

## Changes in 401(k) Plan Asset Allocation Among Consistent Participants, 2010–2018

By Sarah Holden, ICI; Jack VanDerhei, EBRI; and Steven Bass, ICI

### AT A GLANCE

This paper provides an update of a longitudinal analysis of 401(k) plan participants drawn from the EBRI/ICI 401(k) database. The Employee Benefit Research Institute (EBRI)<sup>1</sup> and the Investment Company Institute (ICI)<sup>2</sup> also produce an annual cross-sectional analysis, which covers 401(k) plan participants with a wide range of participant experience. But that snapshot cannot determine how 401(k) participants' asset allocations change over the years. For example, because of changing samples of providers, plans, and participants, changes in asset allocation for the entire database are not a reliable measure of how individual participants have acted. A consistent sample is necessary to accurately gauge changes, such as in exposure to equities or target date fund use, for individual 401(k) plan participants over time. This paper will examine the accounts of consistent participants, that is, those who maintained accounts in each year from 2010 through 2018.

#### Key findings:

**Consistent 401(k) participants' exposure to equities was relatively unchanged between year-end 2010 and year-end 2018.** At year-end 2010, 93.3 percent of consistent 401(k) plan participants held some equities (equity funds, target date funds, non-target date balanced funds, or company stock). This was little changed at year-end 2018, with 93.5 percent of consistent 401(k) plan participants holding equities. Movement toward holding some equities was highest among participants in their twenties: 92.4 percent held equities at year-end 2010 and 94.2 percent held equities at year-end 2018.

**Consistent 401(k) participants — especially those in the older age cohorts — increased their exposure to target date funds between year-end 2010 and year-end 2018.** At year-end 2010, 49.9 percent of consistent 401(k) participants held at least some target date fund investments in their 401(k) accounts, and that share increased to 56.4 percent at year-end 2018. All age groups increased their exposure to target date funds. However, the largest net movement toward target date fund use over the period occurred among consistent 401(k) participants in their forties, fifties, and sixties. Participants in their twenties had the highest use of target date funds in both time periods but experienced the smallest net change.

**Most consistent 401(k) participants who were fully invested in target date funds at year-end 2010 remained fully invested in target date funds at year-end 2018.** Among consistent 401(k) plan participants who were fully invested in target date funds at year-end 2010, nearly 75 percent remained fully invested in target date funds at year-end 2018. This high level of persistence in target date fund investing was observed across all participant age groups.

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# Changes in 401(k) Plan Asset Allocation Among Consistent Participants, 2010–2018

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## 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. 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.<sup>3</sup>

Figure 1  
Average Asset Allocation of 401(k) Plan Accounts by Participant Age  
Percentage of 401(k) plan account balances

Year-End 2010										
Balanced Funds										
Age Group	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	24.4%	46.3%	3.4%	3.6%	5.2%	5.4%	9.1%	0.8%	1.8%
30s	34.1%	34.7%	4.6%	4.9%	2.3%	5.7%	10.3%	1.4%	1.9%	77.4%
40s	44.7%	20.4%	5.0%	6.0%	2.9%	6.6%	10.6%	2.2%	1.5%	74.2%
50s	44.4%	15.2%	5.7%	7.0%	3.9%	9.1%	10.7%	2.7%	1.3%	67.3%
60s	38.9%	14.9%	5.9%	8.7%	6.4%	12.4%	9.1%	2.4%	1.2%	57.9%
<b>All consistent sample<sup>5</sup></b>	<b>41.8%</b>	<b>16.6%</b>	<b>5.6%</b>	<b>7.3%</b>	<b>5.0%</b>	<b>9.9%</b>	<b>10.0%</b>	<b>2.4%</b>	<b>1.3%</b>	<b>65.1%</b>
Year-End 2018										
Balanced Funds										
Age Group	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	19.9%	55.6%	3.0%	2.8%	1.4%	2.2%	6.2%	7.1%	1.8%
30s	35.6%	37.8%	3.0%	4.1%	1.2%	3.1%	7.8%	5.7%	1.8%	78.7%
40s	43.6%	25.8%	3.8%	5.4%	1.6%	4.6%	7.9%	5.4%	1.9%	74.0%
50s	42.4%	21.7%	4.5%	7.1%	2.6%	7.4%	7.6%	4.8%	2.0%	65.3%
60s	36.4%	21.2%	4.7%	8.9%	3.2%	12.3%	6.3%	4.7%	2.3%	54.8%
<b>All consistent sample<sup>5</sup></b>	<b>40.6%</b>	<b>23.5%</b>	<b>4.3%</b>	<b>7.0%</b>	<b>2.4%</b>	<b>7.8%</b>	<b>7.3%</b>	<b>4.9%</b>	<b>2.1%</b>	<b>65.4%</b>

<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 1.9 million 401(k) plan participants with account balances at the end of each year from 2010 through 2018.

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 2018. Percentages are dollar-weighted averages.

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

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 consistent participation in 401(k) plans. 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>4</sup> In addition, examining changes in aggregate asset allocation among the entire database may neglect important variation in activity among individual participants. To explore the full scope of ongoing participation in 401(k) plans, and to understand how 401(k) plan participants have behaved over recent years, 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, year-end 2010 through year-end 2018.<sup>5</sup>

### **Sample of Consistent 401(k) Participants, 2010–2018**

Among the 401(k) participants with accounts at the end of 2010 in the EBRI/ICI 401(k) database, 1.9 million are in the consistent sample.<sup>6</sup> These consistent participants had accounts at the end of each year from 2010 through 2018; they make up a longitudinal sample, which removes the effect of participants and plans entering and leaving the database. Over this period, the consistent participants' aggregate allocation to equities was relatively unchanged, from 65.1 percent of 401(k) plan assets at year-end 2010 to 65.4 percent at year-end 2018 (Figure 1). However, their allocation to target date funds increased substantially: from 16.6 percent of aggregate 401(k) plan assets at year-end 2010 to 23.5 percent at year-end 2018.

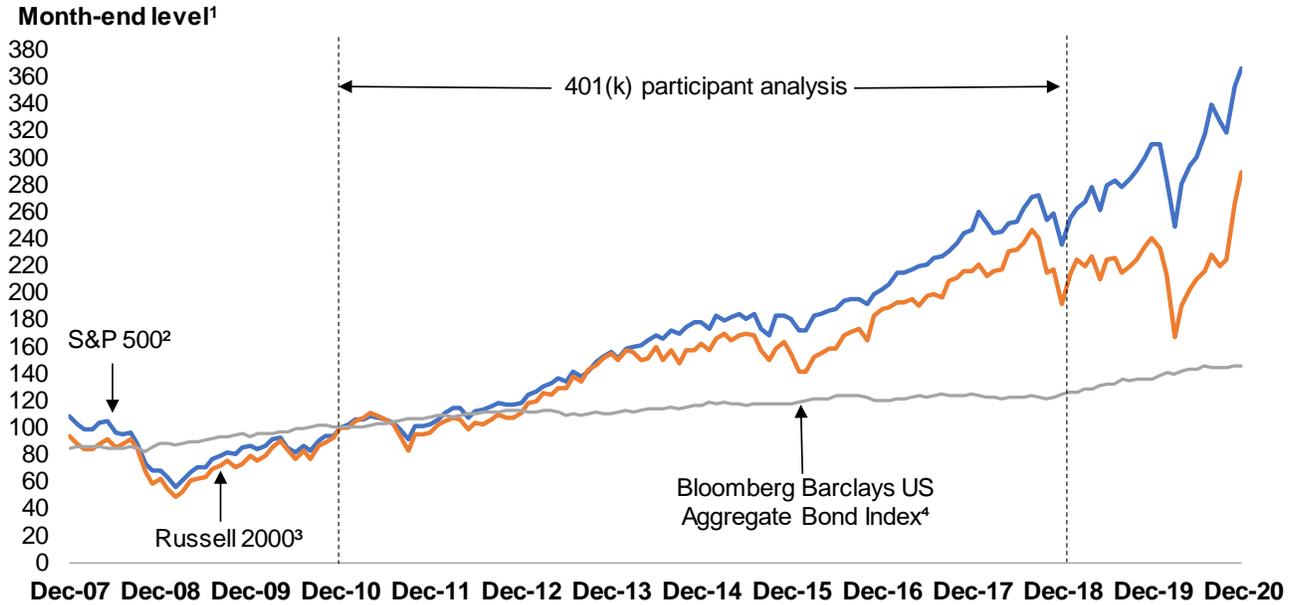
### **Changes in Consistent 401(k) Participants' Allocations to Equities and Target Date Funds**

Changes in 401(k) plan asset allocation are determined by three factors:

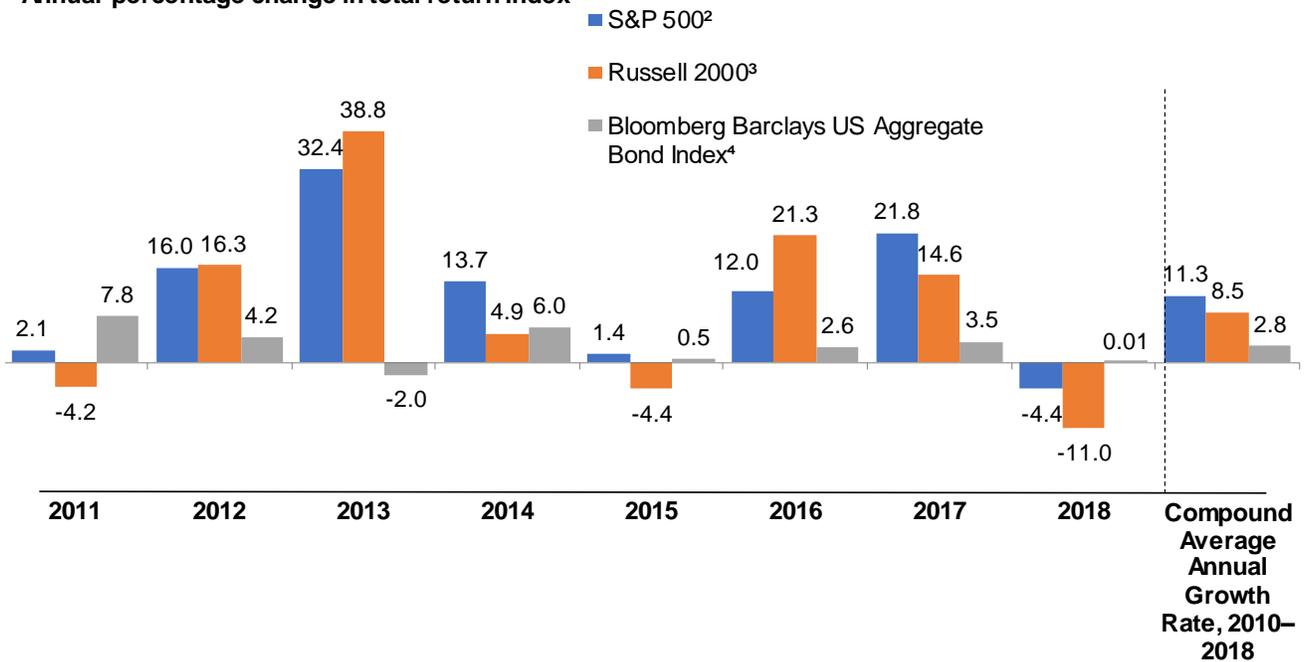
- Gains or losses on the investments held in the 401(k) plan account.
- Contributions to or withdrawals from the account in a different proportion than the existing mix of assets.
- Changes to the assets held inside of the account (including changes in the underlying asset allocation of funds, such as target date funds).

Between year-end 2010 and year-end 2018, stock markets generally appreciated more than bond markets (Figure 2). All else equal, this would have tended to increase the proportion of 401(k) plan assets invested in equities. However, allocation to equities was essentially constant over the period (65.1 percent at year-end 2010 and 65.4 percent at year-end 2018). While it is not possible to directly observe the impact of each of these factors inside the EBRI/ICI 401(k) database, it is possible to observe whether participants entered or exited an asset class entirely over the period analyzed. To gain insight into participant behavior, changes in allocation to equities overall — and to target date funds, in particular — are examined. For the most part, there were relatively small changes in consistent 401(k) plan participants' exposure to equities between year-end 2010 and year-end 2018, and moderate increases in their exposure to target date funds.

Figure 2  
Domestic Stock and Bond Market Indexes



Annual percentage change in total return index



<sup>1</sup> All indexes are set to 100 in December 2010.

<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> The Bloomberg Barclays 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

## Exposure to Equities Changed Little Among Consistent 401(k) Participants Between 2010 and 2018

### Changes in Consistent 401(k) Participants' Allocations to Equities

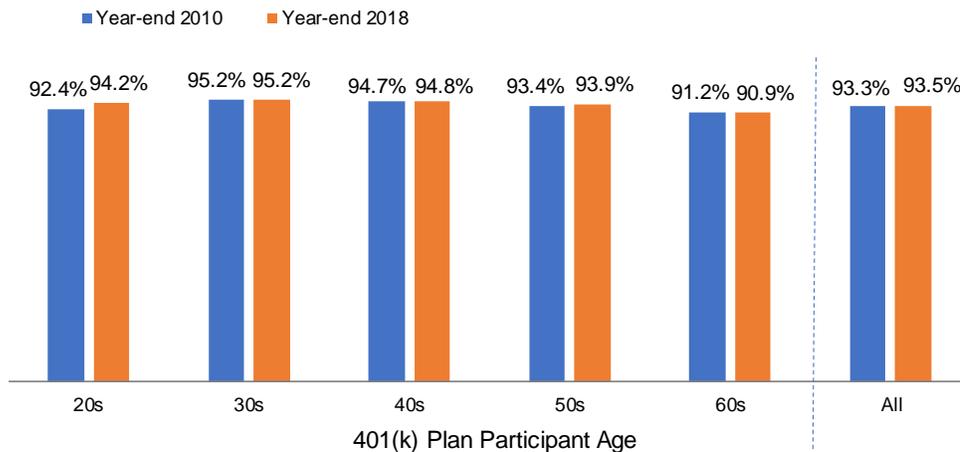
At both year-end 2010 and year-end 2018, the vast majority of consistent 401(k) plan participants had at least some exposure to equities, whether through equity funds, the equity portion of target date funds, the equity portion of non-target date balanced funds, or company stock. The share of consistent 401(k) participants who held at least some equities in their 401(k) accounts changed little from year-end 2010 (93.3 percent) to year-end 2018 (93.5 percent) (Figure 3). Increased equity exposure was concentrated among participants in their twenties: 92.4 percent of them held equities at year-end 2010, and that share increased to 94.2 percent at year-end 2018. Consistent participants in their sixties slightly reduced their exposure to equities from 91.2 percent of participants to 90.9 percent over the same period. The decline in the ownership of equities among older participants is consistent with standard financial advice emphasizing decreasing investment risk as individuals approach retirement.<sup>7</sup>

Figure 3

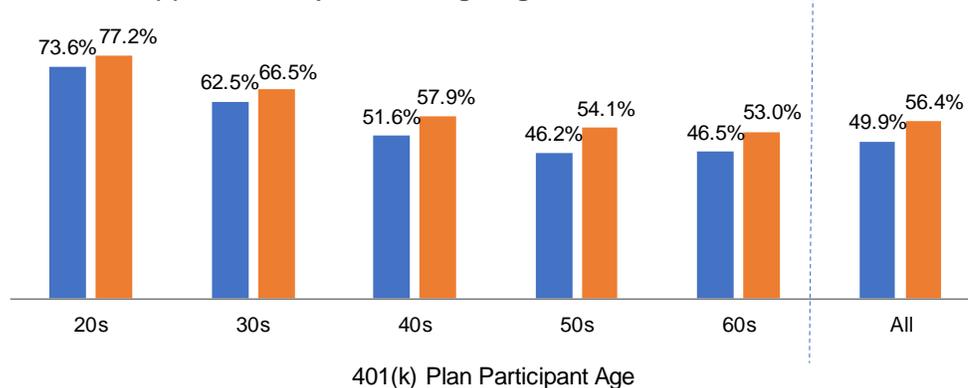
### Most Consistent 401(k) Participants Hold Equities in Both 2010 and 2018

Percentage of consistent 401(k) participants by age, year-end 2010 and year-end 2018

#### Consistent 401(k) Plan Participants Holding Equities



#### Consistent 401(k) Plan Participants Holding Target Date Funds



Note: Equities include equity funds, company stock, the equity portion of target date funds, and the equity portion of 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. Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated. The consistent sample is 1.9 million 401(k) plan participants with account balances at the end of each year from 2010 through 2018. Age group is based on the participant's age at year-end 2018.

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

All age groups in the sample of consistent 401(k) participants moved away from full allocations to equities between year-end 2010 and year-end 2018. For example, 6.4 percent of consistent 401(k) participants in their twenties had 100 percent of their account invested in equities at year-end 2010, compared with 3.0 percent at year-end 2018 (Figure 4). At the other end of the age spectrum, consistent 401(k) participants in their sixties also moved away from 100 percent concentrations in equities: 8.6 percent of consistent 401(k) participants in their sixties had 100 percent of their account invested in equities at year-end 2010, compared with 6.1 percent at year-end 2018.

Figure 4  
**Changes in 100 Percent Allocation to Equities Among Consistent 401(k) Participants Between 2010 and 2018**  
 Percentage of consistent 401(k) participants by age, year-end 2010 and year-end 2018

Age	Moved Away From		Remained at 100 Percent	Moved to 100		Net Change	100 Percent in 2018
	100 Percent in 2010	100 Percent by 2018		Percent by 2018	100 Percent in 2018		
20s	6.4%	-4.6%	1.8%	1.2%	-3.4%	3.0%	
30s	7.3%	-4.5%	2.8%	2.4%	-2.1%	5.2%	
40s	9.3%	-5.3%	4.0%	2.6%	-2.7%	6.6%	
50s	10.0%	-5.8%	4.2%	2.5%	-3.3%	6.7%	
60s	8.6%	-4.8%	3.8%	2.3%	-2.5%	6.1%	
<b>All</b>	<b>9.2%</b>	<b>-5.2%</b>	<b>4.0%</b>	<b>2.5%</b>	<b>-2.7%</b>	<b>6.5%</b>	

Note: Equities include equity funds, company stock, the equity portion of target date funds, and the equity portion of non-target date balanced funds. Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated. The consistent sample is 1.9 million 401(k) plan participants with account balances at the end of each year from 2010 through 2018. Age group is based on the participant's age at year-end 2018.  
 Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

**Evidence of Reallocation Activity to or From Equities Among Consistent 401(k) Participants**

Movement in the concentration of equities in 401(k) participants' accounts results from changes in stock values, in addition to reallocation activity by participants. Although information on specific trading activity of 401(k) participants is not available in the EBRI/ICI 401(k) database,<sup>8</sup> it is possible to observe activity away from or to zero or 100 percent equity holdings at year-end. Among consistent 401(k) participants between year-end 2010 and year-end 2018, few moved toward, or away from, these extremes of equity holdings. For example, analyzing the group of consistent 401(k) participants at year-end 2018, the data show that 0.2 percent, on net, moved away from a zero equities allocation — 6.7 percent of this group had no equities at year-end 2010 and 6.5 percent had no equities at year-end 2018 (Figure 5). This net change reflects 3.0 percent moving from zero equities to at least some, 2.8 percent moving from some to zero, and 3.7 percent sticking with zero holdings in both 2010 and 2018. While the youngest 401(k) participants were more likely to move to holding some equities than older 401(k) participants, the oldest group of 401(k) participants displayed slight reallocation activity toward a zero equities allocation. Some of the activity of older participants could have been in anticipation of retirement rather than in response to financial market movements. Indeed, household survey information indicates that households anticipate rebalancing their portfolios as they age.<sup>9</sup>

Few consistent 401(k) participants had their entire 401(k) balances invested in equities, and net movement away from that full concentration occurred between year-end 2010 and year-end 2018. To be 100 percent invested in equities, the 401(k) investor would have allocated their full 401(k) balance to equity funds and/or company stock.<sup>10</sup> Analyzing the group of consistent 401(k) participants at year-end 2018, the data show that 2.7 percent, on net, moved away from a 100 percent equities allocation — 9.2 percent of this group at year-end 2010 and 6.5 percent at year-end 2018 were 100 percent invested in equities (Figure 4). This net change reflects 5.2 percent moving away from the 100 percent allocation to something less, 2.5 percent moving to a 100 percent allocation, and 4.0 percent sticking with 100 percent allocation to equities in both 2010 and 2018. In other words, 43 percent of consistent 401(k) participants with their 401(k) accounts fully invested in equities at year-end 2010 were fully invested in equities at year-end 2018.

Figure 5  
**Changes in Zero Allocation to Equities Among Consistent 401(k) Participants Between 2010 and 2018**  
 Percentage of consistent 401(k) participants by age, year-end 2010 and year-end 2018

Age	Moved Away From Zero by		Remained at Zero	Moved to Zero by 2018	Net Change	Zero in 2018
	Zero in 2010	2018				
20s	7.6%	-5.2%	2.4%	3.4%	-1.8%	5.8%
30s	4.8%	-2.7%	2.1%	2.7%	0.0%	4.8%
40s	5.3%	-2.5%	2.8%	2.4%	-0.1%	5.2%
50s	6.6%	-3.0%	3.6%	2.5%	-0.5%	6.1%
60s	8.8%	-3.6%	5.2%	3.9%	0.3%	9.1%
<b>All</b>	<b>6.7%</b>	<b>-3.0%</b>	<b>3.7%</b>	<b>2.8%</b>	<b>-0.2%</b>	<b>6.5%</b>

Note: Equities include equity funds, company stock, the equity portion of target date funds, and the equity portion of non-target date balanced funds. Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated. The consistent sample is 1.9 million 401(k) plan participants with account balances at the end of each year from 2010 through 2018. Age group is based on the participant's age at year-end 2018.  
 Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

**Exposure to Target Date Funds Has Increased Among Consistent 401(k) Participants Between 2010 and 2018**

***Changes in Consistent 401(k) Participants' Allocations to Target Date Funds***

Between year-end 2010 and year-end 2018, consistent 401(k) participants' use of target date funds increased, with more participants moving into than out of these funds, on net. At year-end 2010, 49.9 percent of consistent 401(k) participants held at least some target date fund investments in their 401(k) accounts, and that share increased to 56.4 percent at year-end 2018, with the growth occurring across all age groups (Figure 3). In both years, younger 401(k) participants were more likely to hold some target date fund investments, compared with older participants: 77.2 percent of consistent 401(k) participants in their twenties had target date funds in their 401(k) accounts at year-end 2018, compared with 53.0 percent of consistent 401(k) participants in their sixties. Nevertheless, the largest net movement toward target date fund use over the period occurred among consistent 401(k) participants in their forties, fifties, and sixties. Net movement toward target date funds was lowest among those in their twenties, although their allocation to target date funds was the highest across the age groups.<sup>11</sup>

At year-end 2010, 17.9 percent of consistent 401(k) participants had their entire account balance invested in target date funds, slightly higher than the share at year-end 2018 (16.9 percent), but movements to or away from such a full allocation varied by participant age (Figure 6). Younger consistent 401(k) participants moved away from a 100 percent allocation, on net, while older consistent 401(k) participants edged toward a 100 percent allocation to target date funds, on net. For example, 60.7 percent of consistent 401(k) participants in their twenties had 100 percent of their 401(k) plan account invested in target date funds at year-end 2010, compared with 46.1 percent at year-end 2018. At the other end of the age spectrum, consistent 401(k) participants in their sixties moved toward a 100 percent concentration in target date funds, on net: 15.1 percent of consistent 401(k) participants in their sixties had 100 percent of their 401(k) plan account invested in target date funds at year-end 2010, compared with 16.5 percent at year-end 2018.

***Evidence of Reallocation Activity to or From Target Date Funds Among Consistent 401(k) Participants***

Movement in the share of target date funds in 401(k) participants' accounts results from changes in the value of their target date fund assets relative to the other investments in the 401(k) account, which depends on the relative performance of stocks versus fixed-income securities, in addition to reallocation activity by participants. Although information on specific trading activity of 401(k) participants is not available in the EBRI/ICI 401(k) database, it is possible to observe activity into or out of zero or 100 percent investment in target date funds at year-end.

Figure 6

**Changes in 100 Percent Allocation to Target Date Funds Among Consistent 401(k) Participants Between 2010 and 2018**

Percentage of consistent 401(k) participants by age, year-end 2010 and year-end 2018

Age	100 Percent in 2010	Moved Away From 100 Percent by 2018	Remained at 100 Percent	Moved to 100 Percent by 2018	Net Change	100 Percent in 2018
20s	60.7%	-17.8%	42.9%	3.2%	-14.6%	46.1%
30s	30.6%	-8.0%	22.6%	3.2%	-4.8%	25.8%
40s	18.3%	-5.1%	13.2%	3.0%	-2.1%	16.2%
50s	14.4%	-3.8%	10.6%	3.1%	-0.7%	13.7%
60s	15.1%	-3.4%	11.7%	4.8%	1.4%	16.5%
<b>All</b>	<b>17.9%</b>	<b>-4.6%</b>	<b>13.3%</b>	<b>3.6%</b>	<b>-1.0%</b>	<b>16.9%</b>

Note: 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. Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated. The consistent sample is 1.9 million 401(k) plan participants with account balances at the end of each year from 2010 through 2018. Age group is based on the participant's age at year-end 2018.

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

Among consistent 401(k) participants between year-end 2010 and year-end 2018, there was net movement toward increased exposure to target date funds. For example, analyzing the group of consistent 401(k) participants at year-end 2018, the data show that 6.5 percent, on net, moved away from a zero target date fund allocation — 50.1 percent of this group had no target date funds at year-end 2010 and 43.6 percent had no target date funds at year-end 2018 (Figure 7). This net change reflects 12.8 percent moving from zero target date funds to at least some, 6.3 percent moving from some to zero, and 37.3 percent sticking with zero holdings in both 2010 and 2018. Net movement toward target date fund use was highest among participants in their forties, fifties, or sixties, and lowest among those in their twenties.

Figure 7

**Changes in Zero Allocation to Target Date Funds Among Consistent 401(k) Participants Between 2010 and 2018**

Percentage of consistent 401(k) participants by age, year-end 2010 and year-end 2018

Age	Zero in 2010	Moved Away From Zero by 2018	Remained at Zero	Moved to Zero by 2018	Net Change	Zero in 2018
20s	26.4%	-11.3%	15.1%	7.7%	-3.6%	22.8%
30s	37.5%	-11.0%	26.5%	7.0%	-4.0%	33.5%
40s	48.4%	-12.5%	35.9%	6.2%	-6.3%	42.1%
50s	53.8%	-14.0%	39.8%	6.1%	-7.9%	45.9%
60s	53.5%	-12.8%	40.7%	6.3%	-6.5%	47.0%
<b>All</b>	<b>50.1%</b>	<b>-12.8%</b>	<b>37.3%</b>	<b>6.3%</b>	<b>-6.5%</b>	<b>43.6%</b>

Note: 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. Funds include mutual funds, bank collective trusts, life insurance separate accounts, and any pooled investment product primarily invested in the security indicated. The consistent sample is 1.9 million 401(k) plan participants with account balances at the end of each year from 2010 through 2018. Age group is based on the participant's age at year-end 2018.

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

Analyzing the group of consistent 401(k) participants at year-end 2018, the data show slight movement away from a 100 percent target date fund allocation — 17.9 percent of this group at year-end 2010 and 16.9 percent at year-end 2018 were 100 percent invested in target date funds (Figure 6). However, even though there was nearly no net change, some participants did reallocate their assets: 4.6 percent of consistent 401(k) participants moved away from the 100 percent allocation to something less, 3.6 percent moved to a 100 percent allocation, and 13.3 percent stuck

with a 100 percent allocation to target date funds in both 2010 and 2018. In other words, nearly 75 percent of consistent 401(k) participants with their 401(k) accounts fully invested in target date funds at year-end 2010 were fully invested in target date funds at year-end 2018. This high level of persistence in target date fund investing was observed across all participant age groups, although the lowest level of participants remaining 100 percent allocated to target date funds from 2010 to 2018 (71 percent) was seen among consistent 401(k) participants in their twenties.

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

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 for year-end 2010 through year-end 2018.<sup>12</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 2018, 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>13</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>14</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>15</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>16</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 guaranteed investment contracts (GICs)<sup>17</sup> and other stable value funds,<sup>18</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>19</sup>

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## Notes

<sup>1</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>2</sup> The Investment Company Institute (ICI) is the leading association representing regulated funds globally, including mutual funds, exchange-traded funds (ETFs), closed-end funds, and unit investment trusts (UITs) in the United States, and similar funds offered to investors in jurisdictions worldwide. ICI seeks to encourage adherence to high ethical standards, promote public understanding, and otherwise advance the interests of funds, their shareholders, directors, and advisers. ICI carries out its international work through ICI Global, with offices in Washington, DC, London, Brussels, and Hong Kong.

<sup>3</sup> For the results of the year-end 2018 update of the EBRI/ICI 401(k) database, see Holden, VanDerhei, and Bass 2021a.

<sup>4</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>5</sup> For a more detailed description of the 2010–2018 longitudinal sample, see Holden, VanDerhei, and Bass 2020.

<sup>6</sup> This number 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>7</sup> For discussion of how US households' investments change over the life cycle, see Sabelhaus, Bogdan, and Schrass 2008.

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<sup>8</sup> The Investment Company Institute tracks reallocation of account balances and changes to the asset allocation of contributions for a sample of recordkeepers. The survey results indicate a minority of DC plan participants change their asset allocation in any given period. For example, 10.6 percent of DC plan participants changed the asset allocation of their account balances, and 6.3 percent changed the asset allocation of their contributions in 2020 (see Holden, Schrass, and Chism 2021a). For the most recent update covering the first half of 2021, see Holden, Schrass, and Chism 2021b.

<sup>9</sup> See Sabelhaus, Bogdan, and Schrass 2008.

<sup>10</sup> Because no target date funds have a 100 percent equity allocation, investors with a 100 percent allocation to target date funds would not be counted as having 100 percent equities.

<sup>11</sup> For a detailed analysis of 401(k) plan participants' use of target date funds by participant age or job tenure in the year-end 2018 cross-sectional EBRI/ICI 401(k) database, see Holden, VanDerhei, and Bass 2021b. Among 401(k) plan participants holding target date funds at year-end 2018, 88 percent held one age-appropriate target date fund.

<sup>12</sup> For the complete update from the year-end 2018 EBRI/ICI 401(k) database, see Holden, VanDerhei, and Bass 2021a.

<sup>13</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>14</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>15</sup> This system of classification does not consider the number or types of distinct investment options presented to a given participant, but rather, the types of options chosen by participants. Plan Sponsor Council of America 2020 indicates that in 2019, the average number of investment fund options available for participant contributions was 19 among the 602 plans surveyed. BrightScope and Investment Company Institute 2021 reports an average of 28 investment options in 2018, and an average of 21 investment options when a target date fund suite is counted as a single investment option.

<sup>16</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>17</sup> GICs are insurance company products that guarantee a specific rate of return on the invested capital over the life of the contract.

<sup>18</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>19</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.