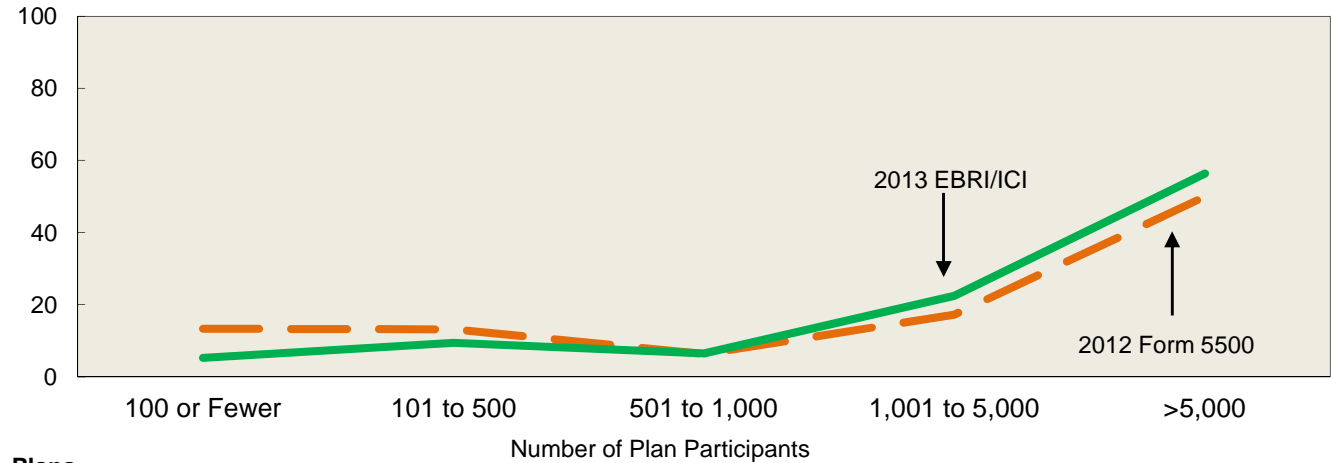
**Plan Assets**

Percentage of plan assets



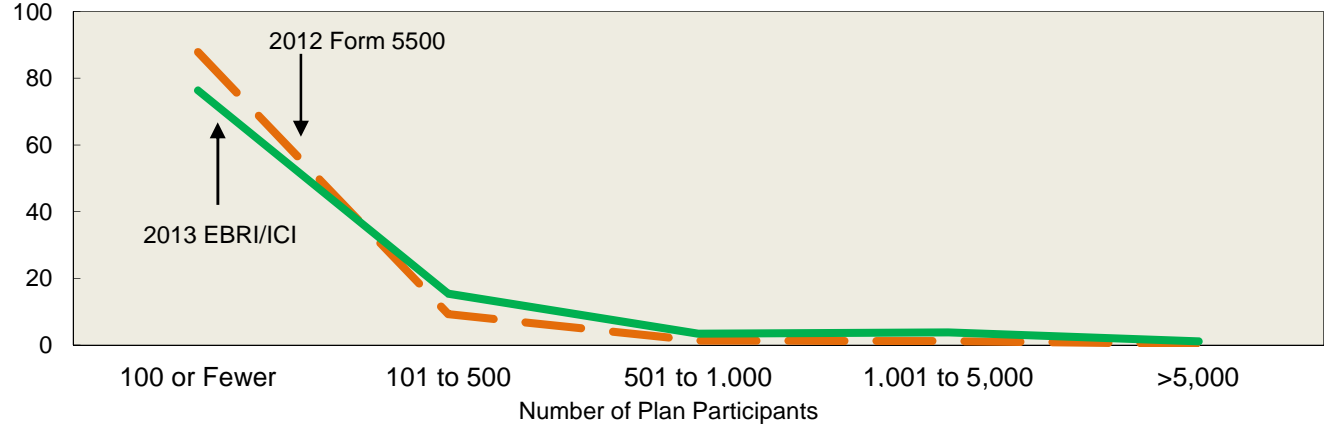
**Participants**

Percentage of participants



**Plans**

Percentage of plans

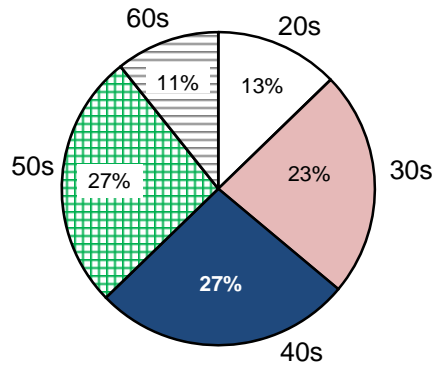


Sources: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project and U.S. Department of Labor.

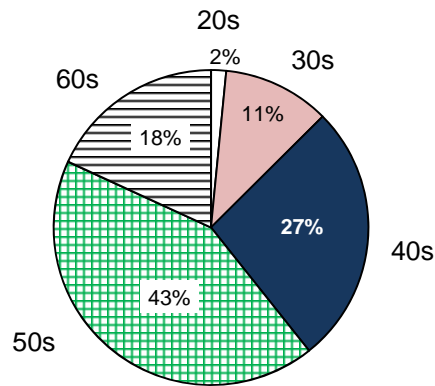
**Figure 5**  
**401(k) Participants Represent a Range of Ages**

Percentage of active 401(k) plan participants and 401(k) plan assets, by participant age, 2013

**Active 401(k) Plan Participants**  
 (Median Age: 46 Years)



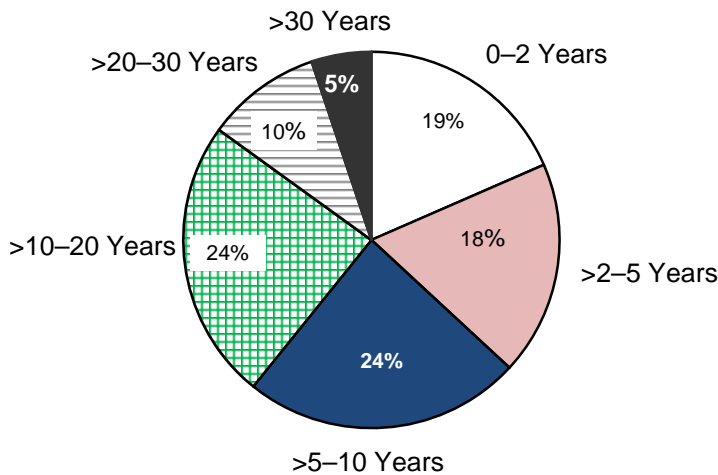
**401(k) Plan Assets**



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: Components do not add to 100 percent because of rounding.

**Figure 6**  
**401(k) Participants Represent a Range of Job Tenures**  
 Percentage of active 401(k) plan participants, by years of tenure, 2013

Median Tenure: 8 Years



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

in plans at previous employers or rolled over into individual retirement accounts (IRAs) are not included in the analysis.<sup>21</sup> 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.

### **Size of 401(k) Account Balances**

At year-end 2013, the average account balance was \$72,383 and the median account balance was \$18,433 (Figure 9), but there was wide variation in balances. For example, about three-quarters of the participants in the 2013 EBRI/ICI 401(k) database had account balances that were lower than \$72,383, the size of the average account balance. In fact, 39.3 percent of participants had account balances of less than \$10,000, while 19.6 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 research report examines the relationship between account balances and participants’ age, tenure, and salary.

### **Relationship of Age and Tenure to Account Balances**

Age and account balance are positively correlated among participants covered by the 2013 database.<sup>22</sup> Examination of the age composition of account balances finds that 52 percent of participants with account balances of less than \$10,000 were in their 20s or 30s (Figure 11). Similarly, 60 percent of participants with account balances greater than \$100,000 were in their 50s or 60s. 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.

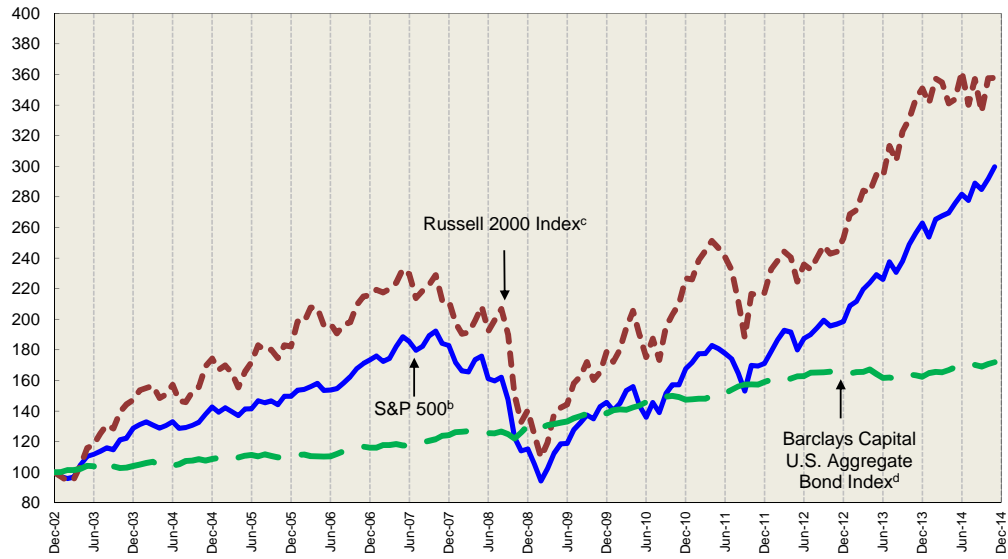
Account balance and tenure are also positively correlated among participants in the 2013 database. A participant’s tenure with an employer serves as a proxy for the length of time a worker has participated in the 401(k) plan.<sup>23</sup> Indeed, 61 percent of participants with account balances of less than \$10,000 had five or fewer years of tenure, while 74 percent of participants with account balances greater than \$100,000 had more than 10 years of tenure (Figure 12).<sup>24</sup>

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 60s with up to two years of tenure was \$31,582, compared with \$248,397 for participants in their 60s with more than 30 years of tenure (Figure 13).<sup>25</sup> Similarly, the average account balance of participants in their 40s with up to two years of tenure was \$19,104, compared with \$154,228 for participants in their 40s 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, 86 percent of participants in their 20s with two or fewer years of tenure had account balances of less than \$10,000 in 2013, compared with 53 percent of participants in their 20s with between five and 10 years of tenure (Figure 14). Older workers display a similar pattern. For example, 60 percent of participants in their 60s with two or fewer years of tenure had account balances of less than \$10,000. In contrast, less than one-fifth of those in their 60s with more than 20 years of tenure had account balances of less than \$10,000.<sup>26</sup>

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, 19 percent of participants in their 60s with five to 10 years of tenure had account balances in excess of \$100,000 in 2013 (Figure 15). However, 46 percent of participants in their 60s with between 20 and 30 years of tenure with their current employer had account balances greater than \$100,000. The percentage increases to 53 percent for participants in their 60s with more than 30 years of tenure.

**Figure 7**  
**Domestic Stock and Bond Market Indexes**  
 Month-end level,<sup>a</sup> December 2002 to November 2014



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

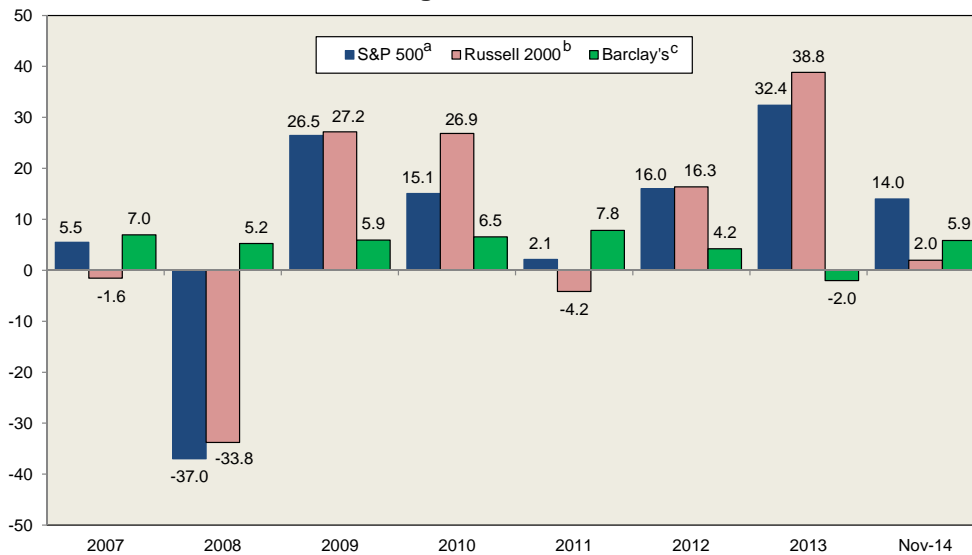
<sup>a</sup> All indexes are set to 100 in December 2002.

<sup>b</sup> The S&P 500 is an index of 500 stocks chosen for market size, liquidity, and industry group representation.

<sup>c</sup> The Russell 2000 Index measures the performance of the 2,000 smallest U.S. companies (based on total market capitalization) included in the Russell 3000 Index (which tracks the 3,000 largest U.S. companies).

<sup>d</sup> Formerly the Lehman Brothers U.S. Aggregate Bond Index, the Barclays Capital U.S. 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.

**Figure 8**  
**Percent Change in Total Return Indexes**



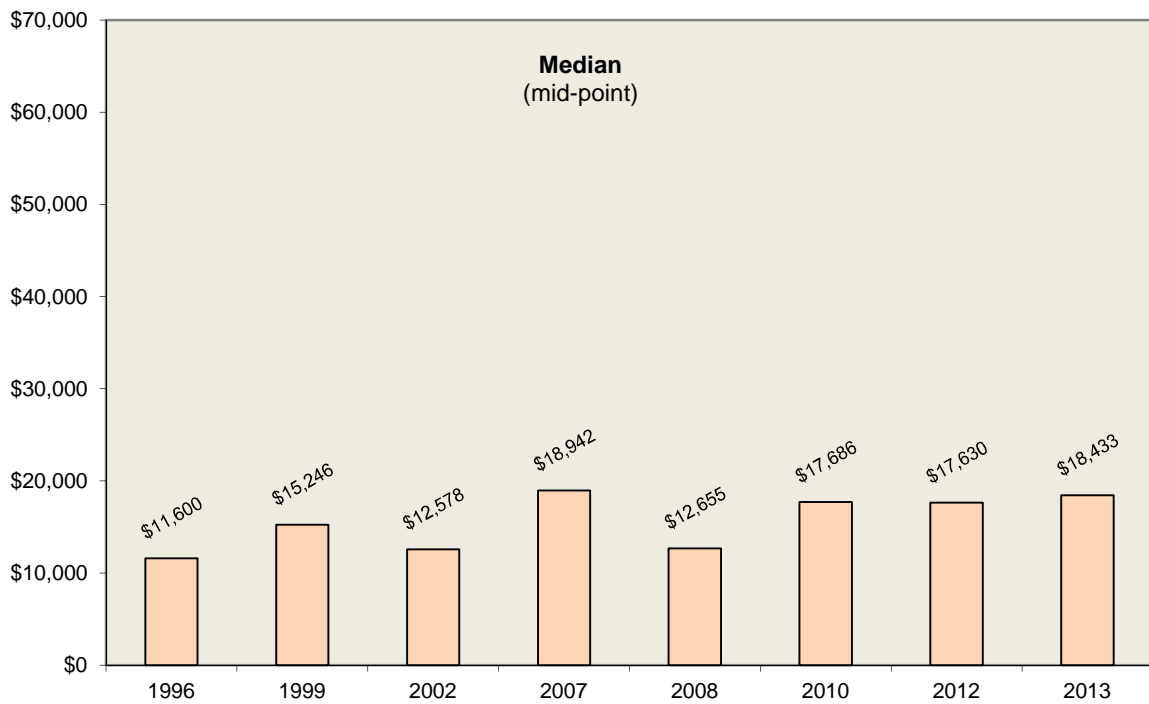
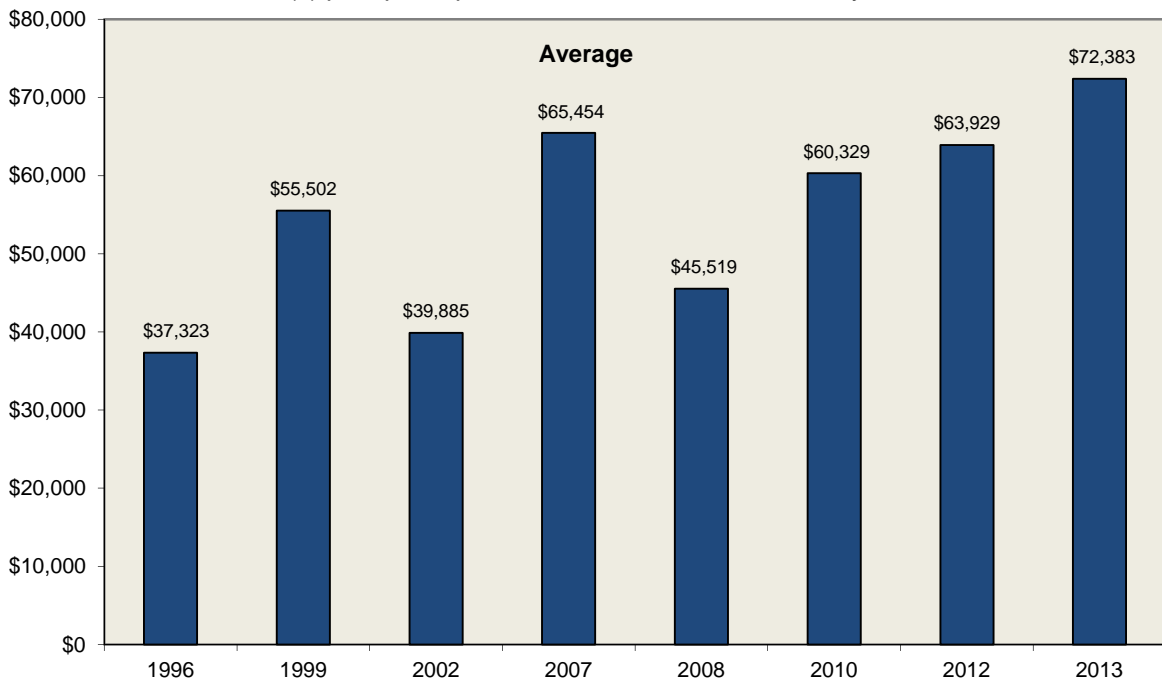
Sources: Bloomberg, Barclays Global Investors, Frank Russell Company, and Standard & Poor's.

<sup>a</sup> The S&P 500 is an index of 500 stocks chosen for market size, liquidity, and industry group representation.

<sup>b</sup> The Russell 2000 Index measures the performance of the 2,000 smallest U.S. companies (based on total market capitalization) included in the Russell 3000 Index (which tracks the 3,000 largest U.S. companies).

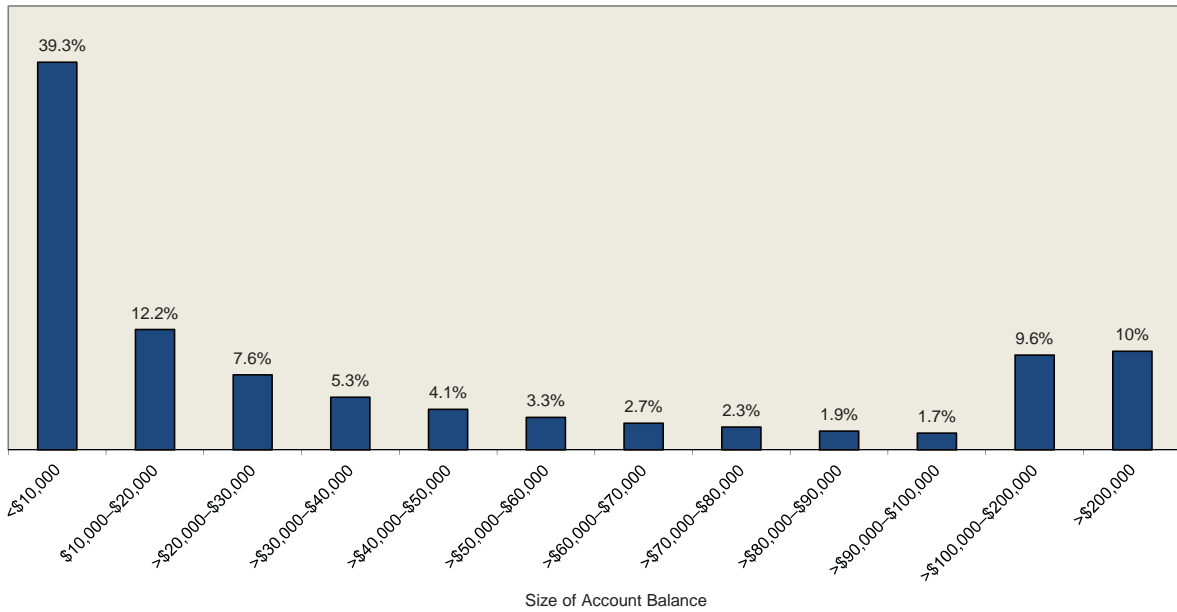
<sup>c</sup> Formerly the Lehman Brothers U.S. Aggregate Bond Index, the Barclays Capital U.S. Aggregate Bond Index is composed of securities covering government and corporate bonds, mortgage-backed securities, and asset-backed securities (rebalanced monthly by market capitalization). The index's total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

Figure 9  
**Snapshot of Year-End 401(k) Account Balances**  
 401(k) plan participant account balances,<sup>a</sup> selected years<sup>b</sup>



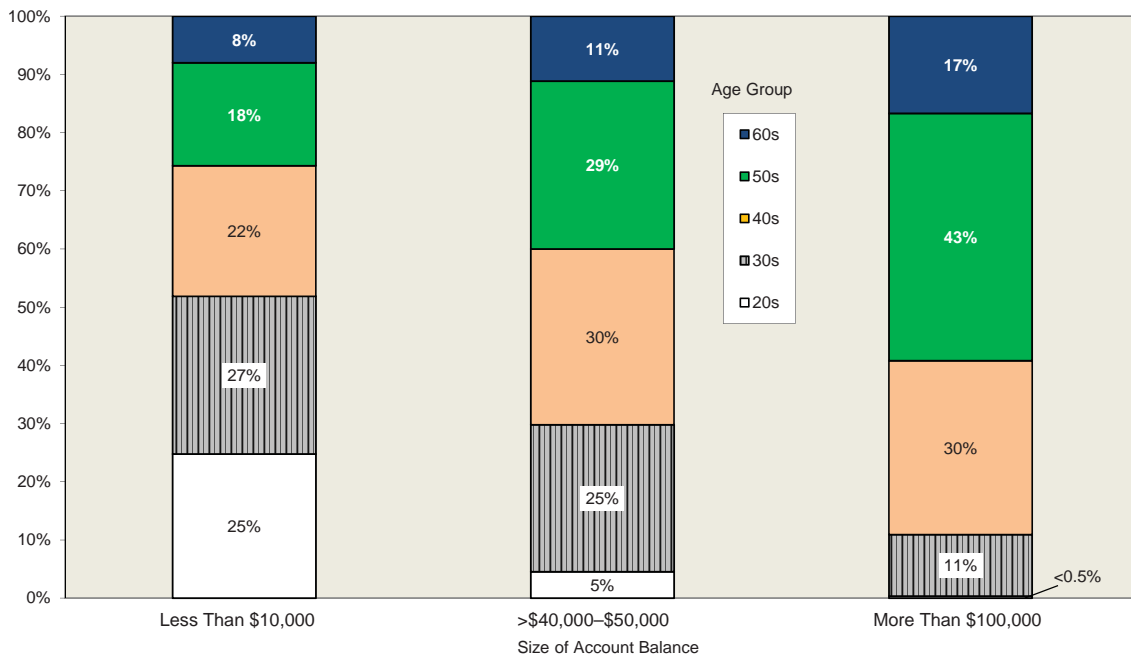
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
<sup>a</sup> Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included.  
<sup>b</sup> The sample of participants changes over time.

**Figure 10**  
**Distribution of 401(k) Account Balances, by Size of Account Balance**  
 Percentage of participants with account balances in specified ranges, 2013



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: At year-end 2013, the average account balance among all 26.4 million 401(k) participants was \$72,383; the median account balance was \$18,433.

**Figure 11**  
**Age Composition of Selected 401(k) Account Balance Categories**  
 Percentage of participants with account balances in specified ranges, 2013



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: Percentages may not add to 100 percent because of rounding.

## Relationship Between 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.<sup>27</sup>

Older, longer-tenured, and higher-income participants tend to have larger account balances, which are important for meeting their income-replacement needs in retirement.<sup>28</sup> For longer-tenured participants in their 20s with salaries between \$20,000 and \$40,000, the median account balance was \$7,363 in 2013 (Figure 16). Longer-tenured participants in their 20s earning more than \$80,000 to \$100,000 had a median account balance of \$52,945, while those earning more than \$100,000 had a median account balance of \$46,766. Among longer-tenured participants in their 60s with \$20,000 to \$40,000 in salary in 2013, the median account balance was \$56,476. For longer-tenured participants in their 60s earning more than \$100,000, the median account balance was \$347,083.

The ratio of participant account balance to salary tends to be positively correlated with age and tenure.<sup>29</sup> Participants in their 50s and 60s—having had more time to accumulate assets—tended to have higher ratios, while those in their 20s 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 20s, 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 60s (Figure 19).<sup>30</sup>

## Year-End 2013 Snapshot of 401(k) Participants' Asset Allocation

At year-end 2013, 44 percent of 401(k) plan participants' account balances were invested in equity funds, on average, compared with 39 percent at year-end 2012, 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,<sup>31</sup> and company stock—represented 66 percent of 401(k) plan participants' assets at year-end 2013 (Figure 21).

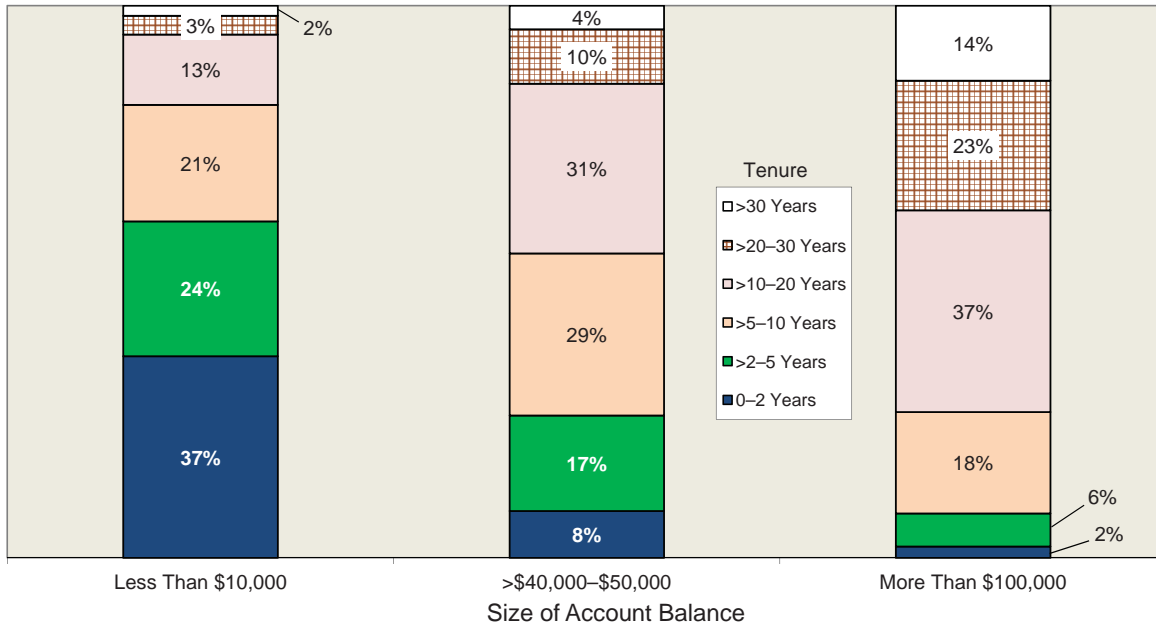
## Changes in Asset Allocation Between Year-End 2012 and Year-End 2013

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, and rose in 2012 and 2013 (Figures 7, 8, and 20). At year-end 2013, equity funds were 44 percent of the assets in the EBRI/ICI 401(k) database, up from 39 percent in 2012. Balanced funds, which invest in both equities and fixed-income securities, increased in share, accounting for 23 percent of the assets in the database at year-end 2013. Despite these shifts in shares of balanced and equity funds, most 401(k) participants appeared not to have made dramatic shifts in their asset allocations in 2013.<sup>32</sup>

## Asset Allocation and Participant Age

As in previous years, the database for year-end 2013 shows that participants' asset allocation varied considerably with age.<sup>33</sup> 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 20s, the average allocation to equity and balanced funds was 79 percent of assets, compared with 57 percent of assets among participants in their 60s. Younger participants had consistently higher allocations to balanced funds, particularly to target-date funds. A target-date, or lifecycle, fund pursues a long-

**Figure 12**  
**Tenure Composition of Selected 401(k) Account Balance Categories**  
 Percentage of participants with account balances in specified ranges, 2013



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: Percentages may not add to 100 percent because of rounding. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

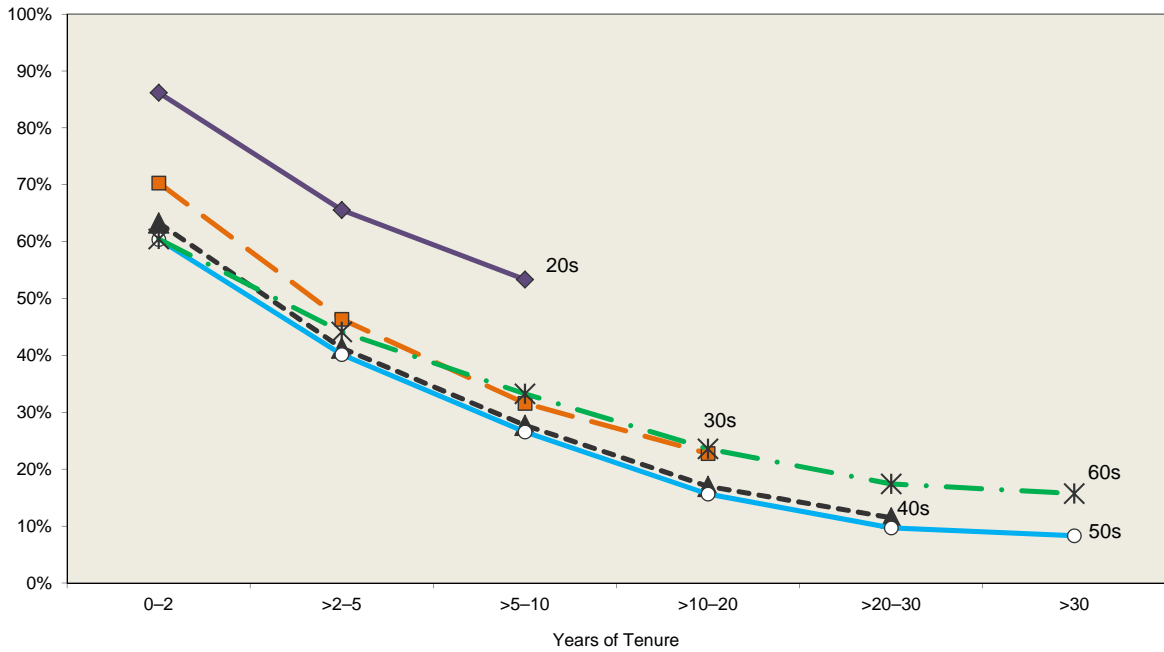
**Figure 13**  
**401(k) Account Balances Increase With Participant Age and Tenure**  
 Average 401(k) account balance, by age and tenure, 2013

Age Group	Tenure (years)					
	0-2	>2-5	>5-10	>10-20	>20-30	>30
20s	\$4,905	\$11,732	\$18,351			
30s	\$11,896	\$24,458	\$42,905	\$66,139		
40s	\$19,104	\$36,547	\$62,087	\$109,257	\$154,228	
50s	\$26,284	\$44,823	\$69,919	\$123,777	\$211,424	\$252,418
60s	\$31,582	\$45,691	\$65,639	\$108,382	\$183,505	\$248,397

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: At year-end 2013, the average account balance among all 26.4 million 401(k) participants was \$72,383; the median account balance was \$18,433. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

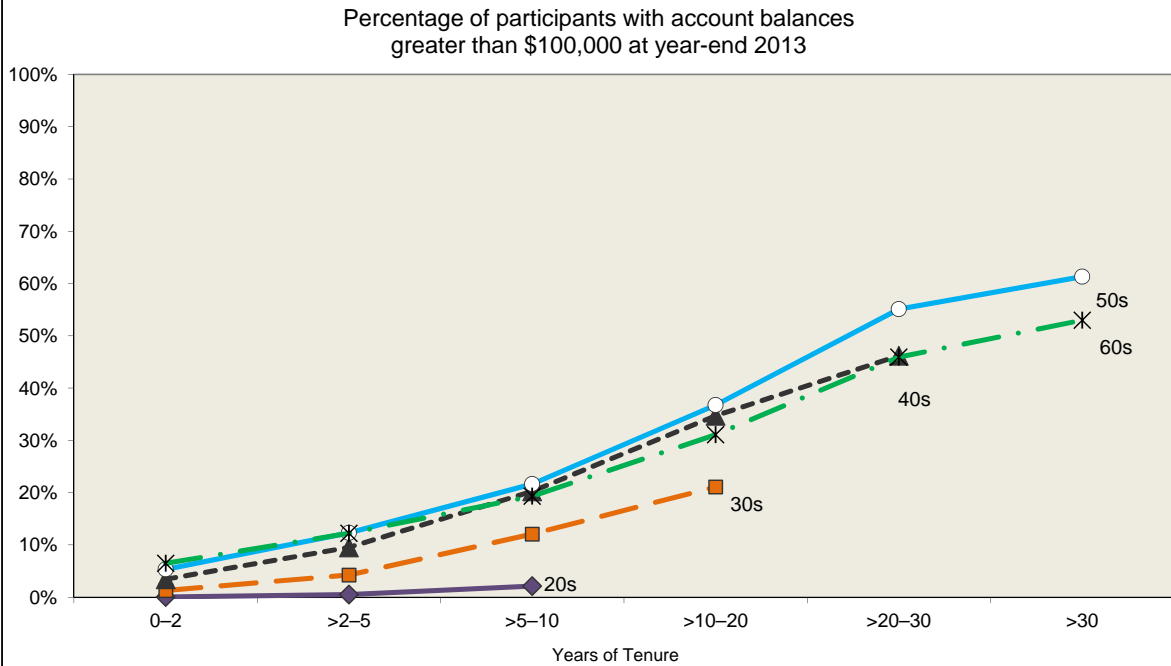


**Figure 14**  
**401(k) Account Balances Less Than \$10,000, by Participant Age and Tenure**  
 Percentage of participants with account balances less than \$10,000 at year-end 2013



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

**Figure 15**  
**401(k) Account Balances Greater Than \$100,000, by Participant Age and Tenure**  
 Percentage of participants with account balances greater than \$100,000 at year-end 2013



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

term investment strategy, using a mix of asset classes that follow a predetermined reallocation, typically rebalancing to shift its focus from growth to income over time.<sup>34</sup> At year-end 2013, 15 percent of 401(k) assets in the database were invested in target-date funds. Among participants in their 20s, 35 percent of their 401(k) assets were invested in target-date funds; among participants in their 60s, 13 percent of their 401(k) assets were invested in target-date funds.

### **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-three percent of participants in the 2013 EBRI/ICI 401(k) database were in these plans, which generally offer equity funds, bond funds, money funds, and balanced funds as investment options. Another 22 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, 18 percent of participants were in plans that offer company stock but no stable-value products, while the remaining 16 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 71 percent of the 401(k) plans in the year-end 2013 database (Figure 22).<sup>35</sup> These plans offered target-date funds to 66 percent of the participants in the database.<sup>36</sup> Among participants who were offered target-date funds, 62 percent held them at year-end 2013. Target-date fund assets represented 24 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. Because asset allocation is influenced by the investment options available to participants, Figure 24 presents asset allocation by salary range and by investment options. Salary information is available for a subset of participants in the 2013 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 rises with plan size, in part, because few small plans offered company stock as an investment option. For example, less than 1 percent of participants in small plans (100 participants or fewer) were offered company stock as an investment option, while 53 percent of participants in plans with more than 5,000 participants were offered company stock as an investment option in 2013. Thus, to analyze the potential effect of plan size, the remaining panels of Figure 25 group plans by investment options and plan size.

### **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 2013 EBRI/ICI 401(k) database shows that, on average, 44 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, 52 percent of participants held no equity funds, while about 17 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 70 percent of participants in their 20s, 47 percent of participants in their 40s, and 51 percent of participants in their 60s holding no equity funds. The percentage of 401(k) participants holding no equity funds also varied with tenure—participants with five or fewer

**Figure 16**  
**Median 401(k) Account Balance<sup>a</sup> Among Longer-Tenured<sup>b</sup>**  
**Participants, by Age and Salary, 2013**

Salary Range	Participant Age Group				
	20s	30s	40s	50s	60s
\$20,000–\$40,000	\$7,363	\$19,586	\$52,336	\$73,061	\$56,476
>\$40,000–\$60,000	\$16,775	\$35,074	\$75,421	\$106,459	\$90,841
>\$60,000–\$80,000	\$30,208	\$60,575	\$121,887	\$166,962	\$146,327
>\$80,000–\$100,000	\$52,945	\$97,878	\$183,754	\$244,964	\$215,750
>\$100,000	\$46,766	\$146,409	\$306,596	\$399,922	\$347,083

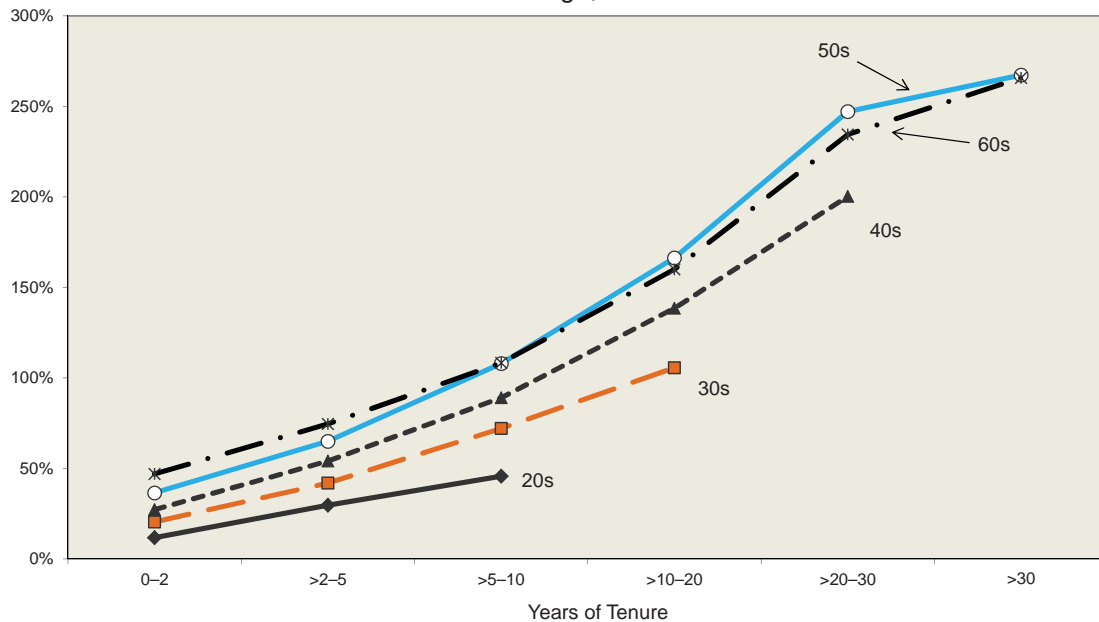
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.

<sup>a</sup> 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.

<sup>b</sup> Longer-tenured participants are used in this analysis to capture the longest possible work and savings history (see note a). 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 proposed regulations for 401(k) plans were not introduced until 1981.

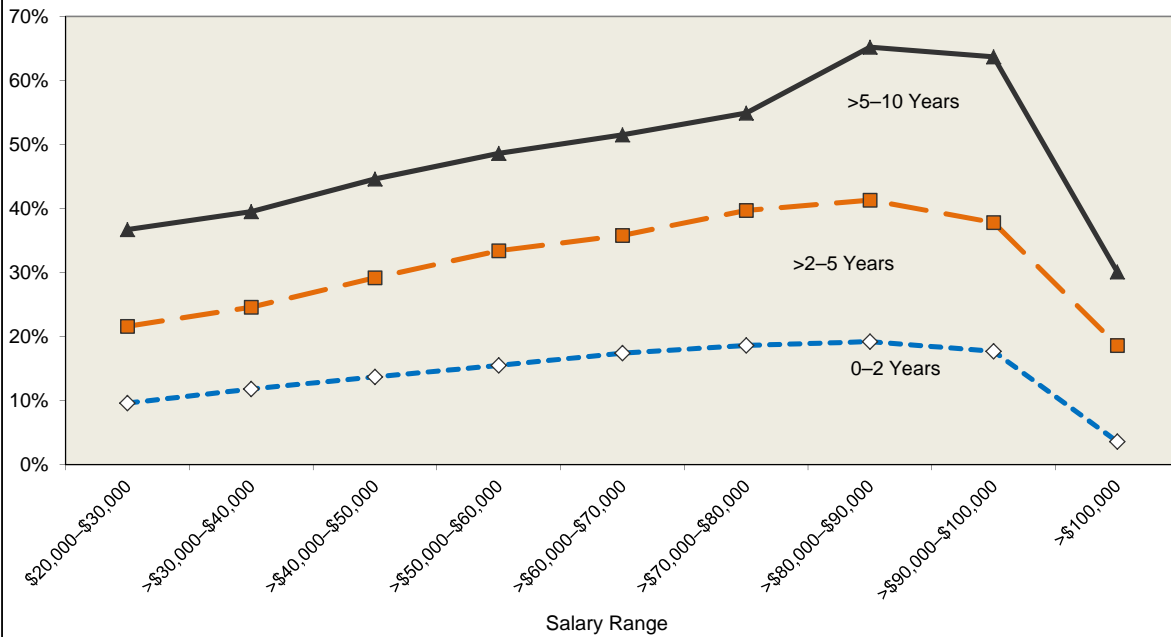
**Figure 17**  
**Ratio of 401(k) Account Balance to Salary,**  
**by Participant Age and Tenure**  
**Percentage, 2013**



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

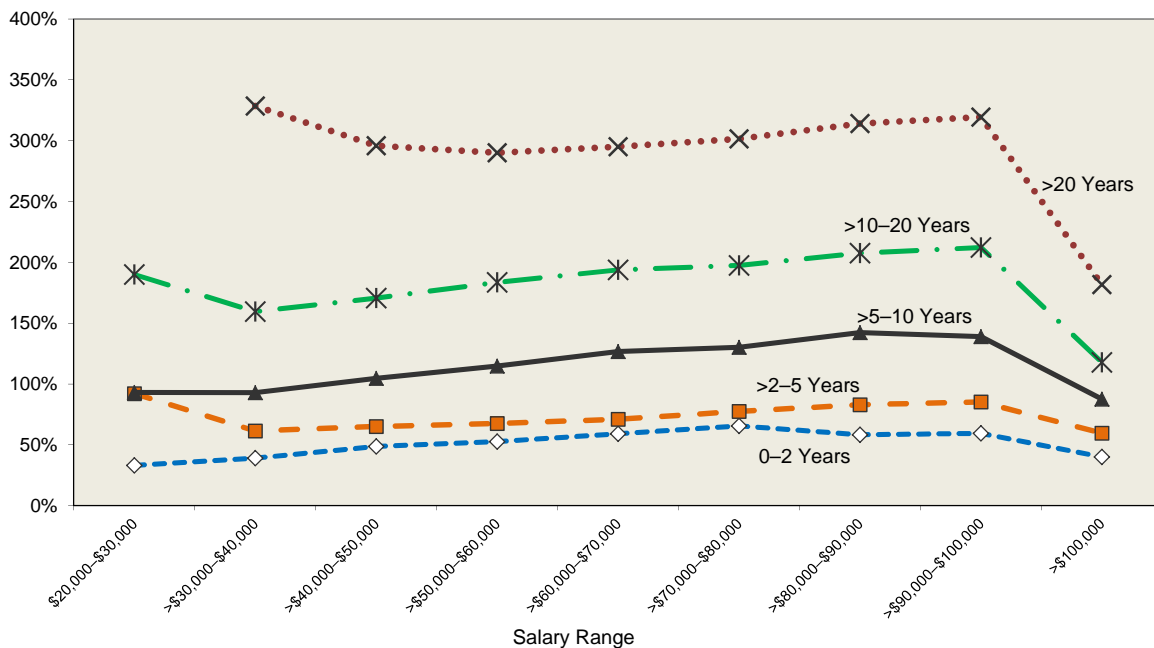
Note: The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Figure 18  
**Ratio of 401(k) Account Balance to Salary for Participants in Their 20s, by Tenure Percentage, 2013**



Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

Figure 19  
**Ratio of 401(k) Account Balance to Salary for Participants in Their 60s, by Tenure Percentage, 2013**

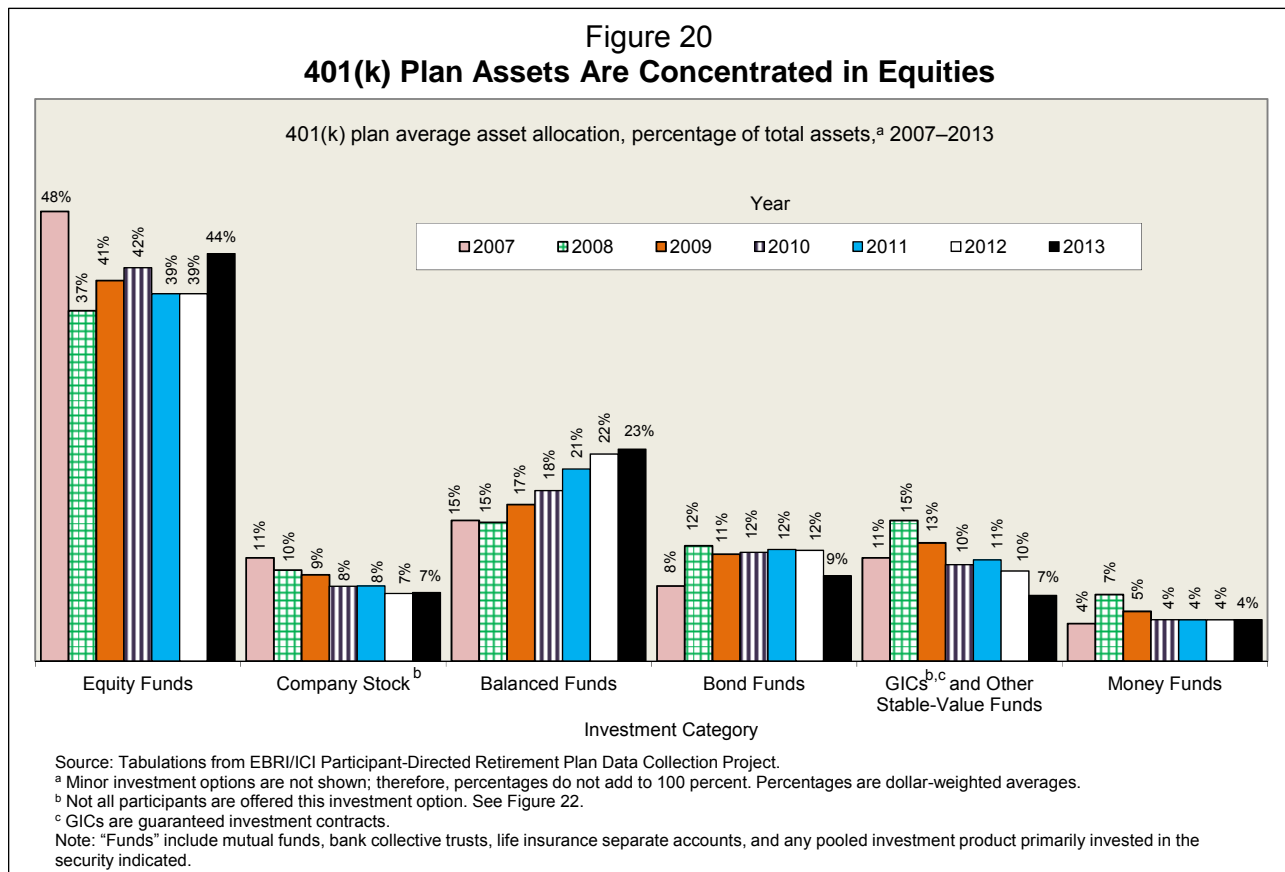


Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
 Note: The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan.

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.

**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, 81 percent of 401(k) participants with no equity fund allocation had investments in either company stock or balanced funds at year-end 2013 (Figure 28). For example, 86 percent of participants in their 20s without equity funds held equities through company stock, balanced funds, or both. Indeed, 59 percent of participants in their 20s 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 12 percent of participants in their 20s 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. Twelve 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 or balanced funds or both (Figure 29).



**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 2013 database.<sup>37</sup> Forty-four percent of participants had more than 80 percent of their account balances invested in equities, while 10 percent held no equities at all at the end of 2013 (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 2013, 10 percent of 401(k) plan participants in their 20s had no equities, compared with 15 percent of 401(k) plan

Figure 21

**Average Asset Allocation of 401(k) Accounts, by Participant Age**Percentage of account balances,<sup>a</sup> 2013

Age Group	Non-Target-Date									Memo: Equities <sup>e</sup>
	Equity Funds	Target-Date Funds <sup>b, c</sup>	Balanced Funds	Bond Funds	Money Funds	GICs <sup>c, d</sup> /Stable-Value Funds	Company Stock <sup>c</sup>	Other	Unknown	
20s	31.9%	35.0%	12.4%	5.1%	1.8%	1.9%	5.4%	3.9%	2.5%	75.5%
30s	44.5%	22.9%	8.2%	6.6%	2.7%	2.9%	6.1%	3.4%	2.3%	75.5%
40s	48.7%	15.9%	7.1%	7.6%	3.4%	4.0%	7.1%	3.9%	2.1%	72.7%
50s	43.4%	13.6%	7.2%	9.4%	4.5%	7.5%	7.9%	4.3%	1.9%	64.0%
60s	37.3%	13.0%	7.1%	11.6%	6.2%	11.7%	7.1%	3.8%	1.9%	54.5%
All	43.5%	15.3%	7.3%	9.1%	4.4%	7.0%	7.3%	4.0%	2.0%	65.5%

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

<sup>a</sup>Row percentages may not add to 100 percent because of rounding. Percentages are dollar-weighted averages.<sup>b</sup>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.<sup>c</sup>Not all participants are offered this investment option. See Figure 22.<sup>d</sup>GICs are guaranteed investment contracts.<sup>e</sup>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.

Figure 22

**Distribution of 401(k) Plans, Participants, and Assets, by Investment Options, 2013**

Investment Options Offered by Plan	Plans	Participants	Assets <sup>c</sup>
Equity, bond, money, and/or balanced funds	51,627	11,387,080	\$675,147,619,313
Of which: target-date funds <sup>a</sup> are an option	36,857	8,086,754	\$478,704,125,688
Equity, bond, money, and/or balanced funds, and GICs <sup>b</sup> and/or other stable value funds	19,200	5,896,114	\$405,545,092,819
Of which: target-date funds <sup>a</sup> are an option	13,619	3,887,636	\$267,912,680,944
Equity, bond, money, and/or balanced funds, and company stock	1,073	4,841,913	\$362,256,152,200
Of which: target-date funds <sup>a</sup> are an option	756	3,714,710	\$267,076,596,982
Equity, bond, money, and/or balanced funds, and company stock, and GICs <sup>b</sup> and/or other stable value funds	776	4,296,253	\$469,513,431,701
Of which: target-date funds <sup>a</sup> are an option	520	1,800,670	\$223,607,143,817
All <sup>c</sup>	72,676	26,421,360	\$1,912,462,296,032
Of which: target-date funds <sup>a</sup> are an option	51,752	17,489,770	\$1,237,300,547,431
	Percentage of plans	Percentage of participants <sup>c</sup>	Percentage of assets
Equity, bond, money, and/or balanced funds	71.0%	43.1%	35.3%
Of which: target-date funds <sup>a</sup> are an option	50.7%	30.6%	25.0%
Equity, bond, money, and/or balanced funds, and GICs <sup>b</sup> and/or other stable value funds	26.4%	22.3%	21.2%
Of which: target-date funds <sup>a</sup> are an option	18.7%	14.7%	14.0%
Equity, bond, money, and/or balanced funds, and company stock	1.5%	18.3%	18.9%
Of which: target-date funds <sup>a</sup> are an option	1.0%	14.1%	14.0%
Equity, bond, money, and/or balanced funds, and company stock, and GICs <sup>b</sup> and/or other stable value funds	1.1%	16.3%	24.6%
Of which: target-date funds <sup>a</sup> are an option	0.7%	6.8%	11.7%
All <sup>c</sup>	100%	100%	100%
Of which: target date funds <sup>a, c</sup> are an option	<b>71.2%</b>	<b>66.2%</b>	<b>64.7%</b>

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

<sup>a</sup>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.<sup>b</sup>GICs are guaranteed investment contracts.<sup>c</sup>Components may not add to total because of rounding.

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

Figure 23

**Average Asset Allocation of 401(k) Accounts, by Participant Age and Investment Options**

Percentage of account balances,<sup>a</sup> 2013

	Equity Funds	Target-Date Funds <sup>b</sup>	Non-Target-Date Balanced Funds	Bond Funds	Money Funds	GICs <sup>c</sup> /Stable-Value Funds	Company Stock
<b>Investment Options, All Ages</b>							
Equity, bond, money, and/or balanced funds	48.0%	18.9%	7.5%	12.4%	6.3%		
Equity, bond, money, and/or balanced funds; and GICs <sup>c</sup> and/or other stable-value funds	46.0%	16.2%	7.2%	8.3%	1.7%	15.5%	
Equity, bond, money, and/or balanced funds; and company stock	36.9%	17.9%	4.8%	8.4%	6.5%		18.8%
Equity, bond, money, and/or balanced funds, company stock; and GICs <sup>c</sup> and/or other stable-value funds	39.7%	7.3%	9.2%	5.5%	2.2%	15.2%	15.4%
<b>Plans Without Company Stock, and GICs,<sup>c</sup> and/or Other Stable-Value Funds</b>							
<u>Age Group</u>							
20s	32.1%	43.2%	10.1%	5.9%	2.7%		
30s	47.3%	27.3%	7.8%	8.3%	3.6%		
40s	53.1%	19.1%	7.1%	9.9%	4.5%		
50s	49.0%	17.2%	7.5%	13.0%	6.6%		
60s	42.6%	16.4%	7.6%	16.5%	9.6%		
<b>Plans With GICs<sup>c</sup> and/or Other Stable-Value Funds</b>							
20s	38.2%	30.6%	12.4%	6.7%	0.8%	5.1%	
30s	47.7%	23.5%	7.9%	7.1%	1.2%	7.3%	
40s	51.6%	17.0%	6.9%	7.4%	1.6%	9.6%	
50s	46.3%	14.8%	7.0%	8.7%	1.8%	15.9%	
60s	39.0%	13.6%	6.8%	9.3%	2.0%	24.6%	
<b>Plans With Company Stock</b>							
20s	24.7%	38.5%	8.5%	3.5%	2.0%		14.3%
30s	37.4%	25.0%	5.1%	5.5%	3.7%		15.6%
40s	41.1%	18.2%	4.4%	6.6%	4.8%		17.7%
50s	36.0%	15.8%	4.9%	8.7%	6.9%		19.1%
60s	30.5%	15.1%	4.7%	11.8%	9.9%		20.5%
<b>Plans With Company Stock and GICs,<sup>c</sup> and/or Other Stable-Value Funds</b>							
20s	32.1%	19.6%	21.3%	3.1%	1.1%	4.2%	12.4%
30s	43.3%	12.6%	12.2%	4.3%	1.6%	6.3%	13.8%
40s	45.7%	8.0%	9.4%	4.8%	1.9%	8.7%	15.4%
50s	39.4%	6.4%	8.6%	5.8%	2.3%	15.6%	16.0%
60s	32.5%	6.0%	8.1%	6.4%	2.6%	24.5%	15.1%

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

<sup>a</sup> Minor investment options are not shown; therefore, row percentages will not add to 100 percent. Percentages are dollar-weighted averages.

<sup>b</sup> 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.

<sup>c</sup> 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.

**Figure 24**  
**Average Asset Allocation of 401(k) Accounts, by Participant Salary and Investment Options**

Percentage of account balances,<sup>a</sup> 2013

Salary <sup>b</sup>	Equity Funds	Target-date Funds <sup>c</sup>	Non-Target-date Balanced Funds	Bond Funds	Money Funds	GICs <sup>d</sup> /Stable-Value Funds	Company Stock
<b>Plans Without Company Stock, GICs<sup>d</sup>, or Other Stable-Value Funds</b>							
\$20,000–\$40,000	43.9%	23.7%	8.8%	10.3%	9.9%		
>\$40,000–\$60,000	45.0%	20.9%	10.5%	10.9%	9.6%		
>\$60,000–\$80,000	47.6%	18.4%	10.3%	11.5%	8.7%		
>\$80,000–\$100,000	50.9%	15.9%	10.1%	11.9%	7.5%		
>\$100,000	54.7%	12.5%	9.0%	12.5%	6.8%		
All	48.0%	18.9%	7.5%	12.4%	6.3%		
<b>Plans With GICs<sup>d</sup> and/or Other Stable-Value Funds</b>							
\$20,000–\$40,000	35.6%	26.2%	6.5%	9.4%	1.4%	16.4%	
>\$40,000–\$60,000	38.8%	18.9%	10.0%	10.5%	1.6%	14.4%	
>\$60,000–\$80,000	43.6%	15.1%	9.2%	10.6%	1.8%	13.9%	
>\$80,000–\$100,000	45.7%	13.5%	9.5%	10.1%	1.8%	14.0%	
>\$100,000	51.3%	12.6%	6.1%	9.1%	1.4%	14.2%	
All	46.0%	16.2%	7.2%	8.3%	1.7%	15.5%	
<b>Plans With Company Stock</b>							
\$20,000–\$40,000	33.4%	17.6%	5.5%	9.3%	5.7%		24.4%
>\$40,000–\$60,000	32.3%	20.7%	6.8%	9.1%	6.0%		19.0%
>\$60,000–\$80,000	33.3%	20.7%	6.5%	8.5%	6.2%		17.9%
>\$80,000–\$100,000	39.1%	14.4%	8.9%	8.7%	6.9%		14.2%
>\$100,000	41.3%	11.3%	7.3%	9.8%	5.7%		14.6%
All	36.9%	17.9%	4.8%	8.4%	6.5%		18.8%
<b>Plans With Company Stock and GICs<sup>d</sup> and/or Other Stable-Value Funds</b>							
\$20,000–\$40,000	35.9%	7.3%	12.5%	4.7%	1.4%	15.4%	17.0%
>\$40,000–\$60,000	34.7%	6.8%	15.0%	5.1%	1.3%	16.0%	18.8%
>\$60,000–\$80,000	35.5%	6.7%	14.1%	5.2%	1.5%	16.1%	18.3%
>\$80,000–\$100,000	37.8%	6.3%	12.8%	5.3%	1.6%	15.3%	17.7%
>\$100,000	39.5%	4.8%	10.4%	5.2%	2.8%	12.4%	18.9%
All	39.7%	7.3%	9.2%	5.5%	2.2%	15.2%	15.4%

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

<sup>a</sup> Minor investment options are not shown; therefore, row percentages will not add to 100 percent. Percentages are dollar-weighted averages.

<sup>b</sup> Salary information is available for a subset of participants in the EBR/ICI database.

<sup>c</sup> 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.

<sup>d</sup> 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.



participants in their 60s. Almost two-thirds of 401(k) plan participants in their 20s had more than 80 percent of their account balances invested in equities, compared with less than one-quarter of 401(k) plan participants in their 60s.

### **Changes in Concentrations in Equities Since the Financial Crisis**

More 401(k) plan participants held equities at year-end 2013 compared with year-end 2007, and many had higher concentrations in equities. Overall, at year-end 2013, 10 percent of 401(k) plan participants held no equities, down from 13 percent at year-end 2007, and 44 percent had more than 80 percent of their account balances invested in equities at year-end 2013, compared with 43 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 2013 compared with year-end 2007. For example, nearly two-thirds of 401(k) plan participants in their 20s had more than 80 percent of their account balances invested in equities at year-end 2013, compared with less than half at year-end 2007. Older 401(k) participants at year-end 2013 were a little less likely to have such high concentrations in equities at year-end 2013 compared with year-end 2007: 22 percent of 401(k) plan participants in their 60s had more than 80 percent of their account balances invested in equities at year-end 2013, compared with 30 percent of 401(k) plan participants in their 60s at year-end 2007, although a lower share held no equities.

### **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 23 percent at year-end 2013 (Figure 20). For example, nearly 43 percent of participants held no balanced funds, while 35 percent of participants held more than 80 percent of their accounts in balanced funds at the end of 2013 (Figure 32). At year-end 2013, nearly 58 percent of 401(k) participants held balanced funds, the same as in 2012.<sup>38</sup> At year-end 2013, balanced fund use by participants occurred through target-date funds and non-target-date balanced funds: 41 percent of 401(k) participants held target-date funds, 18 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 2013, 52 percent of participants in their 20s held target-date funds, compared with 35 percent of participants in their 60s (Figure 32). Recently hired participants were more likely to hold target-date funds than those with more years on the job: at year-end 2013, 51 percent of participants with two or fewer years of tenure held target-date funds, compared with 41 percent of participants with more than five to 10 years of tenure, and 25 percent of participants with more than 30 years of tenure (Figure 33).

### **Distribution of 401(k) Participants' Company Stock Allocations**

Participants' allocations to company stock remained in line with recent previous years. Thirty-five percent (or 9.1 million) of the 401(k) participants in the 2013 EBRI/ICI 401(k) database were in plans that offered company stock as an investment option (Figure 22). Among these participants, 74 percent held 20 percent or less of their account balances in company stock, including 54 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 2013 tended to be more likely to hold balanced funds compared with recent hires in the past. About two-thirds of recently hired 401(k) plan participants in 2013, 2012, and 2011 held balanced funds, compared with less than half in 2006, and one-third in 2002 (Figure 35). At year-end 2013, 51 percent of recently hired 401(k) participants held target-date funds, while 16 percent held non-target-date balanced funds, and 1 percent held both target-date and non-target-date balanced funds (Figure 36).

Among those who held balanced funds, recently hired participants in 2013 were more likely to hold a high concentration of their accounts in balanced funds compared with past years. At year-end 2013, 77 percent of recently hired participants holding balanced funds had more than 90 percent of their account balance invested in balanced

**Figure 25**  
**Average Asset Allocation of 401(k) Accounts,**  
**by Plan Size and Investment Options**  
 Percentage of account balances,<sup>a</sup> 2013

	Equity Funds	Target-Date Funds <sup>b</sup>	Non-Target-Date Balanced Funds	Bond Funds	Money Funds	GICs <sup>c</sup> /Stable-Value	Company Stock
<b>Plan Size by Number of Participants</b>							
<b>All Plans</b>							
1–100	45.0%	21.3%	5.3%	11.8%	5.1%	3.5%	0.1%
101–500	45.6%	20.7%	6.0%	11.0%	5.0%	4.3%	0.4%
501–1,000	46.2%	19.7%	6.5%	10.1%	4.7%	4.9%	1.8%
1,001–5,000	45.3%	18.3%	6.5%	9.6%	4.2%	5.6%	3.5%
>5,000	41.9%	12.4%	8.1%	8.2%	4.2%	8.4%	10.7%
All	43.5%	15.3%	7.3%	9.1%	4.4%	7.0%	7.3%
<b>Plans Without Company Stock, GICs<sup>c</sup>/Stable-Value Funds</b>							
1–100	44.3%	22.8%	4.2%	13.8%	5.8%		
101–500	46.2%	22.1%	5.7%	12.6%	6.3%		
501–1,000	47.7%	21.3%	6.4%	11.9%	6.4%		
1001–5,000	48.0%	20.6%	7.2%	11.4%	6.0%		
>5,000	50.5%	14.2%	9.8%	12.8%	6.8%		
All	48.0%	18.9%	7.5%	12.4%	6.3%		
<b>Plans With GICs<sup>c</sup>/Stable-Value Funds</b>							
1–100	48.3%	17.3%	8.4%	6.4%	3.2%	13.7%	
101–500	46.4%	17.0%	6.8%	8.1%	2.0%	14.6%	
501–1,000	46.5%	17.7%	6.6%	7.7%	1.6%	14.4%	
1,001–5,000	45.0%	17.2%	6.1%	8.1%	1.4%	15.6%	
>5,000	45.9%	15.0%	7.7%	8.7%	1.6%	16.0%	
All	46.0%	16.2%	7.2%	8.3%	1.7%	15.5%	
<b>Plans With Company Stock</b>							
1–100 <sup>d</sup>	22.6%	9.1%	5.4%	4.8%	2.3%		7.7%
101–500	33.9%	17.7%	5.1%	8.8%	4.7%		10.8%
501–1,000	41.2%	16.7%	5.8%	9.7%	6.1%		16.6%
1,001–5,000	41.3%	15.7%	5.1%	9.3%	5.5%		17.0%
>5,000	35.4%	18.1%	4.7%	8.1%	6.6%		19.0%
All	36.9%	17.9%	4.8%	8.4%	6.5%		18.8%
<b>Plans With Company Stock and GICs<sup>c</sup>/Stable-Value Funds</b>							
1–100	35.4%	18.1%	7.4%	6.5%	4.0%	14.2%	6.1%
101–500	34.8%	22.5%	6.4%	5.5%	2.9%	11.7%	5.8%
501–1,000	36.0%	16.6%	7.4%	5.2%	2.3%	11.8%	12.8%
1,001–5,000	39.8%	14.7%	5.8%	5.5%	1.9%	12.7%	10.2%
>5,000	39.8%	6.1%	9.6%	5.5%	2.2%	15.6%	16.2%
All	39.7%	7.3%	9.2%	5.5%	2.2%	15.2%	15.4%

Source: Tabulations from EBR/ICI Participant-Directed Retirement Plan Data Collection Project.  
<sup>a</sup> Minor investment options are not shown; therefore, row percentages will not add to 100 percent. Percentages are dollar-weighted averages.  
<sup>b</sup> 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.  
<sup>c</sup> GICs are guaranteed investment contracts.  
<sup>d</sup> 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.

**Figure 26**  
**Asset Allocation Distribution of 401(k) Account**  
**Balance to Equity Funds, by Participant Age**  
 Percentage of participants,<sup>a,b</sup> 2013

Age Group	Percentage of Account Balance Invested in Equity Funds										
	Zero	1–10%	11–20%	21–30%	31–40%	41–50%	51–60%	61–70%	71–80%	81–90%	91–100%
20s	69.5%	1.1%	1.3%	1.8%	1.9%	2.5%	3.0%	3.0%	3.4%	3.7%	8.8%
30s	54.5%	2.2%	2.2%	2.8%	3.0%	3.7%	4.5%	4.7%	5.3%	5.4%	11.8%
40s	47.1%	2.7%	2.5%	3.2%	3.6%	4.3%	5.5%	5.7%	6.3%	5.7%	13.4%
50s	46.2%	3.4%	3.0%	3.8%	4.2%	5.0%	6.2%	6.1%	5.8%	4.3%	12.2%
60s	50.6%	3.8%	3.3%	4.0%	4.4%	5.0%	5.7%	5.0%	4.2%	3.0%	10.9%
All	52.0%	2.7%	2.5%	3.2%	3.5%	4.2%	5.1%	5.1%	5.3%	4.7%	11.8%

Source: Tabulations from EBR/ICI Participant-Directed Retirement Plan Data Collection Project.  
<sup>a</sup> The analysis includes the 26.4 million participants in the year-end 2013 EBR/ICI database.  
<sup>b</sup> 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.

**Figure 27**  
**Asset Allocation Distribution of 401(k) Participant Account**  
**Balance to Equity Funds, by Participant Age, Tenure, or Salary**  
 Percentage of participants, 2013

	Percentage of Account Balance Invested in Equity Funds			
	Zero	1–20%	>20%–80%	>80%
All	52.0%	5.2%	26.4%	16.5%
<b>Age Group</b>				
20s	69.5%	2.4%	15.6%	12.5%
30s	54.5%	4.4%	24.0%	17.2%
40s	47.1%	5.2%	28.6%	19.1%
50s	46.2%	6.4%	31.1%	16.5%
60s	50.6%	7.1%	28.3%	13.9%
<b>Tenure (years)</b>				
0–2	66.3%	2.4%	18.2%	13.1%
>2–5	60.6%	3.6%	21.7%	14.1%
>5–10	51.1%	5.2%	27.1%	16.6%
>10–20	41.3%	6.9%	32.6%	19.1%
>20–30	36.8%	8.8%	35.3%	19.1%
>30	40.2%	10.1%	33.6%	16.1%
<b>Salary</b>				
\$20,000–\$40,000	64.1%	4.5%	20.8%	10.5%
>\$40,000–\$60,000	53.0%	6.3%	27.4%	13.3%
>\$60,000–\$80,000	46.0%	7.1%	31.5%	15.5%
>\$80,000–\$100,000	39.4%	7.9%	35.4%	17.3%
>\$100,000	30.5%	8.6%	40.9%	20.0%

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

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. The tenure variable is generally years working at current employer, and thus may overstate years of participation in the 401(k) plan. Salary information is available for a subset of participants in the EBRI/ICI 401(k) database.

**Figure 28**  
**Percentage of 401(k) Plan Participants Without Equity Fund Balances**  
**Who Have Equity Exposure, by Participant Age or Tenure, 2013**

	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
<b>Age Group</b>					
20s	<b>85.8%</b>	59.4%	12.0%	2.9%	11.5%
30s	<b>84.5%</b>	56.4%	7.8%	4.2%	16.1%
40s	<b>81.2%</b>	50.9%	7.3%	5.9%	17.1%
50s	<b>77.8%</b>	45.8%	5.8%	7.4%	18.7%
60s	<b>71.4%</b>	40.2%	5.6%	8.4%	17.2%
<b>All</b>	<b>80.5%</b>	50.8%	7.8%	5.8%	16.1%
<b>Tenure (years)</b>					
0–2	<b>85.9%</b>	62.2%	11.7%	2.8%	9.2%
>2–5	<b>84.1%</b>	57.4%	10.2%	3.3%	13.2%
>5–10	<b>79.5%</b>	48.7%	7.9%	5.3%	17.5%
>10–20	<b>77.1%</b>	36.9%	2.5%	12.9%	22.3%
>20–30	<b>67.9%</b>	28.1%	3.5%	14.3%	22.1%
>30	<b>62.9%</b>	23.8%	5.6%	17.5%	16.0%
<b>All</b>	<b>80.5%</b>	50.8%	7.8%	5.8%	16.1%

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

\* 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: Components may not add to the total in the 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.

funds, compared with 76 percent in 2012, 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 2013, 81 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-six percent of recently hired participants holding non-target-date balanced funds had more than 90 percent of their account balance invested in non-target-date balanced funds at year-end 2013.

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 20s were more likely to be highly concentrated in such funds. For example, 55 percent of recently hired participants in their 20s held more than 90 percent of their account balances in balanced funds, compared with 49 percent of recent hires in their 40s, and 46 percent of recent hires in their 60s in 2013 (Figure 39). Concentrated target-date fund use ranged from 44 percent of recent hires in their 20s holding more than 90 percent of their account balances in target-date funds to 37 percent of recently hired participants in their 60s. In addition, at year-end 2013, 55 percent of the account balances of recently hired participants in their 20s 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).<sup>39</sup> At year-end 2013, among recently hired participants in their 20s, target-date funds accounted for 75 percent of their balanced fund assets, or 41 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 2013 with similar age groups in 1998 also illustrates that asset allocation to balanced funds tended to be higher in 2013 than in 1998, rising from 9 percent of the account balances of recently hired participants in 1998 to 41 percent in 2013 (Figure 40). The share of account balances invested in equity funds decreased over the same time period from 65 percent for recently hired participants in 1998 to 36 percent for recently hired participants in 2013. Company stock also declined for the two groups of recently hired participants, from 9 percent of 401(k) account balances in 1998 to 3 percent in 2013.

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 2013, 66 percent of recently hired 401(k) participants held balanced funds, compared with 29 percent at year-end 1998 (Figure 35). Over the same time period, recently hired 401(k) participants have become less likely to hold company stock (Figure 41) and less likely to hold equity funds.<sup>40</sup> Recently hired 401(k) participants also tend not to hold a high concentration of their account balances in company stock (Figures 42 and 43).<sup>41</sup>

## **Year-end 2013 Snapshot of 401(k) Plan Loan Activity**

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

Fifty-six percent of the 401(k) plans for which loan data were available in the 2013 EBRI/ICI 401(k) database offered a plan loan provision to participants (Figure 44).<sup>42</sup> The loan feature was more commonly associated with large plans (as measured by the number of participants in the plan). Ninety-two percent of plans with more than 10,000 participants included a loan provision, compared with 32 percent of plans with 10 or fewer participants. Participant loan activity varied modestly by plan size, ranging from 19 percent of participants with loans outstanding in 401(k) plans with 26 to 250 participants to 25 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 1,000 or fewer participants, the loan ratio was 13 percent of the remaining assets in 2013, while in plans with more than 10,000 participants, the loan ratio was 11 percent (Figure 46).

In the 18 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 has remained at that level from year-end 2010 through year-end 2013 (Figure 47).<sup>43</sup>

**Figure 29**  
**Average Asset Allocation for 401(k) Plan Participants Without Equity Fund Balances, by Participant Age or Tenure**  
Percentage of account balances,<sup>a</sup> 2013

Age Group	Target-Date Funds <sup>b</sup>	Non-Target-Date Balanced Funds	Bond Funds	Money Funds	GICs <sup>c</sup> /Stable-Value Funds	Company Stock	Other	Unknown
20s	61.1%	18.7%	2.7%	2.2%	1.9%	5.5%	5.2%	2.2%
30s	58.0%	14.6%	4.3%	4.2%	4.0%	7.1%	4.8%	2.6%
40s	47.8%	13.2%	6.1%	6.4%	6.8%	10.0%	6.7%	2.7%
50s	37.3%	11.8%	8.0%	8.3%	12.9%	11.5%	6.9%	2.8%
60s	30.0%	10.2%	10.7%	10.7%	19.6%	10.0%	5.8%	2.5%
All <sup>d</sup>	40.8%	12.3%	7.8%	7.8%	12.1%	10.1%	6.4%	2.6%
<b>Tenure (years)</b>								
0-2	63.5%	15.0%	5.2%	3.4%	2.8%	3.5%	5.1%	1.5%
>2-5	58.2%	15.1%	5.8%	4.1%	4.4%	5.1%	5.1%	1.9%
>5-10	50.1%	14.0%	6.5%	6.3%	6.9%	7.2%	6.0%	2.6%
>10-20	39.9%	11.8%	7.5%	8.7%	10.5%	10.9%	6.9%	3.3%
>20-30	29.0%	11.4%	8.4%	9.3%	16.2%	14.1%	8.2%	3.1%
>30	21.5%	10.4%	9.4%	10.9%	23.4%	14.5%	6.5%	2.9%
All <sup>d</sup>	40.8%	12.3%	7.8%	7.8%	12.1%	10.1%	6.4%	2.6%

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
<sup>a</sup> Row percentages may not add to 100 percent because of rounding. Percentages are dollar-weighted averages.  
<sup>b</sup> 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.  
<sup>c</sup> GICs are guaranteed investment contracts.  
<sup>d</sup> The analysis includes the 13.8 million participants with no equity funds at year-end 2013.  
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.

**Figure 30**  
**Asset Allocation to Equities Varied**  
**Widely Among 401(k) Plan Participants**

Asset allocation distribution of 401(k) participant account balances to equities,<sup>a</sup> by age, percentage of participants,<sup>b</sup> 2013

Percentage of Account Balance Invested in Equities<sup>a</sup>

Age Group	Zero	1–20%	>20–40%	>40–60%	>60–80%	>80–100%
20s	9.9%	0.9%	1.7%	3.7%	18.7%	65.2%
30s	8.5%	1.9%	2.7%	5.8%	18.9%	62.2%
40s	8.9%	2.9%	3.7%	7.4%	32.3%	44.9%
50s	10.3%	4.5%	5.6%	20.3%	32.5%	26.9%
60s	14.5%	6.3%	13.1%	25.9%	17.8%	22.4%
All	10.2%	3.3%	5.0%	11.9%	25.7%	43.9%

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
<sup>a</sup> 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.  
<sup>b</sup> Participants include the 26.4 million 401(k) plan participants in the year-end 2013 EBRI/ICI 401(k) database.  
 Note: Row percentages may not add to 100 percent because of rounding.

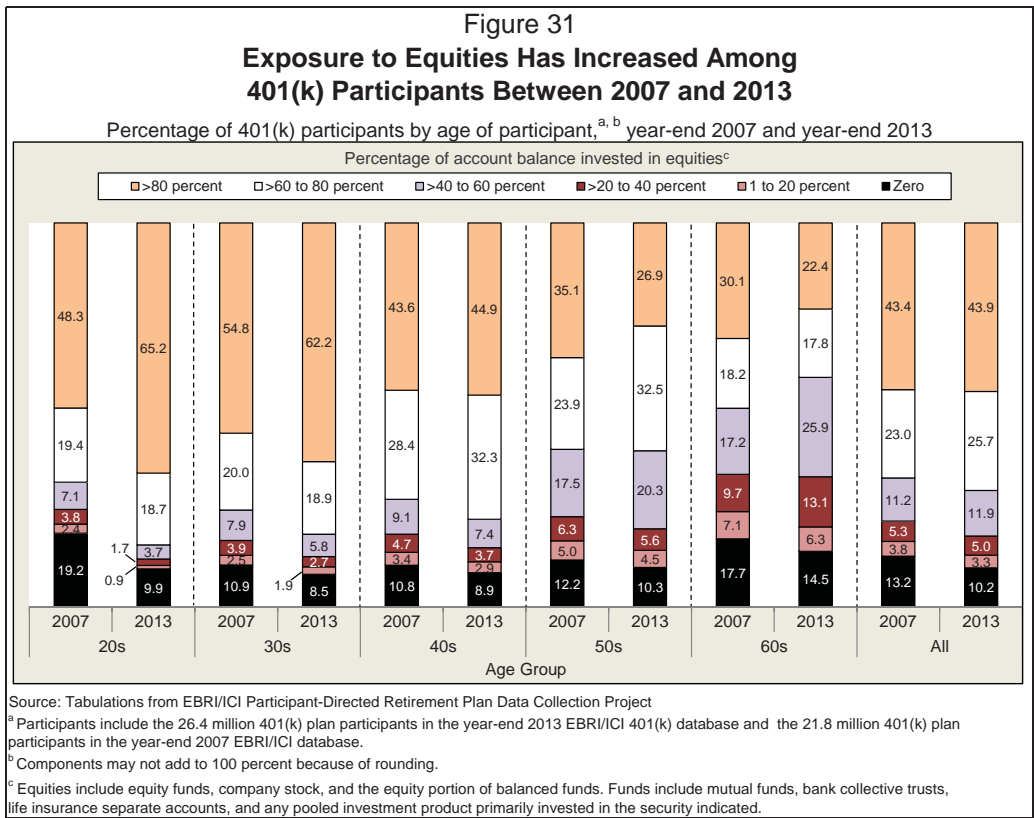


Figure 32  
**Asset Allocation Distribution of 401(k) Participant  
 Account Balance to Balanced Funds, by Age**  
 Percentage of participants,<sup>a, b</sup> 2013

Percentage of Account Balance Invested in Balanced Funds											
Age Group	Zero	1–10%	>10–20%	>20–30%	>30–40%	>40–50%	>50–60%	>60–70%	>70–80%	>80–90%	>90–100%
20s	31.8%	2.3%	2.2%	2.0%	1.4%	1.5%	2.1%	1.3%	1.2%	1.1%	53.2%
30s	38.2	4.5	3.9	3.4	2.3	2.1	2.1	1.6	1.7	1.9	38.3
40s	43.5	5.8	4.7	4.0	2.6	2.3	2.1	1.6	1.7	1.8	29.8
50s	46.2	6.2	4.8	4.3	2.8	2.5	2.1	1.5	1.6	1.7	26.2
60s	49.6	5.8	4.3	3.8	2.6	2.4	2.0	1.4	1.5	1.6	25.1
All	42.5	5.1	4.1	3.6	2.4	2.2	2.1	1.5	1.6	1.7	33.1
Percentage of Account Balance Invested in Target-date Funds <sup>c</sup>											
Age Group	Zero	1–10%	>10–20%	>20–30%	>30–40%	>40–50%	>50–60%	>60–70%	>70–80%	>80–90%	>90–100%
20s	48.4	1.2	1.2	1.1	0.8	1.0	1.3	0.8	0.8	0.8	42.6
30s	54.2	2.6	2.2	1.9	1.3	1.3	1.4	1.1	1.3	1.5	31.2
40s	60.0	3.4	2.5	2.1	1.5	1.4	1.3	1.1	1.2	1.4	23.9
50s	62.8	3.7	2.5	2.2	1.5	1.5	1.3	1.0	1.2	1.4	21.0
60s	65.2	3.5	2.2	2.0	1.4	1.4	1.2	0.9	1.0	1.2	19.9
All	58.8	3.0	2.2	1.9	1.4	1.3	1.3	1.0	1.1	1.3	26.6
Percentage of Account Balance Invested in Non-Target-date Balanced Funds											
Age Group	Zero	1–10%	>10–20%	>20–30%	>30–40%	>40–50%	>50–60%	>60–70%	>70–80%	>80–90%	>90–100%
20s	82.3	1.7	1.3	1.1	0.6	0.6	0.9	0.5	0.4	0.4	10.2
30s	82.0	3.3	2.4	1.8	1.0	0.8	0.7	0.5	0.5	0.4	6.7
40s	81.2	3.9	3.0	2.2	1.2	0.9	0.8	0.5	0.4	0.4	5.5
50s	80.9	4.1	3.1	2.5	1.4	1.0	0.8	0.5	0.4	0.4	4.8
60s	82.2	3.6	2.7	2.3	1.3	1.0	0.8	0.5	0.4	0.4	4.8
All	81.6	3.5	2.6	2.0	1.1	0.9	0.8	0.5	0.4	0.4	6.1

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

<sup>a</sup> The analysis includes the 26.4 million participants in the year-end 2013 EBR/ICI 401(k) database.

<sup>b</sup> Row percentages may not add to 100 percent because of rounding.

<sup>c</sup> 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.

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 18 percent had loans outstanding at year-end 2013.<sup>44</sup> On average, over the past 18 years, among participants with loans outstanding, about 14 percent of the remaining account balance remained unpaid. U.S. Department of Labor data indicate that loan amounts tend to be a negligible portion of plan assets.<sup>45</sup>

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

In the 2013 EBR/ICI 401(k) database, 87 percent of participants were in plans offering loans. However, as has been the case for the 18 years that the database has tracked 401(k) plan participants, relatively few participants made use of this borrowing privilege. At year-end 2013, 21 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 30s, 40s, or 50s (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. Fourteen percent of participants with account balances of less than \$10,000 had loans outstanding.

## Average Loan Balances

Among participants with outstanding 401(k) loans at the end of 2013, the average unpaid balance was \$7,421, compared with \$7,153 in the year-end 2012 database (Figure 49). The median loan balance outstanding was \$3,973 at year-end 2013, compared with \$3,858 in the year-end 2012 database. Nevertheless, the ratio of the loan outstanding to the remaining account balance decreased slightly, from 13 percent at year-end 2012 to 12 percent at year-end 2013 (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),<sup>46</sup> and salary (the higher the participant's salary, the lower the average) (Figure 50). Overall, loans from 401(k) plans tended to be small, with a sizable majority of 401(k) participants in all age groups having no loan outstanding at all. For example, 88 percent of participants in their 20s, 73 percent of participants in their 40s, and 86 percent of participants in their 60s had no loans outstanding at year-end 2013 (Figure 51).



**Figure 33**  
**Asset Allocation Distribution of 401(k) Participant Account Balance to Balanced Funds, by Tenure**  
Percentage of Participants, <sup>a,b</sup> 2013

Tenure (years)	Percentage of Account Balance Invested in Balanced Funds										
	Zero	1–10%	11–20%	21–30%	31–40%	41–50%	51–60%	61–70%	71–80%	81–90%	91–100%
0–2	33.7%	2.4%	2.2%	2.1%	1.5%	1.6%	1.9%	1.2%	1.3%	1.1%	51.1%
>2–5	36.7%	3.5%	3.0%	2.8%	2.0%	2.0%	2.2%	1.5%	1.6%	1.5%	43.4%
>5–10	42.6%	5.3%	4.4%	3.9%	2.6%	2.3%	2.1%	1.6%	1.7%	1.7%	31.6%
>10–20	48.8%	7.3%	5.7%	4.8%	3.1%	2.7%	2.2%	1.7%	2.0%	2.8%	18.9%
>20–30	54.3%	8.4%	6.0%	5.0%	3.3%	2.9%	2.4%	1.8%	1.5%	1.3%	13.1%
>30	59.0%	8.4%	5.4%	4.4%	3.0%	2.4%	1.9%	1.3%	1.2%	1.2%	11.9%
All	42.5%	5.1%	4.1%	3.6%	2.4%	2.2%	2.1%	1.5%	1.6%	1.7%	33.1%

Tenure (years)	Percentage of Account Balance Invested in Target-Date Funds <sup>c</sup>										
	Zero	1–10%	11–20%	21–30%	31–40%	41–50%	51–60%	61–70%	71–80%	81–90%	91–100%
0–2	48.9%	1.3%	1.2%	1.3%	0.9%	1.1%	1.2%	0.9%	0.9%	0.8%	41.6%
>2–5	52.1%	2.1%	1.8%	1.7%	1.3%	1.3%	1.4%	1.0%	1.1%	1.1%	35.1%
>5–10	59.4%	3.1%	2.4%	2.1%	1.5%	1.4%	1.3%	1.1%	1.2%	1.3%	25.1%
>10–20	65.7%	4.4%	3.0%	2.4%	1.7%	1.6%	1.3%	1.2%	1.6%	2.5%	14.7%
>20–30	72.0%	5.0%	3.0%	2.4%	1.7%	1.6%	1.4%	1.2%	1.0%	0.9%	9.6%
>30	75.5%	5.1%	2.7%	2.1%	1.4%	1.2%	1.0%	0.7%	0.7%	0.8%	8.7%
All	58.8%	3.0%	2.2%	1.9%	1.4%	1.3%	1.3%	1.0%	1.1%	1.3%	26.6%

Tenure (years)	Percentage of Account Balance Invested in Non-Target-Date Balanced Funds										
	Zero	1–10%	11–20%	21–30%	31–40%	41–50%	51–60%	61–70%	71–80%	81–90%	91–100%
0–2	83.6%	1.7%	1.4%	1.1%	0.7%	0.5%	0.6%	0.4%	0.4%	0.3%	9.2%
>2–5	82.9%	2.4%	1.7%	1.4%	0.8%	0.7%	0.8%	0.5%	0.5%	0.4%	7.9%
>5–10	81.0%	3.7%	2.8%	2.1%	1.2%	0.9%	0.9%	0.5%	0.5%	0.5%	5.9%
>10–20	80.3%	4.7%	3.6%	2.8%	1.5%	1.1%	0.9%	0.5%	0.4%	0.4%	3.8%
>20–30	79.5%	5.3%	3.8%	3.0%	1.7%	1.3%	0.9%	0.5%	0.4%	0.4%	3.2%
>30	80.8%	4.9%	3.4%	2.7%	1.7%	1.2%	0.9%	0.5%	0.4%	0.4%	3.0%
All	81.6%	3.5%	2.6%	2.0%	1.1%	0.9%	0.8%	0.5%	0.4%	0.4%	6.1%

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

<sup>a</sup> The analysis includes the 26.4 million 401(k) plan participants in the year-end 2013 EBRI/ICI database.

<sup>b</sup> Row percentages may not add to 100 percent because of rounding.

<sup>c</sup> 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.

Figure 34

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

Percentage of Participants, <sup>a,b</sup> 2013

Percentage of Account Balance Invested in Company Stock

Age Group	Zero	1–10%	11–20%	21–30%	31–40%	41–50%	51–60%	61–70%	71–80%	81–90%	91–100%
20s	69.9%	5.9%	3.9%	3.4%	2.8%	3.4%	2.0%	1.2%	0.9%	0.6%	6.0%
30s	55.5%	11.9%	7.8%	5.3%	3.8%	3.2%	2.5%	1.7%	1.3%	1.0%	6.0%
40s	50.6%	13.1%	8.6%	6.2%	4.4%	3.5%	2.7%	1.9%	1.4%	1.1%	6.5%
50s	48.3%	14.6%	8.9%	6.1%	4.3%	3.4%	2.8%	2.0%	1.5%	1.1%	7.0%
60s	50.9%	13.6%	7.8%	5.5%	3.9%	3.0%	2.6%	1.9%	1.4%	1.2%	8.2%
All	53.6%	12.4%	7.7%	5.5%	3.9%	3.3%	2.6%	1.8%	1.3%	1.0%	6.7%

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

<sup>a</sup>The analysis includes the 9.1 million participants in plans with company stock at year-end 2013.

<sup>b</sup>Row percentages may not add up to 100 percent because of rounding.

Figure 35

**Many Recently Hired 401(k) Plan Participants<sup>a</sup> Hold Balanced Funds<sup>b</sup>**

Percentage of recently hired 401(k) participants<sup>a</sup> holding balanced funds, <sup>b</sup> 1998–2013

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

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

<sup>a</sup>The analysis includes participants with two or fewer years of tenure in the year indicated.

<sup>b</sup>"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.

Figure 36

**Many Recently Hired 401(k) Plan Participants Hold Target-Date<sup>a</sup> Balanced Funds**

Percentage of recently hired participants, 2006, 2007, 2008, 2009, 2010, 2011, 2012 and 2013

<b>Holding Balanced Funds</b>								
Age Group	2006	2007	2008	2009	2010	2011	2012	2013
20s	48.5%	51.1%	63.6%	64.1%	69.6%	72.0%	70.8%	67.6%
30s	47.9%	54.2%	59.6%	61.2%	63.0%	68.1%	69.5%	67.8%
40s	46.6%	52.8%	57.8%	59.3%	59.9%	65.0%	67.2%	65.6%
50s	47.8%	53.4%	58.0%	58.7%	59.1%	64.2%	66.7%	64.5%
60s	45.5%	50.1%	53.9%	53.6%	55.2%	60.7%	63.9%	60.6%
All	47.6%	52.7%	59.9%	60.9%	63.0%	67.5%	68.6%	66.3%
<b>Holding Target-Date Funds<sup>a</sup></b>								
Age Group	2006	2007	2008	2009	2010	2011	2012	2013
20s	29.4%	31.7%	46.5%	48.5%	52.0%	53.6%	52.0%	51.4%
30s	28.5%	35.1%	43.5%	47.3%	47.8%	52.1%	54.3%	53.3%
40s	27.4%	34.2%	41.8%	45.5%	45.3%	49.5%	51.9%	50.7%
50s	28.1%	34.9%	42.2%	45.2%	45.0%	49.2%	51.8%	49.6%
60s	26.1%	32.1%	38.4%	41.0%	41.7%	46.5%	48.8%	45.5%
All	28.3%	33.8%	43.6%	46.6%	47.6%	51.2%	52.3%	51.1%
<b>Holding Non-Target-Date Funds</b>								
Age Group	2006	2007	2008	2009	2010	2011	2012	2013
20s	22.5%	21.8%	19.3%	17.7%	19.0%	19.5%	19.8%	17.1%
30s	22.5%	22.2%	18.8%	16.4%	16.9%	17.6%	16.9%	15.9%
40s	21.3%	21.4%	18.3%	16.1%	16.1%	17.1%	17.0%	16.2%
50s	21.4%	21.2%	18.1%	15.5%	15.5%	16.5%	16.5%	16.2%
60s	19.8%	20.3%	17.3%	14.2%	14.5%	15.4%	16.5%	16.2%
All	21.9%	21.7%	18.7%	16.5%	17.0%	17.8%	17.7%	16.4%

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

<sup>a</sup> 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 4.4 million recently hired participants (those with two or fewer years of tenure) in 2013, the 3.6 million recently hired participants in 2012, the 3.4 million recently hired participants in 2011, the 3.2 million recently hired participants in 2010, the 3.1 million recently hired participants in 2009, the 4.0 million recently hired participants in 2008, the 3.8 million recently hired participants in 2007, and the 2.8 million recently hired participants in 2006.

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

**Figure 37**  
**Many Recently Hired 401(k) Participants Hold**  
**High Concentrations in Balanced Funds**

Percentage of recently hired participants holding  
balanced fund assets,<sup>a,b</sup> selected years

Percentage of Account Balance Invested in Balanced Funds			
<b>1998</b>			
Age Group	>0–50 percent	>50–90 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%
<b>2006</b>			
Age Group	>0–50 percent	>50–90 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%
<b>2007</b>			
Age Group	>0–50 percent	>50–90 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%
<b>2008</b>			
Age Group	>0–50 percent	>50–90 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%
<b>2009</b>			
Age Group	>0–50 percent	>50–90 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%
<b>2010</b>			
Age Group	>0–50 percent	>50–90 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%
<b>2011</b>			
Age Group	>0–50 percent	>50–90 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%
<b>2012</b>			
Age Group	>0–50 percent	>50–90 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%
<b>2013</b>			
Age Group	>0–50 percent	>50–90 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%

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

<sup>a</sup> 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; and the 2.9 million recently hired participants holding balanced funds in 2013.

<sup>b</sup> 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.

**Figure 38**  
**Many Many Recently Hired 401(k) Participants Hold**  
**High Concentrations in Target-Date Funds<sup>a</sup>**

Percentage of recently hired 401(k) participants  
holding the type of fund indicated,<sup>b, c</sup> 2013

Percentage of Account Balance Invested in Balanced Funds			
Age Group	>0–50 percent	>50–90 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%
Percentage of Account Balance Invested in Target-Date Funds <sup>a</sup>			
Age Group	>0–50 percent	>50–90 percent	>90 percent
20s	8.3%	7.0%	84.7%
30s	11.5%	8.0%	80.4%
40s	13.2%	7.6%	79.2%
50s	13.1%	7.1%	79.8%
60s	12.6%	6.3%	81.1%
All	11.2%	7.3%	81.3%
Percentage of Account Balance Invested in Non-Target-Date Balanced Funds			
Age Group	>0–50 percent	>50–90 percent	>90 percent
20s	25.3%	11.6%	63.2%
30s	35.2%	11.1%	53.8%
40s	37.7%	9.8%	52.4%
50s	38.2%	9.8%	52.0%
60s	35.3%	10.2%	54.5%
All	33.1%	10.7%	56.2%

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

<sup>a</sup> 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.

<sup>b</sup> The analysis includes the 2.9 million recently hired participants (those with two or fewer years of tenure) holding balanced funds in 2013, the 2.2 million recently hired participants holding target-date funds in 2013; and the 0.7 million recently hired participants holding non-target-date balanced funds in 2013.

<sup>c</sup> Row percentages may not add to 100 percent because of rounding.

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

Figure 39

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

Percentage of Recently Hired Participants,<sup>a,b</sup> 2013

Age Group	Percentage of Account Balance Invested in Balanced Funds										
	Zero	1–10%	11–20%	21–30%	31–40%	41–50%	51–60%	61–70%	71–80%	81–90%	91–100%
20s	32.4%	1.8%	1.7%	1.6%	1.2%	1.3%	2.1%	1.2%	1.2%	1.0%	54.6%
30s	32.2%	2.4%	2.3%	2.3%	1.6%	1.6%	1.9%	1.4%	1.4%	1.2%	51.6%
40s	34.4%	2.7%	2.6%	2.5%	1.7%	1.7%	1.7%	1.3%	1.3%	1.1%	49.0%
50s	35.5%	2.8%	2.4%	2.5%	1.7%	1.7%	1.7%	1.1%	1.2%	1.0%	48.3%
60s	39.4%	2.7%	2.2%	2.2%	1.4%	1.6%	1.6%	1.0%	1.0%	0.9%	46.0%
All	33.7%	2.4%	2.2%	2.1%	1.5%	1.6%	1.9%	1.2%	1.3%	1.1%	51.1%
Percentage of Account Balance Invested in Target-Date Funds <sup>c</sup>											
Age Group	Zero	1–10%	11–20%	21–30%	31–40%	41–50%	51–60%	61–70%	71–80%	81–90%	91–100%
20s	48.6%	0.9%	0.9%	0.9%	0.7%	0.9%	1.3%	0.8%	0.8%	0.7%	43.6%
30s	46.7%	1.3%	1.4%	1.4%	1.0%	1.1%	1.4%	1.0%	1.0%	0.9%	42.8%
40s	49.3%	1.6%	1.5%	1.5%	1.0%	1.2%	1.2%	0.9%	1.0%	0.8%	40.2%
50s	50.4%	1.6%	1.3%	1.4%	1.0%	1.2%	1.1%	0.8%	0.9%	0.8%	39.6%
60s	54.5%	1.5%	1.2%	1.2%	0.8%	1.0%	1.0%	0.6%	0.7%	0.6%	36.9%
All	48.9%	1.3%	1.2%	1.3%	0.9%	1.1%	1.2%	0.9%	0.9%	0.8%	41.6%
Percentage of Account Balance Invested in Non-Target-Date Balanced Funds											
Age Group	Zero	1–10%	11–20%	21–30%	31–40%	41–50%	51–60%	61–70%	71–80%	81–90%	91–100%
20s	82.9%	1.4%	1.1%	0.9%	0.5%	0.5%	0.8%	0.4%	0.4%	0.3%	10.8%
30s	84.1%	1.8%	1.4%	1.1%	0.7%	0.5%	0.6%	0.4%	0.4%	0.3%	8.5%
40s	83.8%	2.0%	1.6%	1.3%	0.7%	0.6%	0.6%	0.4%	0.4%	0.3%	8.5%
50s	83.8%	1.9%	1.5%	1.3%	0.7%	0.6%	0.6%	0.3%	0.3%	0.3%	8.4%
60s	83.8%	1.8%	1.4%	1.2%	0.7%	0.6%	0.7%	0.3%	0.4%	0.3%	8.8%
All	83.6%	1.7%	1.4%	1.1%	0.7%	0.5%	0.6%	0.4%	0.4%	0.3%	9.2%

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

<sup>a</sup> The analysis includes the 4.4 million recently hired participants (those with two or fewer years of tenure) in 2013.

<sup>b</sup> Row percentages may not add to 100 percent because of rounding.

<sup>c</sup> 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.

Figure 40

**Average Asset Allocation of 401(k) Accounts, by Participant Age Among 401(k) Plan Participants With Two or Fewer Years of Tenure**

Percentage of account balances,<sup>b</sup> 1998 and 2013

Age Group	Equity Funds						Balanced Funds						Non-Target-date balanced funds					
	1998		2013		Total		1998		2013		Total		1998		2013		Total	
	66.9%	28.1%	35.1%	41.1%	7.4%	55.0%	41.1%	5.1%	4.5%	4.0%	1.6%	3.7%	1.0%	10.5%	4.1%	9.4%	3.1%	
20s	66.9%	28.1%	35.1%	41.1%	7.4%	55.0%	41.1%	5.1%	4.5%	4.0%	1.6%	3.7%	1.0%	10.5%	4.1%	9.4%	3.1%	
30s	67.8%	35.1%	47.7%	37.8%	8.0%	47.7%	37.8%	5.1%	6.1%	4.1%	1.9%	3.2%	1.3%	8.0%	3.4%	8.0%	3.4%	
40s	64.5%	39.0%	9.7%	40.4%	9.7%	40.4%	31.6%	5.9%	7.6%	5.1%	2.3%	4.4%	1.7%	6.5%	3.3%	6.5%	3.3%	
50s	60.5%	37.3%	11.3%	36.2%	11.3%	36.2%	28.1%	6.6%	10.2%	5.9%	2.8%	6.7%	3.9%	5.7%	3.2%	5.7%	3.2%	
60s	50.0%	34.6%	12.1%	31.9%	12.1%	31.9%	24.3%	8.7%	13.9%	7.8%	3.7%	13.3%	5.3%	8.6%	3.3%	8.6%	3.3%	
All	64.8%	36.1%	9.1%	41.1%	9.1%	41.1%	31.9%	5.7%	8.5%	4.9%	2.4%	4.6%	2.7%	8.6%	3.3%	8.6%	3.3%	

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

<sup>a</sup>The analysis is based on samples of 1.2 million participants with two or fewer years of tenure in 1998 and 4.4 million participants with two or fewer years of tenure in 2013.

<sup>b</sup>Minor investment options are not shown; therefore, row percentages will not add to 100 percent. Percentages are dollar-weighted averages.

<sup>c</sup>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.

<sup>d</sup>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.

Figure 41

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

Percentage of recently hired participants offered and holding company stock, by participant age, 1998–2013

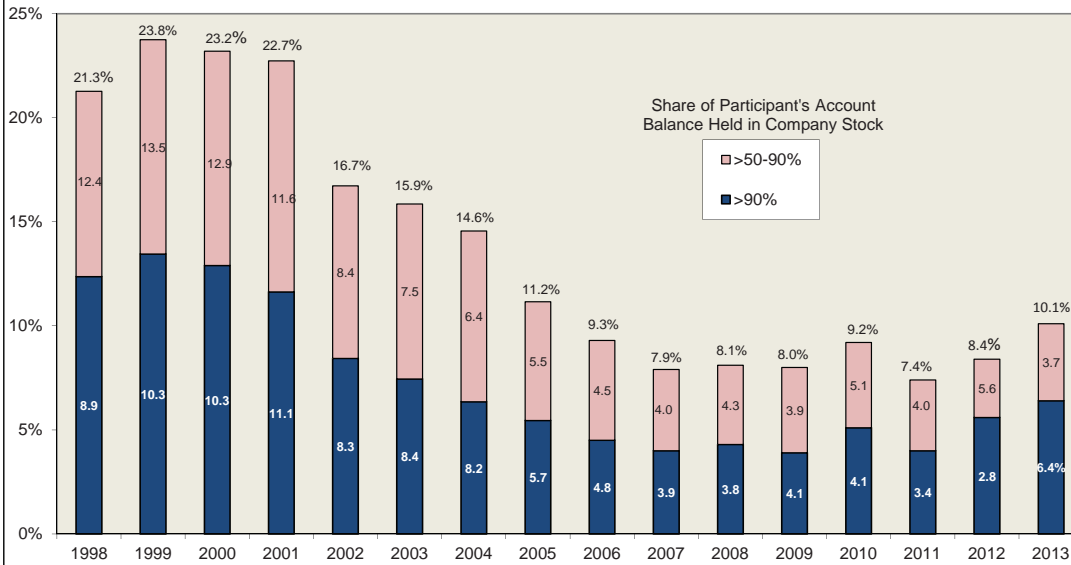
Age Group	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
20s	60.8%	61.1%	60.5%	58.1%	53.9%	49.6%	49.8%	45.4%	40.0%	35.4%	32.9%	32.3%	30.3%	26.2%	23.0%	27.9%
30s	61.9%	62.3%	61.6%	60.0%	57.2%	53.3%	52.3%	47.6%	43.6%	40.4%	37.4%	36.2%	33.6%	30.0%	26.4%	30.7%
40s	59.8%	60.6%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

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

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.

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, 1998–2013



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

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**

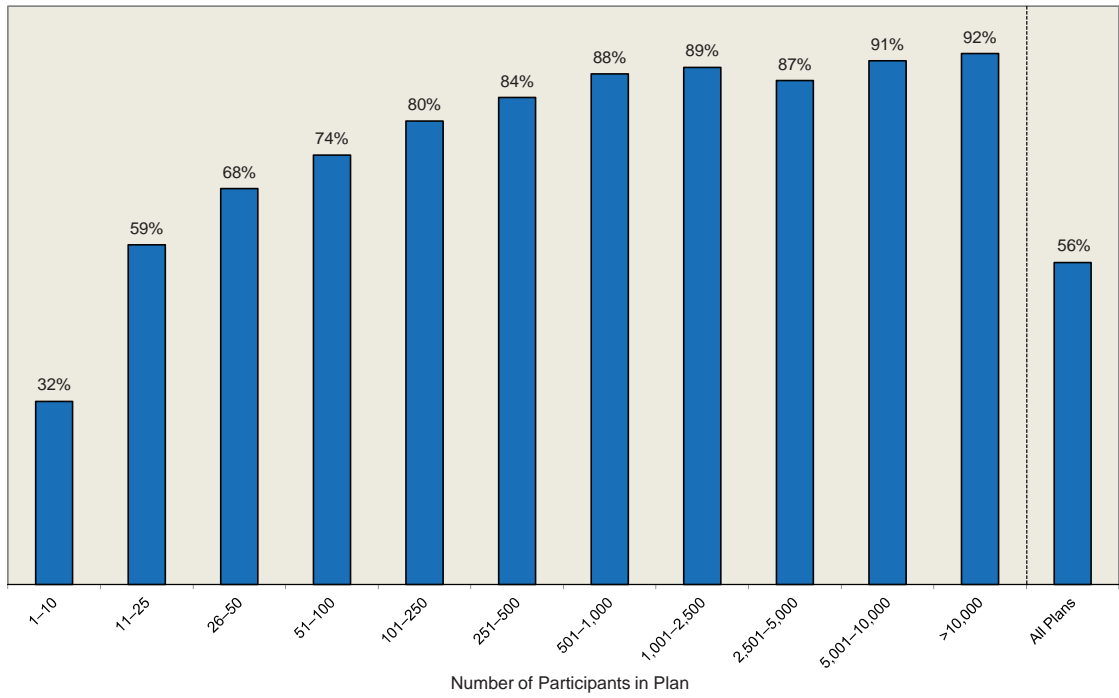
Percentage of recently hired participants in plans offering company stock as an investment option,<sup>a,b</sup> 2013

Age Group	Percentage of Account Balance Invested in Company Stock										
	Zero	1–10%	11–20%	21–30%	31–40%	41–50%	51–60%	61–70%	71–80%	81–90%	91–100%
20s	72.1%	4.3%	3.8%	3.3%	2.8%	3.5%	1.6%	0.8%	0.6%	0.4%	6.6%
30s	69.3%	6.2%	5.0%	4.1%	2.8%	2.7%	1.7%	0.9%	0.7%	0.5%	6.2%
40s	68.7%	6.2%	5.1%	4.3%	2.9%	2.5%	1.8%	1.0%	0.7%	0.5%	6.3%
50s	69.2%	6.4%	4.9%	4.2%	2.8%	2.5%	1.7%	0.9%	0.7%	0.4%	6.3%
60s	70.0%	6.0%	4.2%	3.9%	2.4%	2.4%	1.6%	0.9%	0.6%	0.5%	7.5%
All	70.1%	5.6%	4.6%	3.9%	2.8%	2.9%	1.7%	0.9%	0.7%	0.4%	6.4%

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.  
<sup>a</sup> The analysis includes the 1.3 million participants with two or fewer years of tenure in 2013 and in plans offering company stock as an investment option.  
<sup>b</sup> Row percentages may not add to 100 percent because of rounding.

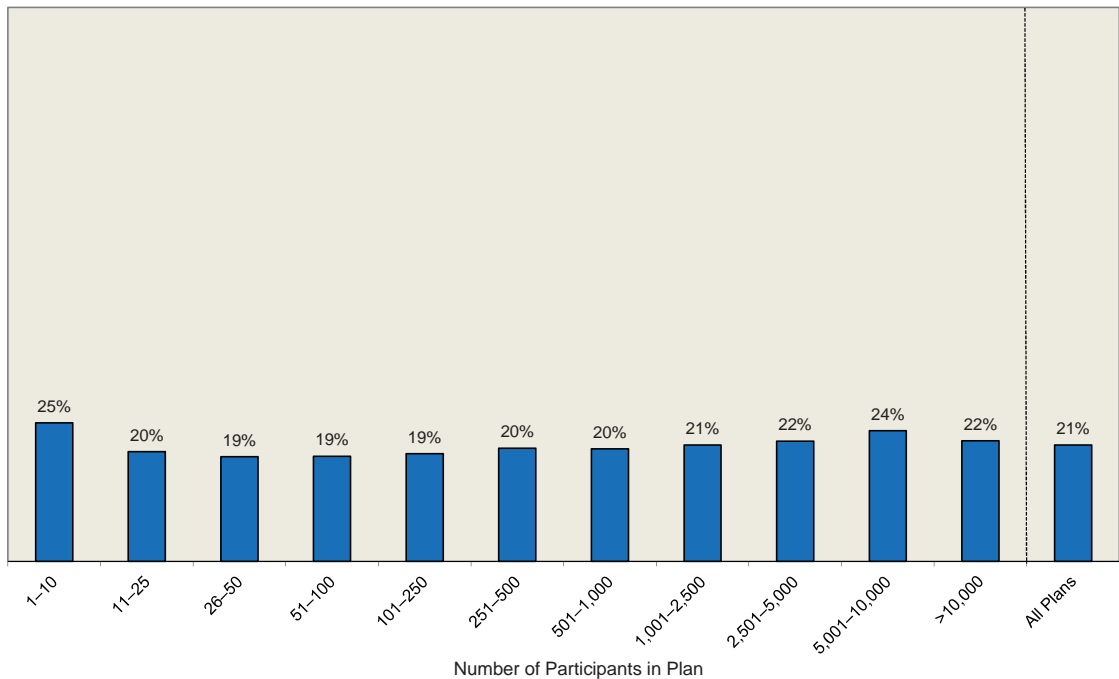


**Figure 44**  
**Percentage of 401(k) Plans Offering Loans, by Plan Size, 2013**



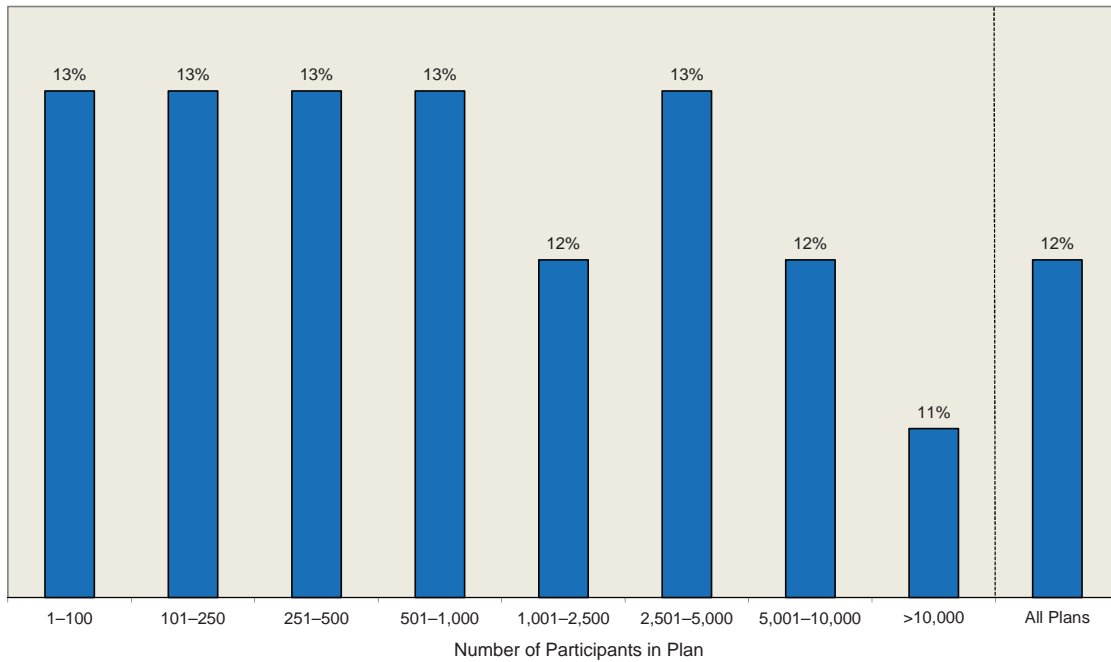
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.

**Figure 45**  
**Percentage of Eligible 401(k) Plan Participants With 401(k) Plan Loans, by Plan Size, 2013**



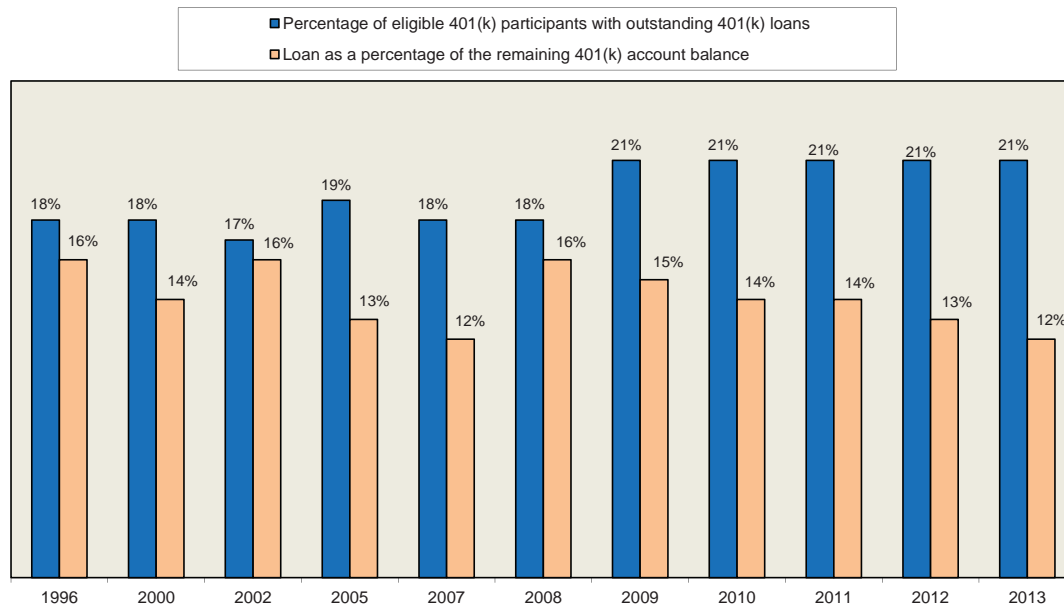
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.

Figure 46  
**401(k) Loan Balances as a Percentage of 401(k) Account Balances for Participants With Loans, by Plan Size, 2013**



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

Figure 47  
**Few 401(k) Participants Had Outstanding 401(k) Loans; Loans Tended to Be Small, Selected Years**



Source: Tabulations from the EBRI/ICI 401(k) Participant-Directed Retirement Plan Data Collection Project.

Figure 48

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

Percentage of Eligible 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
All	18%	18%	17%	19%	18%	18%	21%	21%	21%	21%	21%
<b>Age Group</b>											
20s	12%	11%	10%	11%	10%	10%	13%	13%	13%	13%	12%
30s	20%	19%	18%	20%	20%	20%	23%	23%	22%	23%	23%
40s	22%	21%	20%	22%	22%	22%	26%	26%	25%	26%	27%
50s	17%	17%	17%	19%	19%	19%	22%	22%	22%	23%	23%
60s	9%	9%	9%	10%	10%	11%	12%	13%	13%	14%	14%
<b>Tenure (years)</b>											
0-2	6%	5%	4%	5%	7%	6%	9%	7%	5%	6%	9%
>2-5	15%	14%	12%	14%	15%	15%	17%	18%	18%	18%	19%
>5-10	24%	23%	21%	22%	23%	23%	25%	27%	26%	27%	28%
>10-20	27%	26%	26%	26%	26%	26%	29%	29%	29%	30%	30%
>20-30	25%	26%	25%	24%	24%	25%	27%	26%	26%	28%	28%
>30	13%	16%	15%	17%	17%	18%	19%	19%	19%	20%	20%
<b>Account Size</b>											
<\$10,000	12%	11%	11%	12%	11%	12%	16%	16%	15%	15%	14%
\$10,000-\$20,000	26%	23%	22%	26%	25%	26%	28%	29%	30%	30%	30%
>\$20,000-\$30,000	26%	25%	22%	27%	26%	26%	28%	29%	30%	31%	31%
>\$30,000-\$40,000	25%	25%	23%	26%	26%	26%	28%	28%	29%	30%	31%
>\$40,000-\$50,000	24%	25%	23%	25%	26%	25%	27%	27%	27%	29%	30%
>\$50,000-\$60,000	24%	24%	22%	24%	25%	24%	25%	26%	26%	28%	29%
>\$60,000-\$70,000	23%	24%	22%	23%	24%	23%	25%	25%	25%	27%	28%
>\$70,000-\$80,000	26%	23%	22%	22%	23%	22%	24%	24%	24%	26%	27%
>\$80,000-\$90,000	23%	23%	21%	21%	23%	21%	23%	23%	23%	25%	26%
>\$90,000-\$100,000	22%	22%	21%	20%	22%	20%	23%	22%	22%	24%	26%
>\$100,000-\$200,000	22%	20%	19%	18%	19%	18%	19%	19%	19%	21%	23%
>\$200,000	18%	15%	13%	13%	13%	12%	13%	12%	12%	13%	15%
<b>Salary Range</b>											
\$20,000-\$40,000	18%	17%	13%	19%	20%	19%	24%	22%	25%	25%	21%
>\$40,000-\$60,000	20%	23%	21%	26%	28%	27%	30%	26%	26%	28%	27%
>\$60,000-\$80,000	18%	23%	20%	24%	24%	24%	26%	23%	22%	25%	22%
>\$80,000-\$100,000	17%	21%	17%	22%	21%	20%	23%	20%	19%	21%	19%
>\$100,000	14%	16%	13%	16%	14%	14%	16%	14%	14%	16%	15%

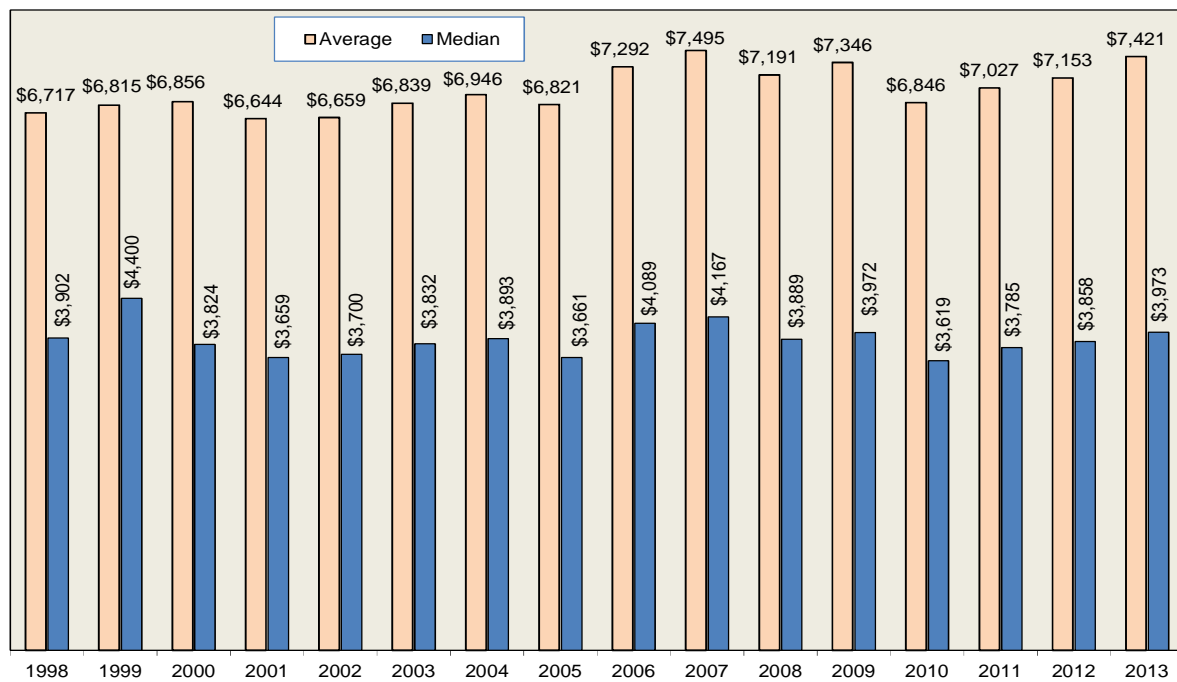
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project.

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

Figure 49

**401(k) Loan Balances**

Average and median loan balances for 401(k) participants with 401(k) loans, 1998-2013



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

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

**Figure 50**  
**401(k) Loan Amounts Varied Across 401(k) Participants**  
 401(k) Loan Balances as a Percentage of 401(k) Account Balances  
 for Participants With Loans, by Participant Age, Tenure,  
 Account Size, or Salary, Selected Years

	1996	2000	2002	2005	2007	2008	2009	2010	2011	2012	2013
All	16%	14%	16%	13%	12%	16%	15%	14%	14%	13%	12%
<b>Age Group</b>											
20s	30%	30%	28%	24%	25%	29%	26%	24%	26%	25%	26%
30s	22%	20%	22%	19%	19%	25%	22%	20%	21%	20%	19%
40s	16%	15%	16%	13%	13%	18%	16%	15%	16%	15%	13%
50s	12%	11%	12%	10%	10%	13%	12%	11%	11%	11%	10%
60s	10%	9%	10%	8%	8%	11%	10%	9%	9%	9%	8%
<b>Tenure (years)</b>											
0–2	27%	24%	27%	23%	21%	25%	22%	19%	21%	22%	17%
>2–5	24%	25%	25%	21%	22%	26%	23%	20%	21%	21%	19%
>5–10	23%	21%	23%	19%	18%	24%	20%	19%	20%	18%	17%
>10–20	15%	14%	16%	13%	13%	17%	16%	14%	15%	14%	12%
>20–30	11%	10%	11%	9%	8%	12%	11%	9%	10%	9%	8%
>30	7%	8%	10%	8%	7%	9%	9%	7%	7%	7%	6%
<b>Account Size</b>											
<\$10,000	39%	39%	37%	35%	36%	39%	39%	35%	37%	38%	41%
\$10,000–\$20,000	32%	32%	31%	29%	30%	33%	31%	28%	30%	30%	31%
>\$20,000–\$30,000	28%	28%	28%	25%	26%	29%	27%	25%	27%	26%	27%
>\$30,000–\$40,000	23%	24%	25%	22%	23%	26%	25%	23%	24%	24%	24%
>\$40,000–\$50,000	22%	21%	22%	20%	21%	24%	22%	20%	21%	21%	21%
>\$50,000–\$60,000	19%	19%	20%	18%	19%	21%	21%	19%	19%	19%	19%
>\$60,000–\$70,000	16%	17%	18%	16%	17%	19%	19%	17%	18%	17%	17%
>\$70,000–\$80,000	16%	15%	16%	15%	16%	18%	17%	16%	16%	16%	16%
>\$80,000–\$90,000	14%	14%	15%	14%	14%	16%	16%	15%	15%	15%	14%
>\$90,000–\$100,000	13%	13%	13%	13%	13%	15%	15%	14%	14%	14%	13%
>\$100,000–\$200,000	10%	9%	10%	9%	10%	11%	11%	10%	11%	10%	10%
>\$200,000	5%	5%	5%	4%	5%	5%	5%	5%	5%	5%	4%
<b>Salary Range</b>											
\$20,000–40,000	17%	19%	18%	18%	17%	21%	19%	17%	17%	17%	16%
>\$40,000–\$60,000	17%	16%	16%	16%	15%	19%	17%	15%	16%	15%	13%
>\$60,000–\$80,000	15%	13%	14%	13%	12%	17%	14%	13%	13%	13%	11%
>\$80,000–\$100,000	14%	12%	12%	11%	11%	14%	12%	11%	12%	11%	10%
>\$100,000	14%	10%	10%	9%	9%	11%	10%	9%	9%	9%	7%

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

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

**Figure 51**  
**Loans From 401(k) Plans Tended to Be Small**  
 Percentage of eligible participants, by participant age, 2013

401(k) Loan as a Percentage of Remaining 401(k) Account Balance	Age Group			
	20s	40s	60s	All
Zero	88%	73%	86%	79%
1–10%	2%	9%	6%	7%
>10%–20%	2%	6%	3%	4%
>20–30%	2%	4%	1%	3%
>30–80%	4%	7%	3%	6%
>80%	2%	1%	1%	1%

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

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## Endnotes

<sup>1</sup> For data on 401(k) plan assets, participants, and plans through 2012, see U.S. Department of Labor, Employee Benefits Security Administration 2014a and 2014c. For total retirement assets (including those in 401(k) plans) through the third quarter of 2014, see Investment Company Institute 2014. 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 2014; and Brady, Burham, and Holden 2012.

<sup>2</sup> Prior to 2005, the U.S. 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 U.S. 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 U.S. Department of Labor, Employee Benefits Security Administration 2014a). As the U.S. 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 53 million in 2013 and the number of 401(k) plans to be about 518,000. The estimate of the number of active 401(k) plan participants is based on a combination of data from U.S. Department of Labor, Bureau of Labor Statistics 2012, 2013, and 2014; and U.S. Department of Labor, and Employee Benefits Security Administration 2011, 2012a, 2012b, 2012c, 2012d, 2012e, 2014a, 2014b, and 2014c.

<sup>3</sup> See Investment Company Institute 2014. By 2014: Q3, 401(k) plans had \$4.5 trillion in assets.

<sup>4</sup> The Employee Benefit Research Institute (EBRI) is a nonprofit, nonpartisan, public policy research organization that does not lobby or take positions on legislative proposals.

<sup>5</sup> The Investment Company Institute (ICI) is the national association of U.S. investment companies, including mutual funds, closed-end funds, exchange-traded funds (ETFs), and unit investment trusts (UITs). ICI seeks to encourage adherence to high ethical standards, promote public understanding, and otherwise advance the interests of funds, their shareholders, directors,

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and advisers. Members of ICI manage total assets of \$17.4 trillion and serve more than 90 million shareholders (see Burham, Bogdan, and Schrass 2014b).

<sup>6</sup> This update extends previous findings from the project for 1996 through 2012. For year-end 2012 results, see Holden et al. 2013. Results for earlier years are available in earlier issues of *ICI Research Perspective* ([www.ici.org/research/perspective](http://www.ici.org/research/perspective)) and *EBRI Issue Brief* ([www.ebri.org/publications/ib](http://www.ebri.org/publications/ib)).

<sup>7</sup> 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.

<sup>8</sup> Account balances are net of unpaid loan balances. Thus, unpaid loan balances are not included in any of the eight asset categories described.

<sup>9</sup> 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 6 percent in the average 401(k) 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 60s with two or fewer years of tenure, the average account balance increased 13 percent with the consolidation of their multiple accounts. Among participants in their 50s or 60s with more than 30 years of tenure, the average account balance increased 5 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.

<sup>10</sup> 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. Deloitte/ICI Defined Contribution/401(k) Fee Study 2011 data indicate that in 2010, the median number of investment options offered among the 525 plans in the survey was 14 (see Deloitte Consulting LLP and Investment Company Institute 2011). Plan Sponsor Council of America 2014 indicates that in 2013, the average number of investment fund options available for participant contributions was 19 among the 613 plans surveyed; Aon Hewitt 2013 indicates an average number of 20 investment options in 2012. Deloitte Consulting LLP, International Foundation of Employee Benefit Plans, and the International Society of Certified Employee Benefit Specialists 2013 report that the average number of funds offered by the nearly 400 401(k) plan sponsors surveyed was 19 in 2012. BrightScope and Investment Company Institute 2014 reports an average of 25 investment options in 2012, and an average of 20 investment options when a target date fund suite is counted as a single investment option.

<sup>11</sup> 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. Since 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.

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<sup>12</sup> 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.

<sup>13</sup> GICs are insurance company products that guarantee a specific rate of return on the invested capital over the life of the contract.

<sup>14</sup> 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.

<sup>15</sup> 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.

<sup>16</sup> For 401(k) asset figures, see Investment Company Institute 2014.

<sup>17</sup> Estimates of the number of 401(k) plans and active participants are based on a combination of data from U.S. Department of Labor and Bureau of Labor Statistics and U.S. Department of Labor, Employee Benefits Security Administration reports. See discussion in note 2.

<sup>18</sup> The latest available data from the U.S. Department of Labor are for plan year 2012 (see U.S. Department of Labor, Employee Benefits Security Administration 2014c).

<sup>19</sup> 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 five-year period from year-end 2007 to year-end 2012), see Holden et al. 2014.

<sup>20</sup> 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.

<sup>21</sup> 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.

<sup>22</sup> At year-end 2013, 1.9 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.

<sup>23</sup> At year-end 2013, 9.9 percent of the participants in the database were missing a date of hire entry and were not included in this analysis.

<sup>24</sup> 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 2 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).

<sup>25</sup> Because 401(k) plans were introduced about 33 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 Sec. 401(k). The law went into effect on January 1, 1980, but it was not until

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November 1981 that proposed regulations were issued (see Holden, Brady, and Hadley 2006; Employee Benefit Research Institute 2005; and U.S. Internal Revenue Service 1981).

<sup>26</sup> 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 (77 percent of all 401(k)-type plans in existence in 2012 were established after 1993 [tabulations of U.S. Department of Labor Form 5500 data for 2012]), 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.

<sup>27</sup> It is possible that these older, longer-tenured workers accumulated DC plan assets (e.g., in a profit-sharing plan) prior to 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) balance amounts.

<sup>28</sup> Social Security replaces a much higher fraction of pre-retirement earnings for lower-income workers. For example, the first-year replacement rate (scheduled Social Security benefits as a percentage of average career earnings) for retired workers in the 1940–1949 birth cohort (individuals aged 64 to 73 in 2013) decreased as income increased. The median replacement rate for the lowest household lifetime earnings quintile was 77 percent; for the middle quintile, the median Social Security replacement rate was 45 percent; and for the highest quintile it was 32 percent. See Congressional Budget Office 2013.

<sup>29</sup> The ratio of 401(k) 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 impact 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.

<sup>30</sup> The tendency of the account balance-to-salary ratio to peak at higher salary levels and then fall off likely reflects 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 2013, see The Vanguard Group 2014 and Aon Hewitt 2014.

<sup>31</sup> At year-end 2013, 62 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 2014 and note 37 for additional discussion).

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<sup>32</sup> 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 nearly 24 million DC plan participant accounts found that 10.7 percent of DC plan participants changed the asset allocation of their account balances in 2013 and 7.4 percent changed the asset allocation of their contributions during 2013 (see Holden and Schrass 2014). Covering a year earlier, the ICI survey of recordkeepers covering nearly 24 million DC plan participant accounts found that 9.7 percent of DC plan participants changed the asset allocation of their account balances in 2012 and 6.6 percent changed the asset allocation of their contributions during 2012 (see Holden and Schrass 2014). Analyzing 2013 data, The Vanguard Group 2014 reported that “only 10 [percent] of DC plan participants traded within their accounts.” Similarly, The Vanguard Group 2013 reported that “only 12 [percent] of DC plan participants traded in their accounts.” Similarly, The Vanguard Group 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 the time “the lowest level observed since [they] began tracking this data in 1999.” Utkus and Young 2010 reported that 13 percent of DC plan participants traded in their retirement accounts in 2009, analyzing the plans administered by Vanguard. Aon Hewitt 2014 found that 16.1 percent of participants traded in their accounts in 2013. Similarly, Aon Hewitt 2013 found that 14.5 percent of participants traded in their accounts in 2012. Aon Hewitt 2012 found that 14.6 percent of participants traded in their accounts in 2010, and 12.9 percent changed the asset allocation of their contributions. Aon Hewitt 2011 found that 14.2 percent of participants traded in their accounts in 2010, and 14.6 percent changed the asset allocation of their contributions. Hewitt Associates 2009 reported that 19.6 percent of participants made asset transfers in their account balances during 2008, which was “up only marginally” from 2007 (although, they tended to move larger portions of their account balances). Fidelity Investments 2008 reported that overall only 6.6 percent of participants in their recordkeeping system made exchanges during September, October, and November 2008, a time of stock market volatility. 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 2013 reflecting households’ sentiment toward and confidence in 401(k) plans, see Burham, Bogdan, and Schrass 2014a.)

<sup>33</sup> For the age distribution of 401(k) plan participants and assets at year-end 2013, see Figure 5.

<sup>34</sup> See note 11 for additional detail on target date funds.

<sup>35</sup> 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.

<sup>36</sup> 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 2014). At year-end 2013, 69 percent of target date mutual fund assets were held in DC plans (see Investment Company Institute 2014). Plan Sponsor Council of America 2014 reported an increase in the incidence of automatic enrollment in 2013. Of more than 600 plans surveyed, 50.2 percent had automatic enrollment in 2013, compared with 47.2 percent in 2012, 45.9 percent in 2011, 41.8 percent in 2010, 38.4 percent in 2009, 39.6 percent in 2008, 35.6 percent in 2007, about 17 percent in 2005, and 10.5 percent in 2004. The Vanguard Group 2014 reports that 34 percent of DC plans in their recordkeeping system in 2013 offer automatic enrollment, up from 32 percent in 2012.

<sup>37</sup> At year-end 2013, 62 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 2014).

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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.

<sup>38</sup> For year-end 2012 data, see Holden et al. 2013.

<sup>39</sup> See Holden et al. 2008; Holden, VanDerhei, and Alonso 2009; Holden, VanDerhei, and Alonso 2010; and Holden et al. 2011, 2012, and 2013 for data for earlier years.

<sup>40</sup> For year-end 1998 data, see Holden, VanDerhei, and Quick 2000.

<sup>41</sup> In the database, there has tended to be a downward trend in 401(k) plan participants' holdings of, and concentration in, company stock. 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 U.S. Joint Committee on Taxation 2006).

<sup>42</sup> 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 U.S. 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.

<sup>43</sup> 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) account balance, see Holden et al. 2013.

<sup>44</sup> 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 2012, this measure was 18 percent; in 2011, 18 percent; in 2010, 18 percent; in 2009, 19 percent; in 2008, 16 percent; in 2007, 16 percent; and in 2006, 15 percent.

<sup>45</sup> In plan year 2012 (latest data available), only 1.7 percent of the \$3.5 trillion in 401(k) plan assets were participant loans. See Table D7 in U.S. Department of Labor, Employee Benefits Security Administration 2014c.

<sup>46</sup> This pattern is driven in part by restrictions placed on loan amounts.

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