

## WHAT'S INSIDE

- 3 Introduction
- 9 Changes in Consistent 401(k) Participants' Account Balances
- 15 Background Factors Influencing 401(k) Plan Assets
- 20 Notes
- 22 References

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

*Suggested citation:* Holden, Sarah, Jack VanDerhei, Luis Alonso, and Steven Bass. 2017. "What Does Consistent Participation in 401(k) Plans Generate? Changes in 401(k) Plan Account Balances, 2010–2015." *ICI Research Perspective* 23, no. 9 (October). Available at [www.ici.org/pdf/per23-09.pdf](http://www.ici.org/pdf/per23-09.pdf).

## What Does Consistent Participation in 401(k) Plans Generate? Changes in 401(k) Plan Account Balances, 2010–2015

### KEY FINDINGS

This paper provides an annual update of a longitudinal analysis of 401(k) plan participants drawn from the EBRI/ICI 401(k) database—the largest participant-level database of its kind, with about 26.1 million 401(k) participants at year-end 2015.

Because the annual cross sections cover participants with a wide range of participation experience in 401(k) plans, meaningful analysis of the potential for 401(k) participants to accumulate retirement assets must examine the 401(k) plan accounts of participants who maintained accounts over all of the years being studied (consistent participants). This paper focuses on consistent participants for the 2010–2015 period.

**A few key insights emerge from looking at the 7.3 million consistent participants in the EBRI/ICI 401(k) database over the five-year period from year-end 2010 to year-end 2015.**

- » The average 401(k) plan account balance for consistent participants rose each year from 2010 through year-end 2015. Overall, the average account balance increased at a compound annual average growth rate of 13.9 percent from 2010 to 2015, to \$143,436 at year-end 2015.
- » The median 401(k) plan account balance for consistent participants increased at a compound annual average growth rate of 17.9 percent over the period, to \$66,412 at year-end 2015.
- » The growth in account balances for consistent participants greatly exceeded the growth rate for all participants in the EBRI/ICI 401(k) database. Because of changing samples of providers, plans, and participants, changes in account balances for the entire database are not a reliable measure of how individual participants have fared. A consistent sample is necessary to examine the growth in account balances experienced by individual 401(k) plan participants over time.

**Analysis of a consistent group of 401(k) participants highlights the impact of ongoing participation in 401(k) plans.** At year-end 2015, the average account balance among consistent participants was almost double the average account balance among all participants in the EBRI/ICI 401(k) database. The consistent group's median balance was almost four times the median balance across all participants at year-end 2015.

**Younger 401(k) participants or those with smaller year-end 2010 balances experienced higher percent growth in account balances compared with older participants or those with larger year-end 2010 balances.** Three primary factors affect account balances: contributions, investment returns, and withdrawal and loan activity. The percent change in average 401(k) plan account balance of participants in their twenties was heavily influenced by the relative size of their contributions to their account balances and increased at a compound average growth rate of 43.1 percent per year between year-end 2010 and year-end 2015.

**401(k) participants tend to concentrate their accounts in equity securities.** The asset allocation of the 7.3 million 401(k) plan participants in the consistent group was broadly similar to the asset allocation of the 26.1 million participants in the entire year-end 2015 EBRI/ICI 401(k) database. On average at year-end 2015, about two-thirds of 401(k) participants' assets were invested in equities, either through equity funds, the equity portion of target date funds, the equity portion of non-target date balanced funds, or company stock. Younger 401(k) participants tend to have higher concentrations in equities than older 401(k) participants.

---

## Introduction

The EBRI/ICI 401(k) database, which is constructed from the administrative records of 401(k) plans, represents a large cross section, or snapshot, of 401(k) plans at the end of each year.<sup>1</sup> It is a cross section of the entire population of 401(k) plan participants, and it represents a wide range of participants—including those who are young and individuals who are new to their jobs, as well as older participants and those who have been with their current employers for many years. For example, at year-end 2015, 14 percent of 401(k) participants in the EBRI/ICI 401(k) database were in their twenties, while 11 percent were in their sixties (Figure 1); 20 percent of participants had two or fewer years of tenure at their current jobs, while 5 percent had more than 30 years of tenure (Figure 2).

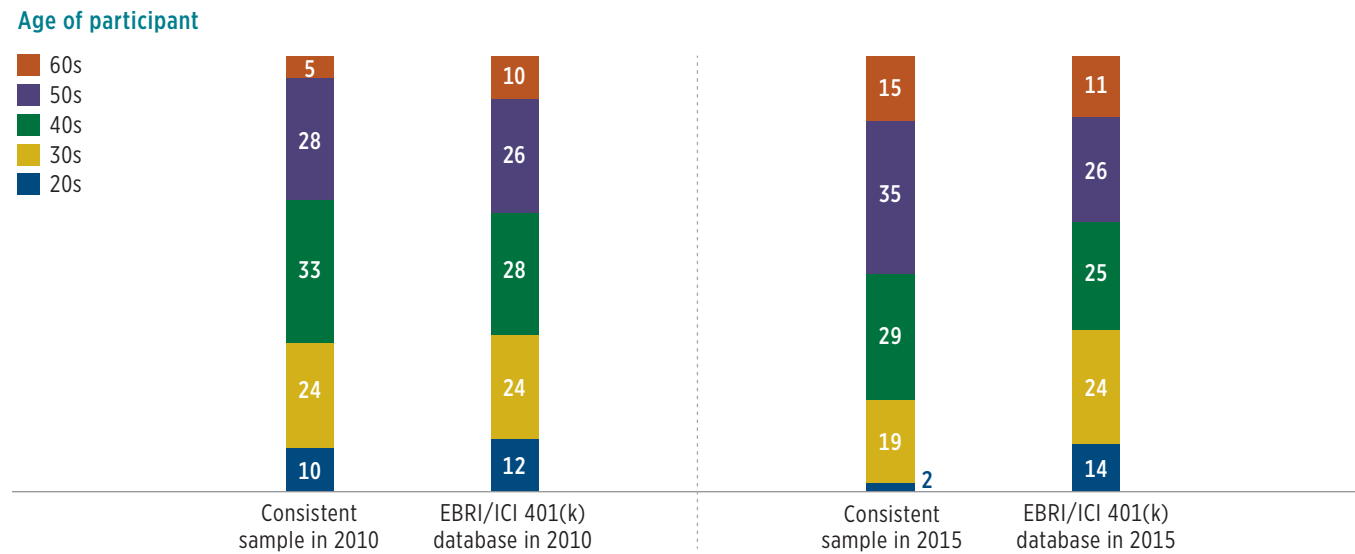
Although annual updates of the EBRI/ICI 401(k) database provide valuable perspectives of 401(k) plan account balances, asset allocation, and loan activity across wide cross sections of participants, cross-sectional analyses are not well suited to examining the impact of participation in 401(k) plans over time. Cross sections change in composition from year to year because the selection of data providers and sample of plans using a given provider vary, and because 401(k) participants join or leave plans.<sup>2</sup> In addition, the analysis covers account balances held in 401(k) plans at participants' current employers. Retirement savings held in plans at previous employers or rolled over into individual retirement accounts (IRAs) are not included in the analysis.<sup>3</sup> To explore the full impact of ongoing participation in 401(k) plans, and to understand how 401(k) plan participants have fared over an extended period, it is important to analyze a consistent group of participants (a longitudinal sample) who have been part of the database for an extended period—in this case, 2010 through 2015.

“401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2015” reported year-end 2015 account balance, asset allocation, and loan activity results for the EBRI/ICI 401(k) database, which consists of a large cross section of 26.1 million 401(k) plan participants. This paper presents a longitudinal analysis—the analysis of 401(k) participants who maintained accounts each year from 2010 through 2015—that was not included in the previous report. The longitudinal analysis tracks the account balances of 7.3 million 401(k) plan participants who had accounts in the year-end 2010 EBRI/ICI 401(k) database and each subsequent year through year-end 2015 (a five-year period).

FIGURE 1

## Consistent Sample Was Older Than Participants in the EBRI/ICI 401(k) Database at Year-End 2015

Percentage of participants by age, year-end 2010 and year-end 2015



Note: The EBRI/ICI 401(k) database contains 23.4 million 401(k) plan participants at year-end 2010 and 26.1 million at year-end 2015. The consistent sample is 7.3 million 401(k) plan participants with account balances at the end of each year from 2010 through 2015. Participant age is age as of the year-end indicated.

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

## Sample of Consistent 401(k) Participants, 2010–2015

More than three-tenths, or 7.3 million, of the 401(k) participants with accounts at the end of 2010 in the EBRI/ICI 401(k) database are in the consistent sample.<sup>4</sup> These consistent participants had accounts at the end of each year from 2010 through 2015; they make up a longitudinal sample, which removes the effect of participants and plans entering and leaving the database. Initially, this group was demographically similar to the entire EBRI/ICI 401(k) database at year-end 2010. However, by year-end 2015, these participants had grown older, accrued longer job tenures, and accumulated larger account balances compared with participants in the year-end 2015 cross section.

### Age and Tenure of Consistent 401(k) Participants

At year-end 2010, the consistent group was similar in age to the participants in the entire EBRI/ICI database. For example, 34 percent of the participants in the consistent sample were in their twenties or thirties in 2010, similar to 36 percent of the 23.4 million participants in the entire database (Figure 1).<sup>5</sup> Thirty-three percent of the participants in the consistent sample were in their forties in 2010, while 28 percent of participants in the entire database were in their forties. Thirty-three percent of the participants in the consistent sample were in their fifties or sixties, compared with 36 percent of participants in the EBRI/ICI database overall.

The tenure composition of the consistent sample also was similar to the tenure composition of 401(k) participants in the year-end 2010 EBRI/ICI 401(k) database.<sup>6</sup> For example, 31 percent of the consistent sample had five or fewer years of tenure in 2010, compared with 39 percent of participants in the entire EBRI/ICI 401(k) database (Figure 2). Eighteen percent of the consistent sample had more than 20 years of tenure in 2010, as did 15 percent of the participants in the entire EBRI/ICI 401(k) database.

As expected, the consistent participants who were followed over the five-year period tended to have longer tenures by year-end 2015, compared with the broader base of 401(k) participants in the EBRI/ICI 401(k) database. Participants in the consistent sample, by definition, had more than five years of tenure in 2015 (the length of time for the longitudinal analysis), with none having five or fewer years of tenure, 32 percent having more than five to 10 years, 41 percent having more than 10 to 20 years, and 27 percent having more than 20 years (Figure 2). In contrast, in the entire EBRI/ICI 401(k) database in 2015, 39 percent of participants had five or fewer years of tenure, 22 percent had more than five to 10 years, 24 percent had more than 10 to 20 years, and 14 percent had more than 20 years.

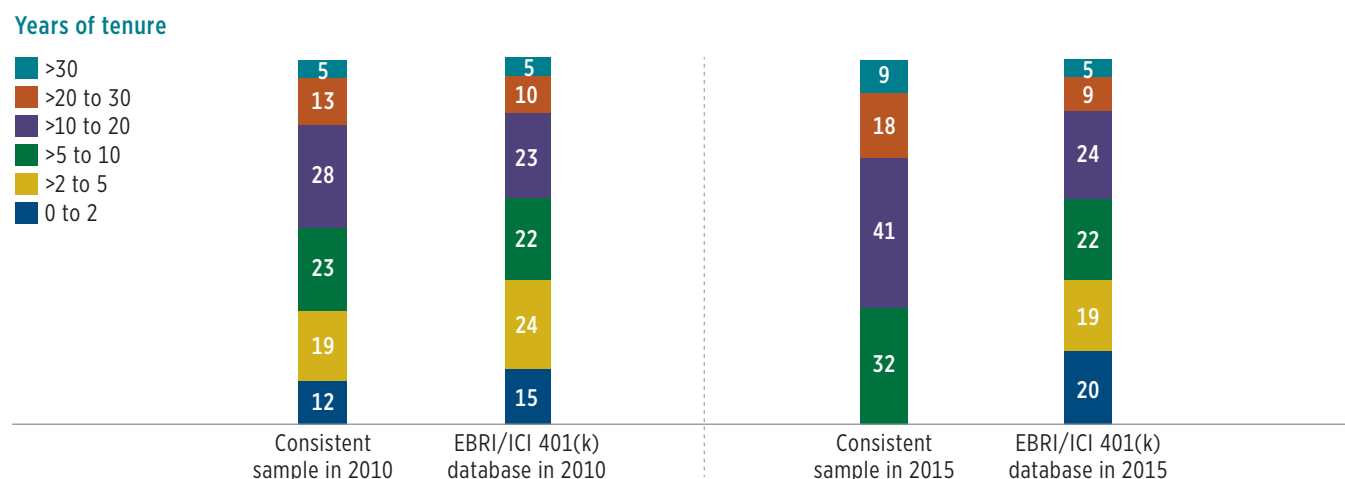
By year-end 2015, the consistent sample of 401(k) participants also was older, on average, compared with the 26.1 million participants in the entire EBRI/ICI 401(k) database. For example, only 2 percent of the participants in the consistent group were in their twenties and 19 percent were in their thirties at year-end 2015 (Figure 1). In the entire EBRI/ICI 401(k) database at year-end 2015,

14 percent of participants were in their twenties and 24 percent were in their thirties. Thirty-five percent of the participants in the consistent sample were in their fifties and 15 percent were in their sixties, compared with 26 percent and 11 percent, respectively, in the entire database at year-end 2015.

FIGURE 2

### Consistent Sample Had Longer Tenure Than Participants in the EBRI/ICI 401(k) Database at Year-End 2015

Percentage of participants by years of tenure, year-end 2010 and year-end 2015



Note: The EBRI/ICI 401(k) database contains 23.4 million 401(k) plan participants at year-end 2010 and 26.1 million at year-end 2015. The consistent sample is 7.3 million 401(k) plan participants with account balances at the end of each year from 2010 through 2015. Participant tenure is tenure as of the year-end indicated. Components may not add to 100 percent because of rounding.

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

## Consistent Participants Have Accumulated Sizable 401(k) Plan Account Balances

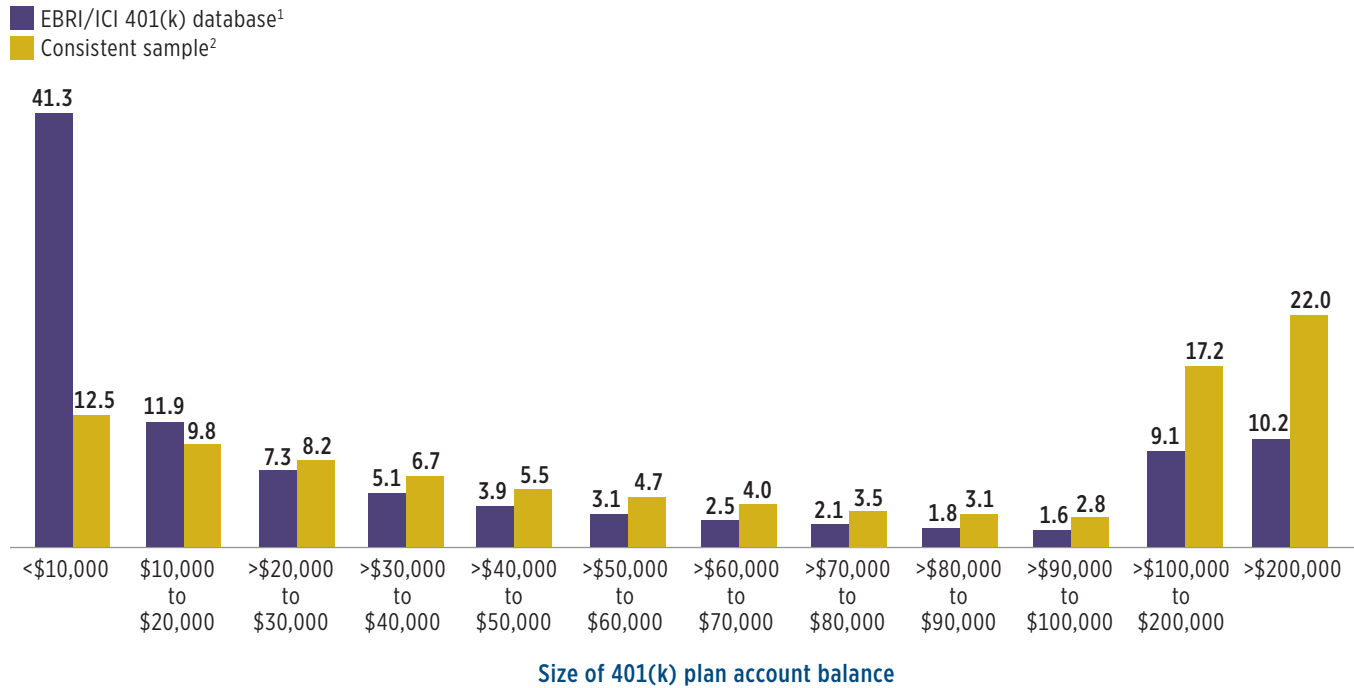
Trends in the consistent group’s account balances highlight the accumulation effect of ongoing 401(k) participation. At year-end 2015, 22.0 percent of the consistent group had more than \$200,000 in their 401(k) plan accounts at

their current employers, while another 17.2 percent had between \$100,000 and \$200,000 (Figure 3). In contrast, in the broader EBRI/ICI 401(k) database, 10.2 percent had accounts with more than \$200,000, and 9.1 percent had between \$100,000 and \$200,000.

FIGURE 3

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

Percentage of participants with account balances in specified ranges, year-end 2015



<sup>1</sup> The year-end 2015 EBRI/ICI 401(k) database represents 26.1 million 401(k) plan participants.

<sup>2</sup> The consistent sample is 7.3 million 401(k) plan participants with account balances at the end of each year from 2010 through 2015.

Note: Account balances are participant account balances held in 401(k) plans at the participants’ current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. Components may not add to 100 percent because of rounding.

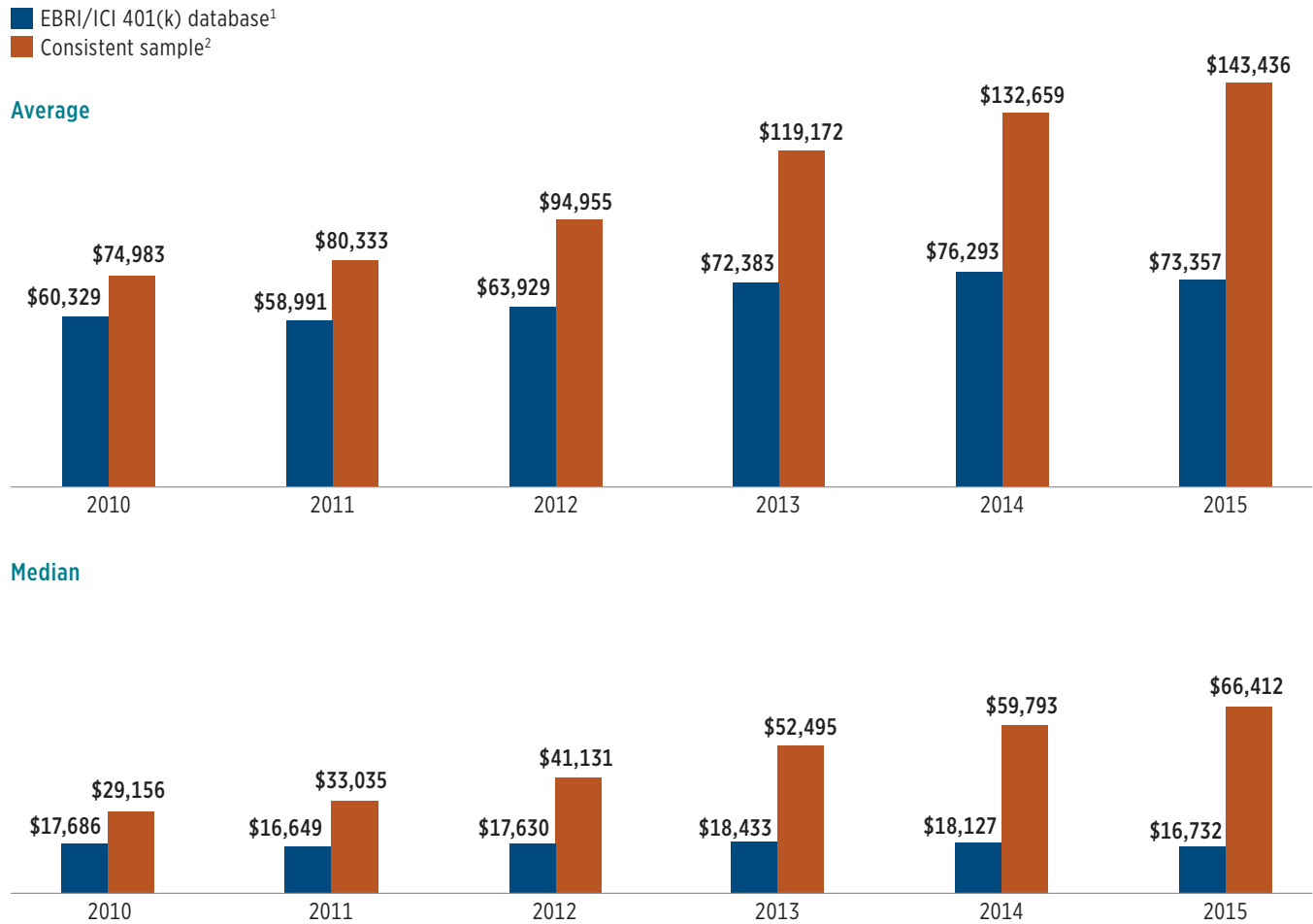
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Reflecting their higher average age and tenure, the consistent group also had average and median account balances that were much higher than the average and median account balances of the broader EBRI/ICI 401(k) database (Figure 4). At year-end 2015, the average 401(k) plan account balance of the consistent group was

\$143,436, almost double the average account balance of \$73,357 among participants in the entire EBRI/ICI 401(k) database.<sup>7</sup> The median 401(k) plan account balance among the consistent participants was \$66,412 at year-end 2015, almost four times the median account balance of \$16,732 for participants in the entire EBRI/ICI 401(k) database.

FIGURE 4

### Consistent 401(k) Participants Accumulate Significant Account Balances



<sup>1</sup> The number of 401(k) plan participants varies from year to year in the EBRI/ICI 401(k) database. The year-end 2015 EBRI/ICI 401(k) database represents 26.1 million 401(k) plan participants.

<sup>2</sup> The consistent sample is 7.3 million 401(k) plan participants with account balances at the end of each year from 2010 through 2015.

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

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



401(k) plan account balances tended to increase with both age and tenure among the consistent group of participants, as they do in the cross-sectional EBRI/ICI 401(k) database. Younger participants or those with shorter job tenures at their current employers tended to have smaller account balances, while those who were older or had longer job tenures tended to have higher account balances.<sup>8</sup> For example, within the consistent group, among 401(k) participants with more than 10 to 20 years of tenure at year-end 2015, older participants tended to have higher balances than younger participants: those in their thirties with more than 10 to 20 years of tenure had an average account balance of \$83,948, compared with an average of \$136,698 for participants in their sixties with more than 10 to 20 years of tenure (Figure 5). Among consistent participants in their sixties at year-end 2015, those with more than five to 10 years of tenure had a lower average 401(k) plan balance (\$85,298) than those with more than 30 years of tenure (\$321,086).

## Changes in Consistent 401(k) Participants' Account Balances

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

- » new contributions by the participant (+), the employer (+), or both;
- » total investment return on account balances ( $\pm$ ), 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 401(k) plan account balance is influenced by the magnitudes of these three factors relative to the starting account balance. For example, a contribution of a given dollar amount produces a larger growth rate when added to a smaller account than it would if added to a larger one. On the other hand, investment returns of a given percentage produce larger dollar increases (or decreases) when compounded on a larger asset base. In other words, growth rates are a function of the relative size of the dollar adjustment to the size of the individual account.

FIGURE 5

**401(k) Plan Account Balances Among Consistent 401(k) Participants from 2010 Through 2015***Average 401(k) plan account balance for consistent 401(k) participants by age and tenure, year-end 2010–2015*

<b>Age group</b>	<b>Tenure Years</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>20s</b>	<b>All</b>	<b>\$4,963</b>	<b>\$8,032</b>	<b>\$12,638</b>	<b>\$19,106</b>	<b>\$24,309</b>	<b>\$29,737</b>
	>5 to 10	4,988	8,108	12,913	19,644	25,100	30,938
<b>30s</b>	<b>All</b>	<b>23,684</b>	<b>27,973</b>	<b>36,614</b>	<b>49,677</b>	<b>58,858</b>	<b>66,185</b>
	>5 to 10	16,267	20,828	28,947	41,075	50,442	58,132
	>10 to 20	35,251	39,478	49,347	65,066	75,158	83,948
<b>40s</b>	<b>All</b>	<b>58,949</b>	<b>64,038</b>	<b>78,056</b>	<b>101,162</b>	<b>114,770</b>	<b>125,682</b>
	>5 to 10	29,184	34,646	45,488	62,252	74,360	83,640
	>10 to 20	66,071	71,358	86,769	112,211	127,273	140,367
	>20 to 30	99,451	104,527	122,220	155,527	172,049	188,269
<b>50s</b>	<b>All</b>	<b>101,348</b>	<b>107,581</b>	<b>126,134</b>	<b>157,883</b>	<b>175,356</b>	<b>190,284</b>
	>5 to 10	36,834	42,603	54,106	72,208	85,067	94,716
	>10 to 20	77,667	83,942	100,974	128,426	145,580	160,923
	>20 to 30	145,074	151,616	175,474	217,815	239,724	261,799
	>30	190,164	198,536	224,591	276,045	298,784	319,677
<b>60s</b>	<b>All</b>	<b>118,143</b>	<b>124,008</b>	<b>140,352</b>	<b>166,997</b>	<b>178,287</b>	<b>184,851</b>
	>5 to 10	38,210	44,096	54,729	69,815	79,900	85,298
	>10 to 20	76,102	82,232	96,287	117,501	128,832	136,698
	>20 to 30	144,958	150,795	170,132	200,830	214,399	223,132
	>30	226,729	233,656	256,738	300,328	312,815	321,086
<b>All</b>	<b>All</b>	<b>74,983</b>	<b>80,333</b>	<b>94,955</b>	<b>119,172</b>	<b>132,659</b>	<b>143,436</b>

Note: The consistent sample is 7.3 million 401(k) plan participants with account balances at the end of each year from 2010 through 2015. Age and tenure groups are based on participant age and tenure at year-end 2015. The *all* category includes participants with missing tenure information. Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included.

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

Altogether, from year-end 2010 through year-end 2015, the average 401(k) plan account balance among the group of consistent participants nearly doubled (increasing by 91.3 percent), rising from \$74,983 at year-end 2010 to \$143,436 at year-end 2015 (Figures 4, 5, and 6). This translates into a compound annual average growth rate of 13.9 percent over the five-year period. The median account balance among this consistent group also grew, more than doubling from \$29,156 in 2010 to \$66,412 in 2015 (a compound annual average growth rate of 17.9 percent) (Figure 4).

Among the consistent group, individual 401(k) participants experienced a wide range of outcomes, often influenced by the relationship among the three factors mentioned above: contributions, investment returns, and withdrawal or loan activity. Participants who were younger or had fewer years of tenure experienced the largest percent increases in average account balance between year-end 2010 and

year-end 2015. For example, the average account balance of 401(k) participants in their twenties rose 499.2 percent (a 43.1 percent compound annual average growth rate) between the end of 2010 and the end of 2015 (Figures 5 and 6). Because younger participants' account balances tended to be smaller (Figure 5), their contributions produced significant percent growth in their account balances. In contrast, the average account balance of older participants, or those with longer tenures—both of which tended to have larger balances at the beginning of the study period than younger workers or those with shorter tenures—showed more modest percent growth in account size (Figure 6). For example, the average account balance of 401(k) participants in their sixties increased 56.5 percent (a 9.4 percent compound annual average growth rate) between year-end 2010 and year-end 2015. Investment returns, rather than annual contributions,<sup>9</sup> generally account for most of the change in accounts with larger balances.

FIGURE 6

## Changes in 401(k) Plan Account Balances Among Consistent 401(k) Participants from 2010 Through 2015

Percent change in average 401(k) plan account balance among consistent 401(k) participants by age and tenure, 2010–2015

Age group	Tenure Years	2010–2011	2011–2012	2012–2013	2013–2014	2014–2015	2010–2015	Compound annual average growth rate, 2010–2015
<b>20s</b>	<b>All</b>	<b>61.8%</b>	<b>57.3%</b>	<b>51.2%</b>	<b>27.2%</b>	<b>22.3%</b>	<b>499.2%</b>	<b>43.1%</b>
	>5 to 10	62.6	59.3	52.1	27.8	23.3	520.2	44.0
<b>30s</b>	<b>All</b>	<b>18.1</b>	<b>30.9</b>	<b>35.7</b>	<b>18.5</b>	<b>12.4</b>	<b>179.5</b>	<b>22.8</b>
	>5 to 10	28.0	39.0	41.9	22.8	15.2	257.4	29.0
	>10 to 20	12.0	25.0	31.9	15.5	11.7	138.1	19.0
<b>40s</b>	<b>All</b>	<b>8.6</b>	<b>21.9</b>	<b>29.6</b>	<b>13.5</b>	<b>9.5</b>	<b>113.2</b>	<b>16.3</b>
	>5 to 10	18.7	31.3	36.9	19.4	12.5	186.6	23.4
	>10 to 20	8.0	21.6	29.3	13.4	10.3	112.4	16.3
	>20 to 30	5.1	16.9	27.3	10.6	9.4	89.3	13.6
<b>50s</b>	<b>All</b>	<b>6.2</b>	<b>17.2</b>	<b>25.2</b>	<b>11.1</b>	<b>8.5</b>	<b>87.8</b>	<b>13.4</b>
	>5 to 10	15.7	27.0	33.5	17.8	11.3	157.1	20.8
	>10 to 20	8.1	20.3	27.2	13.4	10.5	107.2	15.7
	>20 to 30	4.5	15.7	24.1	10.1	9.2	80.5	12.5
	>30	4.4	13.1	22.9	8.2	7.0	68.1	10.9
<b>60s</b>	<b>All</b>	<b>5.0</b>	<b>13.2</b>	<b>19.0</b>	<b>6.8</b>	<b>3.7</b>	<b>56.5</b>	<b>9.4</b>
	>5 to 10	15.4	24.1	27.6	14.4	6.8	123.2	17.4
	>10 to 20	8.1	17.1	22.0	9.6	6.1	79.6	12.4
	>20 to 30	4.0	12.8	18.0	6.8	4.1	53.9	9.0
	>30	3.1	9.9	17.0	4.2	2.6	41.6	7.2
<b>All</b>	<b>All</b>	<b>7.1</b>	<b>18.2</b>	<b>25.5</b>	<b>11.3</b>	<b>8.1</b>	<b>91.3</b>	<b>13.9</b>

Note: The consistent sample is 7.3 million 401(k) plan participants with account balances at the end of each year from 2010 through 2015. Age and tenure groups are based on participant age and tenure at year-end 2015. The *all* category includes participants with missing tenure information. Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included.

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

Investment returns, which vary with 401(k) plan account asset allocation, also influence the changes in participants' accounts. Although asset allocation varied with age, and many participants held a range of investments, stock market performance tends to have an impact on these balances because, in large part, 401(k) plan participants' balances tended to be weighted toward equities. Altogether, at year-end 2015, whether looking at the consistent group or the entire EBRI/ICI 401(k) database, equities—equity funds, the equity portion of target date funds, the equity portion of non-target date balanced funds,<sup>10</sup> and company stock—represented about two-thirds of 401(k) plan participants' assets (Figure 7, lower panel).<sup>11</sup> The asset allocation of

participants in the consistent sample varied with participant age, a pattern that also is observed in the cross-sectional EBRI/ICI 401(k) database. Younger participants generally tended to favor equity funds and target date funds, while older participants were more likely to invest in fixed-income securities such as bond funds, money funds, or guaranteed investment contracts (GICs) and other stable value funds.

Finally, loan or withdrawal activities can have an impact on 401(k) plan account balances. Although in general, very few active 401(k) plan participants take withdrawals,<sup>12</sup> participants in their sixties tend to have a higher propensity to make withdrawals, as they approach retirement.<sup>13</sup>

FIGURE 7

**Average Asset Allocation of 401(k) Plan Accounts by Participant Age***Percentage of 401(k) plan account balances, year-end 2010 and year-end 2015*

Age group	Year-end 2010									
	Equity funds	Target date funds <sup>1, 2</sup>	Non-target date balanced funds	Bond funds	Money funds	GICs <sup>2, 3</sup> and other stable value funds	Company stock <sup>2</sup>	Other	Unknown	Memo: equities <sup>4</sup>
20s	26.5%	40.7%	8.3%	7.0%	2.1%	3.6%	8.8%	1.2%	2.0%	76.7%
30s	43.6	21.6	6.6	8.2	2.7	4.4	8.9	2.1	1.9	75.4
40s	49.6	13.7	5.6	9.0	3.0	5.3	9.5	2.7	1.7	73.2
50s	44.7	11.3	5.9	10.4	3.7	8.6	10.6	3.1	1.5	65.5
60s	38.2	12.0	6.1	12.4	5.3	11.9	9.1	3.5	1.4	56.2
All consistent sample <sup>5</sup>	44.0	12.7	5.9	10.5	4.0	8.5	9.8	3.1	1.5	65.2
2010 EBRI/ICI 401(k) database <sup>6</sup>	42.0	11.1	7.1	11.6	4.4	10.3	8.0	2.9	2.6	62.0
Age group	Year-end 2015									
	Equity funds	Target date funds <sup>1, 2</sup>	Non-target date balanced funds	Bond funds	Money funds	GICs <sup>2, 3</sup> and other stable value funds	Company stock <sup>2</sup>	Other	Unknown	Memo: equities <sup>4</sup>
20s	31.6	42.5	6.8	4.6	1.3	2.1	6.4	3.6	1.1	80.4
30s	45.2	26.6	4.9	5.9	2.1	3.0	6.9	4.1	1.3	78.7
40s	50.7	17.3	5.0	6.7	2.6	4.0	7.7	4.5	1.4	75.1
50s	45.4	15.0	5.6	8.4	3.5	7.4	8.1	5.5	1.3	65.8
60s	39.1	15.2	5.9	10.0	4.7	11.1	6.8	5.8	1.3	56.5
All consistent sample <sup>5</sup>	45.3	16.7	5.5	8.1	3.4	6.9	7.6	5.2	1.4	67.3
2015 EBRI/ICI 401(k) database <sup>7</sup>	43.1	19.8	5.7	8.1	3.9	6.1	6.5	5.3	1.6	66.4

<sup>1</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>2</sup>Not all participants are offered this investment option.

<sup>3</sup>GICs are guaranteed investment contracts.

<sup>4</sup>Equities include equity funds, company stock, the equity portion of target date funds, and the equity portion of non-target date balanced funds.

<sup>5</sup>Asset allocation by age group is among the consistent sample of 7.3 million 401(k) plan participants with account balances at the end of each year from 2010 through 2015.

<sup>6</sup>The year-end 2010 EBRI/ICI 401(k) database represents 23.4 million 401(k) plan participants.

<sup>7</sup>The year-end 2015 EBRI/ICI 401(k) database represents 26.1 million 401(k) plan participants.

Note: Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated. Age group is based on the participant's age at year-end 2015. Row percentages may not add to 100 percent because of rounding. Percentages are dollar-weighted averages.

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

## Background Factors Influencing 401(k) Plan Assets

Aggregate data on 401(k) plans provide insight into the possible influence of each of the factors that cause changes in account balances: contributions, investment returns, and withdrawal or loan activity. In recent years, contributions to 401(k) plans have averaged a bit more than \$300 billion a year, and benefits paid (including rollovers) have averaged

about \$290 billion (Figure 8). Investment returns—interest, dividends, and realized and unrealized asset appreciation/depreciation—vary significantly from year to year. For example, on net they had nearly no impact on assets in 2011, but provided a significant boost as the stock market rose sharply from 2012 through 2014, before moderating in 2015.

FIGURE 8

### 401(k) Plan Contributions, Investment Returns, Benefits Disbursed, and Assets

Annual flows reported on Form 5500 and year-end assets, billions of dollars, 2000–2016

	Total contributions <sup>1</sup>	Total benefits disbursed <sup>2</sup>	Interest, dividends, gains, and other items <sup>3</sup>	Assets at year-end <sup>4</sup>
2000	\$169	\$172	-\$79	\$1,738
2001	174	147	-119	1,701
2002	182	147	-203	1,565
2003	186	141	300	1,932
2004	204	167	204	2,193
2005	223	189	146	2,393
2006	251	228	303	2,773
2007	273	261	215	2,975
2008	285	233	-770	2,203
2009	256	206	431	2,718
2010	265	243	337	3,119
2011	283	250	-1	3,112
2012	303	282	357	3,495
2013	325	326	645	4,148
2014	349	366	278	4,406
2015	N/A	N/A	N/A	4,445
2016	N/A	N/A	N/A	4,825

<sup>1</sup>Total contributions include both employer and employee contributions.

<sup>2</sup>Total benefits disbursed include both benefits paid directly from trust funds and premium payments made by plans to insurance carriers. Amounts exclude benefits paid directly by insurance carriers.

<sup>3</sup>This category includes interest, dividends, rent, net gains or losses on sale of assets, unrealized appreciation or depreciation of assets, and other income and expenses. The bulk of this category is net investment gains or losses.

<sup>4</sup>Estimates through 2014 are based on the Department of Labor Form 5500 Research File.

Note: Data exclude plans covering only one participant.

N/A = not available

Sources: Investment Company Institute and US Department of Labor

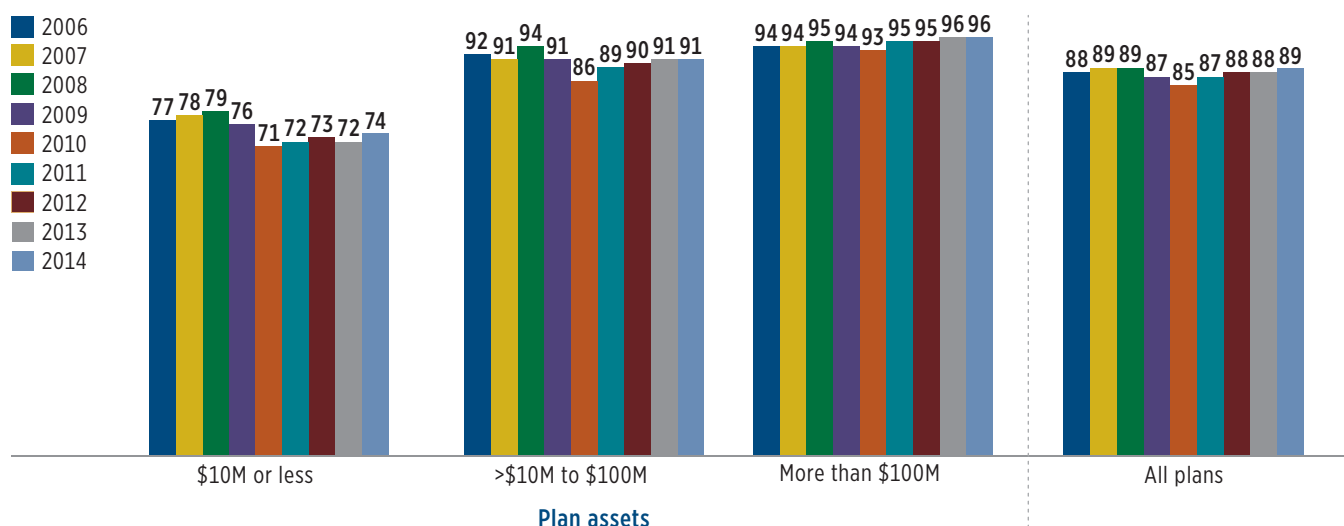
Contributions—which positively affect 401(k) plan account balances—include both employer and employee contributions, and most 401(k) participants are in plans where the employer contributes. In 2014, nearly nine in 10 participants were in 401(k) plans where the employer made contributions (Figure 9). Although this figure fell slightly in the wake of the financial market crisis, reaching a low of 85 percent in 2010, it had generally rebounded by the end of the longitudinal study. Regarding individual participants' contribution activity, defined contribution (DC) plan participants tend to continue contributing in any given year to their plans.<sup>14</sup>

Between year-end 2010 and year-end 2015, the US stock market generally rose (Figure 10), which tends to provide a boost to 401(k) plan accounts holding equities. On average, about two-thirds of the consistent sample of 401(k) participants' account balances were invested in equities (Figure 7). Subdued stock market performance in 2011 was followed by stronger growth in 2012 through 2014 (with particularly strong appreciation in 2013), but then followed by moderation in 2015 (Figure 10). Though contributions and loan repayments also play a role in the growth of the average 401(k) plan account balances observed, the pattern of account balance growth rates from year to year also reflects the stock market performance.

FIGURE 9

### Most 401(k) Plan Participants Are in Plans with Employer Contributions

Percentage of active 401(k) participants in plans with employer contributions (by plan assets, plan year 2006–2014)



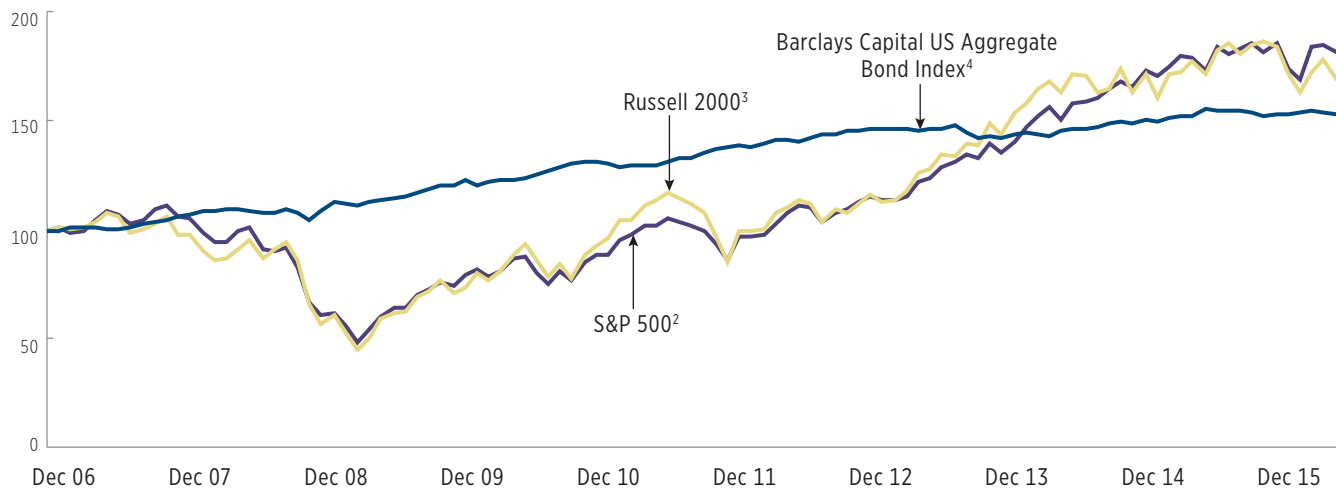
Source: ICI tabulations of US Department of Labor Form 5500 Research File



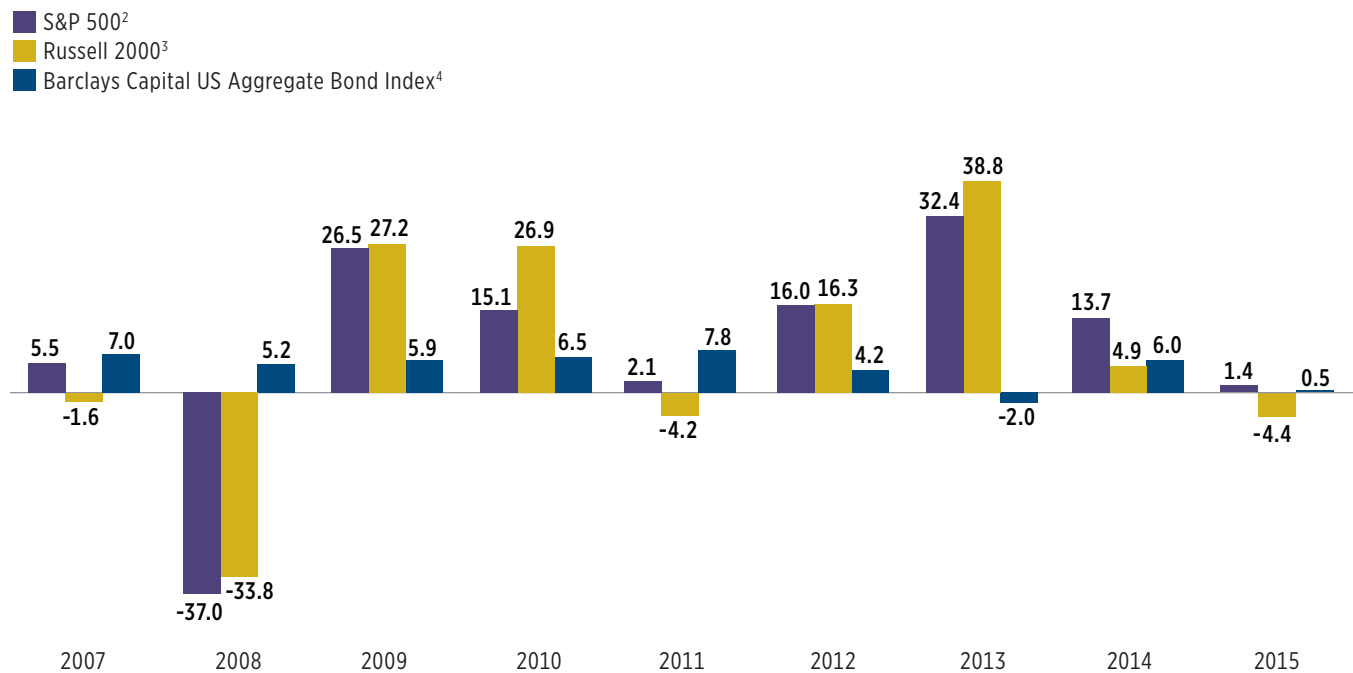
FIGURE 10

## Domestic Stock and Bond Market Indexes

Month-end level,<sup>1</sup> December 2006 to December 2015



### Annual percent change in total return index



<sup>1</sup> All indexes are set to 100 in December 2006.

<sup>2</sup> The S&P 500 index measures the performance of 500 stocks chosen for market size, liquidity, and industry group representation.

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

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

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

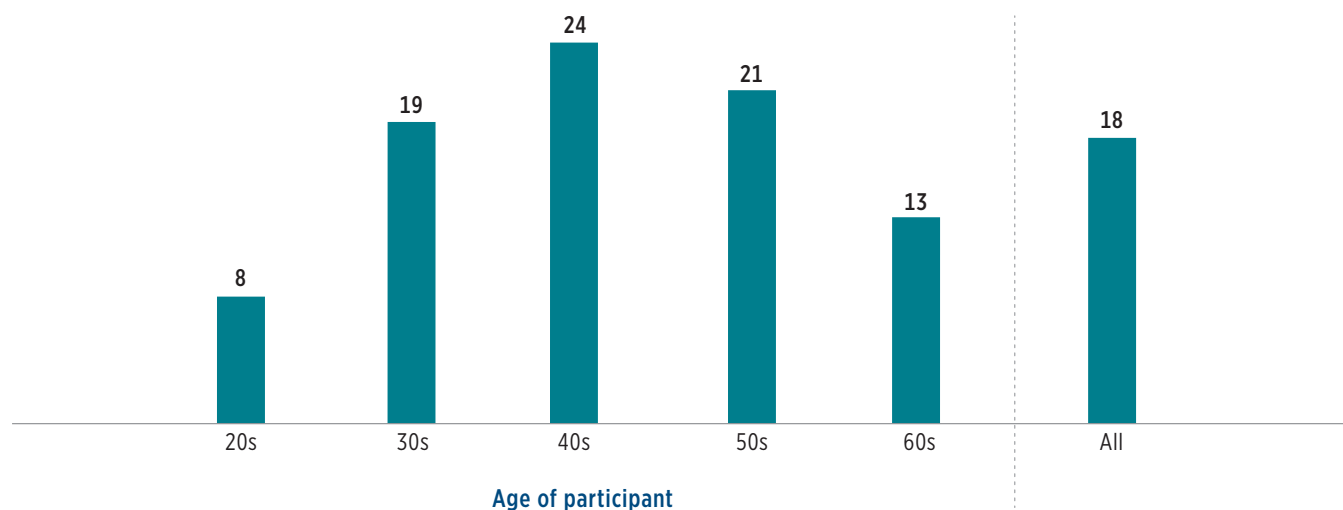
Withdrawals and borrowing reduce 401(k) plan account balances in the EBRI/ICI 401(k) database, while loan repayment has a positive impact. Withdrawal activity among active DC plan participants is relatively rare. Typically, fewer than 5 percent of active DC plan participants take any withdrawal in a given year, with fewer than 2 percent taking hardship withdrawals.<sup>15</sup> Data from the EBRI/ICI 401(k) database indicate that only 18 percent of 401(k) plan

participants in plans offering loans had loans outstanding at year-end 2015, with the youngest (8 percent of participants in their twenties) and oldest (13 percent of participants in their sixties) less likely to have loans outstanding than those in their thirties, forties, or fifties (Figure 11). In the database, a participant's account balance is reduced in the year that the loan is originated, but repayment of the loan in the ensuing years contributes to account growth.

FIGURE 11

### Less Than One-Fifth of Eligible 401(k) Plan Participants Have Loans Outstanding

Percentage of eligible 401(k) plan participants with loans outstanding, year-end 2015



Note: Eligible 401(k) plan participants are those in 401(k) plans that offer loans.

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

#### Additional Reading

- » **401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2015**  
[www.ici.org/pdf/per23-06.pdf](http://www.ici.org/pdf/per23-06.pdf)
- » **The BrightScope/ICI Defined Contribution Plan Profile: A Close Look at 401(k) Plans, 2014**  
[www.ici.org/pdf/ppr\\_16\\_dcplan\\_profile\\_401k.pdf](http://www.ici.org/pdf/ppr_16_dcplan_profile_401k.pdf)
- » **Defined Contribution Plan Participants' Activities, First Quarter 2017**  
[www.ici.org/pdf/ppr\\_17\\_rec\\_survey\\_q1.pdf](http://www.ici.org/pdf/ppr_17_rec_survey_q1.pdf)
- » **The US Retirement Market, Second Quarter 2017**  
[www.ici.org/info/ret\\_17\\_q2\\_data.xls](http://www.ici.org/info/ret_17_q2_data.xls)
- » **Ten Important Facts About 401(k) Plans**  
[www.ici.org/pdf/ten\\_facts\\_401k.pdf](http://www.ici.org/pdf/ten_facts_401k.pdf)

### *About the EBRI/ICI 401(k) Database*

The EBRI/ICI Participant-Directed Retirement Plan Data Collection Project is the largest, most representative repository of information about individual 401(k) plan participant accounts. As of December 31, 2015, the EBRI/ICI 401(k) database included statistical information about 26.1 million 401(k) plan participants, in 101,625 employer-sponsored 401(k) plans, holding \$1.9 trillion in assets. The 2015 EBRI/ICI 401(k) database covered 48 percent of the universe of active 401(k) plan participants, 18 percent of plans, and 43 percent of 401(k) plan assets. The EBRI/ICI project is unique because of its inclusion of data provided by a wide variety of plan recordkeepers, permitting the analysis of the activity of participants in 401(k) plans of varying sizes—from very large corporations to small businesses—with a variety of investment options.

### *Sources and Types of Data*

Several EBRI and ICI members provided records on active participants in 401(k) plans for which they kept records at year-end 2015.<sup>16</sup> These plan recordkeepers include mutual fund companies, banks, insurance companies, and consulting firms. Although the EBRI/ICI 401(k) project has collected data from 1996 through 2015, the universe of data providers varies from year to year. In addition, the plans using a particular provider can change over time. Records were encrypted to conceal the identity of employers and employees, but were coded so that both could be tracked over multiple years.<sup>17</sup> For each participant, data include 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>18</sup> Plan balances are constructed as the sum of all participant balances in the plan.

### *Investment Options*

In the EBRI/ICI 401(k) database, investment options are grouped into eight broad categories.<sup>19</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 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. Non-target date balanced funds include asset allocation or hybrid funds, in addition to lifestyle funds.<sup>20</sup> Company stock is equity in the 401(k) plan's sponsor (the employer). Money funds consist of those funds designed to maintain a stable share price. Stable value products, such as GICs<sup>21</sup> and other stable value funds,<sup>22</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 funds that could not be identified.<sup>23</sup>

## Notes

- <sup>1</sup> For example, as of December 31, 2015, the EBRI/ICI 401(k) database included statistical information on 26.1 million 401(k) plan participants, in 101,625 employer-sponsored 401(k) plans, holding \$1.9 trillion in assets (see Holden et al. 2017). Using National Compensation Survey data and historical relationships and trends evident in the Form 5500 data, EBRI and ICI estimate the number of active 401(k) participants to be about 54 million and the number of 401(k) plans to be about 550,000 in 2015 (see note 2 in Holden et al. 2017; and US Department of Labor, Employee Benefits Security Administration 2016). At year-end 2015, 401(k) plan assets were \$4.4 trillion (see Investment Company Institute 2017). The 2015 EBRI/ICI database covers 48 percent of the universe of 401(k) plan participants, 18 percent of plans, and 43 percent of 401(k) plan assets.
- <sup>2</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 retire and roll over their account balances.
- <sup>3</sup> Account balances are net of unpaid loan balances.
- <sup>4</sup> The value of this percentage is lower than it would have been if it merely reflected employee turnover and retirement. For example, if 401(k) plan sponsors change their service providers, all participants in those plans would be excluded from the consistent sample.
- <sup>5</sup> For the report on the year-end 2010 EBRI/ICI 401(k) database, see Holden et al. 2011.
- <sup>6</sup> Tenure refers to years at the current employer and is generally derived from date of hire reported for the participant. Tenure will not reflect the years of participation in the 401(k) plan if the 401(k) plan was added by the employer at a later date or if there are restrictions on participating in the 401(k) plan immediately upon hire.
- <sup>7</sup> Although the average account balance for the entire database at year-end 2015 is lower than the average account balance at year-end 2014 (Figure 4), this is entirely the result of participants and plans entering and leaving the database. Among the sample of participants who were present in the database in both 2014 and 2015, the average account balance increased by 3.1 percent between year-end 2014 and year-end 2015, from \$83,175 to \$85,729 (the average account balance calculated for the 19.4 million 401(k) plan participants who had account balances at both year-end 2014 and year-end 2015). See Holden et al. 2017.
- <sup>8</sup> The cross-sectional EBRI/ICI 401(k) database also shows that younger participants and those with shorter tenures tend to have lower 401(k) balances than those who are older or have longer tenures. See Holden et al. 2017.
- <sup>9</sup> Although, contribution amounts and contribution rates tend to increase with age and income. See Figures A2 and A3 in Brady 2017 or data tables in Internal Revenue Service, Statistics of Income 2016.
- <sup>10</sup> At year-end 2015, 59 percent of non-target date balanced fund assets were assumed to be invested in equities (see Investment Company Institute, Quarterly Supplementary Data). The allocation to equities in target date funds varies with the funds' target dates. For target date funds, investors were assumed to be in a fund whose target date was nearest to their 65th birthday. Allocation to equities in target date funds is assumed to vary with investor age. The equity portion was estimated using the industry average equity percentage for the assigned target date fund calculated using the Morningstar Lifecycle Allocation Indexes (see Morningstar 2015).
- <sup>11</sup> For a description of the investment options, see page 19.
- <sup>12</sup> See Holden and Schrass 2017.
- <sup>13</sup> For statistics indicating the higher propensity of withdrawals among participants in their sixties, see Holden and VanDerhei 2002. In addition, nonhardship withdrawals, which are generally limited to employees who are aged 59½ or older, constitute a majority of all withdrawals (see Utkus and Young 2017).
- <sup>14</sup> Data from the ICI Survey of Defined Contribution Plan Recordkeepers find that DC plan participants generally stayed the course through the financial crisis and ensuing years. During each year from 2010 through 2016, fewer than 3 percent of DC plan participants stopped contributing to their 401(k) plan accounts. Some of these participants may have stopped contributing because they reached the contribution limit. See Holden and Schrass 2017 for DC plan participants' annual activities between 2008 and 2016. For an analysis of contribution activity during the bear market of 2000–2002 using the cross-sectional EBRI/ICI 401(k) databases, see Holden and VanDerhei 2004. The analysis finds that, overall, 401(k) participants' contribution rates were little changed in 2000, 2001, and 2002 when compared to 1999. On average, 401(k) participants' contribution behavior does not appear to have been materially affected by the bear market in equities from 2000 through 2002, whether measured in dollar amounts or percentage of salary they contributed.
- <sup>15</sup> See Holden and Schrass 2017.

<sup>16</sup> For the complete update from the year-end 2015 EBRI/ICI 401(k) database, see Holden et al. 2017.

<sup>17</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>18</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>19</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 (see Holden and VanDerhei 2001). In addition, the preliminary analysis found that 401(k) participants are not naive—that is, when given  $n$  options, they do not divide their assets among all  $n$ . Indeed, less than 1 percent of participants followed a  $1/n$  asset allocation strategy. Plan Sponsor Council of America 2016 indicates that in 2015, the average number of investment fund options available for participant contributions was 19 among the more than 600 plans surveyed. Deloitte Consulting LLP 2017 reports that the average number of funds offered by the 160 401(k) plan sponsors surveyed was 19 in 2016. BrightScope and Investment Company Institute 2016 reports an average of 28 investment options in 2014, and an average of 22 investment options when a target date fund suite is counted as a single investment option.

<sup>20</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>21</sup> GICs are insurance company products that guarantee a specific rate of return on the invested capital over the life of the contract.

<sup>22</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>23</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.

## References

Barclays Capital US Aggregate Bond Index. San Francisco: Barclays Global Investors.

Bloomberg Data. New York: Bloomberg L.P.

Brady, Peter. 2017. “Who Participates in Retirement Plans.” *ICI Research Perspective* 23, no. 5 (July). Available at [www.ici.org/pdf/per23-05.pdf](http://www.ici.org/pdf/per23-05.pdf).

BrightScope and Investment Company Institute. 2016. *The BrightScope/ICI Defined Contribution Plan Profile: A Close Look at 401(k) Plans, 2014*. San Diego, CA: BrightScope and Washington, DC: Investment Company Institute. Available at [www.ici.org/pdf/ppr\\_16\\_dcplan\\_profile\\_401k.pdf](http://www.ici.org/pdf/ppr_16_dcplan_profile_401k.pdf).

Deloitte Consulting LLP. 2017. *Defined Contribution Benchmarking Survey—From Oversight to Participant Experience: Plan Sponsors Are Taking Their Fiduciary Role Up a Notch*. New York: Deloitte Consulting LLP. Available at [www2.deloitte.com/content/dam/Deloitte/us/Documents/human-capital/us-hc-defined-contributions-benchmarking-survey-report.pdf](http://www2.deloitte.com/content/dam/Deloitte/us/Documents/human-capital/us-hc-defined-contributions-benchmarking-survey-report.pdf).

Holden, Sarah, and Daniel Schrass. 2017. “Defined Contribution Plan Participants’ Activities, 2016.” *ICI Research Report* (June). Available at [www.ici.org/pdf/ppr\\_16\\_rec\\_survey\\_q4.pdf](http://www.ici.org/pdf/ppr_16_rec_survey_q4.pdf).

Holden, Sarah, and Jack VanDerhei. 2001. “The Impact of Employer-Selected Investment Options on 401(k) Plan Participants’ Asset Allocations: Preliminary Findings.” Working paper prepared for the Center for Pension and Retirement Research (CPRR) Current Pension Policy Issues Conference, Miami University, Oxford, OH (June 8–9).

Holden, Sarah, and Jack VanDerhei. 2002. “Can 401(k) Accumulations Generate Significant Income for Future Retirees?” *Investment Company Institute Perspective* 8, no. 3, and *EBRI Issue Brief*, no. 251 (November). Available at [www.ici.org/pdf/per08-03.pdf](http://www.ici.org/pdf/per08-03.pdf) and [www.ebri.org/pdf/briefspdf/1102ib.pdf](http://www.ebri.org/pdf/briefspdf/1102ib.pdf).

Holden, Sarah, and Jack VanDerhei. 2004. “Contribution Behavior of 401(k) Plan Participants During Bull and Bear Markets.” National Tax Association Proceedings, Ninety-Sixth Annual Conference on Taxation, November 13–15, 2003, Chicago: 44–53. Washington, DC: National Tax Association.

Holden, Sarah, Jack VanDerhei, Luis Alonso, and Steven Bass. 2011. “401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2010.” *ICI Research Perspective* 17, no. 10, and *EBRI Issue Brief*, no. 366 (December). Available at [www.ici.org/pdf/per17-10.pdf](http://www.ici.org/pdf/per17-10.pdf) and [www.ebri.org/pdf/briefspdf/EBRI\\_IB\\_12-2011\\_No366\\_401\(k\)-Update.pdf](http://www.ebri.org/pdf/briefspdf/EBRI_IB_12-2011_No366_401(k)-Update.pdf).

Holden, Sarah, Jack VanDerhei, Luis Alonso, and Steven Bass. 2016. “What Does Consistent Participation in 401(k) Plans Generate? Changes in 401(k) Plan Account Balances, 2007–2014.” *ICI Research Perspective* 22, no. 5, and *EBRI Issue Brief*, no. 426 (September). Available at [www.ici.org/pdf/per22-05.pdf](http://www.ici.org/pdf/per22-05.pdf) and [www.ebri.org/pdf/briefspdf/EBRI\\_IB\\_426.Sept16.Consist-Ks.pdf](http://www.ebri.org/pdf/briefspdf/EBRI_IB_426.Sept16.Consist-Ks.pdf).

Holden, Sarah, Jack VanDerhei, Luis Alonso, and Steven Bass. 2017. “401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2015.” *ICI Research Perspective* 23, no. 6, and *EBRI Issue Brief*, no. 436 (August). Available at [www.ici.org/pdf/per23-06.pdf](http://www.ici.org/pdf/per23-06.pdf) and [www.ebri.org/pdf/briefspdf/EBRI\\_IB\\_436\\_K-update.3Aug17.pdf](http://www.ebri.org/pdf/briefspdf/EBRI_IB_436_K-update.3Aug17.pdf).

Internal Revenue Service, Statistics of Income. 2016. *SOI Tax Stats: Individual Information Return Form W-2 Statistics*. Available at [www.irs.gov/statistics/soi-tax-stats-individual-information-return-form-w2-statistics](http://www.irs.gov/statistics/soi-tax-stats-individual-information-return-form-w2-statistics).

Investment Company Institute. Quarterly Supplementary Data. Washington, DC: Investment Company Institute.

Investment Company Institute. 2017. "The US Retirement Market, Second Quarter 2017" (September). Available at [www.ici.org/research/stats/retirement/ret\\_17\\_q2](http://www.ici.org/research/stats/retirement/ret_17_q2).

Morningstar. 2015. *Morningstar Lifecycle Allocation Indexes—US Investors* (June). Chicago: Morningstar, Inc. Available at [corporate.morningstar.com/us/documents/Indexes/AssetAllocationsSummary.pdf](http://corporate.morningstar.com/us/documents/Indexes/AssetAllocationsSummary.pdf).

Plan Sponsor Council of America. 2016. *59th Annual Survey of Profit Sharing and 401(k) Plans: Reflecting 2015 Plan Experience*. Chicago: Plan Sponsor Council of America.

Russell 2000 index. Tacoma, WA: Frank Russell Company.

S&P 500. New York: Standard & Poor's.

US Department of Labor, Employee Benefits Security Administration. 2016. *Private Pension Plan Bulletin, Abstract of 2014 Form 5500 Annual Reports* (Version 1.0). Washington, DC: US Department of Labor, Employee Benefits Security Administration (September). Available at [www.dol.gov/sites/default/files/ebsa/researchers/statistics/retirement-bulletins/private-pension-plan-bulletins-abstract-2014.pdf](http://www.dol.gov/sites/default/files/ebsa/researchers/statistics/retirement-bulletins/private-pension-plan-bulletins-abstract-2014.pdf).

Utkus, Stephen P., and Jean A. Young. 2017. *How America Saves 2017: A Report on Vanguard 2016 Defined Contribution Plan Data*. Valley Forge, PA: The Vanguard Group, Vanguard Center for Retirement Research. Available at [pressroom.vanguard.com/nonindexed/How-America-Saves-2017.pdf](http://pressroom.vanguard.com/nonindexed/How-America-Saves-2017.pdf).

### *Sarah Holden*

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

### *Jack VanDerhei*

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

### *Luis Alonso*

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

### *Steven Bass*

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



1401 H Street, NW  
Washington, DC 20005  
202-326-5800  
[www.ici.org](http://www.ici.org)

Copyright © 2017 by the Investment Company Institute. All rights reserved.

The Investment Company Institute (ICI) is the leading association representing regulated funds globally, including mutual funds, exchange-traded funds (ETFs), closed-end funds, and unit investment trusts (UITs) in the United States, and similar funds offered to investors in jurisdictions worldwide. ICI seeks to encourage adherence to high ethical standards, promote public understanding, and otherwise advance the interests of funds, their shareholders, directors, and advisers.