

## What Does Consistent Participation in 401(k) Plans Generate? Changes in 401(k) Plan Account Balances, 2016–2020

*By Sarah Holden, ICI; Steven Bass, ICI; and Craig Copeland, EBRI*

### Key Findings:

This paper provides an update of a longitudinal analysis of 401(k) plan participants drawn from the EBRI/ICI 401(k) database.

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). For example, 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 accurately gauge changes, such as growth in account balances, experienced by individual 401(k) plan participants over time.

### **A few key insights emerge from looking at the 3.7 million consistent participants in the EBRI/ICI 401(k) database over the four-year period from year-end 2016 to year-end 2020.**

- The average 401(k) plan account balance for consistent participants rose each year from year-end 2016 through year-end 2020. Overall, the average account balance increased at a compound annual average growth rate of 19.4 percent from 2016 to 2020, rising from \$78,008 to \$158,361 at year-end 2020.
- The median 401(k) plan account balance for consistent participants increased at a compound annual average growth rate of 28.3 percent over the period, to \$62,134 at year-end 2020.

**Younger 401(k) participants or those with smaller year-end 2016 balances experienced higher percentage growth in account balances compared with older participants or those with larger year-end 2016 balances.** Three primary factors affect account balances: contributions, investment returns, and withdrawal and loan activity. The percentage 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 57.4 percent per year between year-end 2016 and year-end 2020.

**401(k) participants tend to concentrate their accounts in equity securities.** The asset allocation of the 3.7 million 401(k) plan participants in the consistent group was broadly similar to the asset allocation seen in the annual EBRI/ICI 401(k) database updates. On average at year-end 2020, more than two-thirds of consistent 401(k) participants' assets were invested in equities—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.

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## Table of Contents

Introduction .....	4
Sample of Consistent 401(k) Participants, 2016–2020.....	4
401(k) Participants Can Accumulate Sizable 401(k) Plan Account Balances.....	4
Changes in Consistent 401(k) Participants’ Account Balances .....	8
Background Factors Influencing 401(k) Plan Assets.....	10
Appendix .....	12
References.....	17
Notes .....	18

## Figures

Figure 1, Distribution of 401(k) Account Balances by Size of Account Balance .....	5
Figure 2, Consistent 401(k) Participants Accumulate Significant Account Balances .....	6
Figure 3, Account Balances Tend to Increase With Age and Tenure.....	7
Figure 4, Changes in 401(k) Plan Account Balances Among Consistent 401(k) Participants.....	9
Figure 5, Younger Participants Tend to Have Larger Shares Allocated to Equities .....	10
Figure A1, Consistent Sample Was Older Than Participants in the EBRI/ICI 401(k) Database at Year-End 2020 .....	12
Figure A2, Consistent Sample Had Longer Tenure Than Participants in the EBRI/ICI 401(k) Database at Year-End 2020 .....	12
Figure A3, 401(k) Plan Account Balances Among Consistent 401(k) Participants .....	13
Figure A4, Average Asset Allocation of 401(k) Plan Accounts by Participant Age .....	14

Figure A5, 401(k) Plan Contributions, Investment Returns, Benefits Disbursed, and Assets .....	15
Figure A6, Most 401(k) Plan Participants Are in Plans With Employer Contributions .....	15
Figure A7, Domestic Stock and Bond Market Total Return Indexes .....	16

### **What's Inside**

"401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2020" reported year-end 2020 account balance, asset allocation, and loan activity results for the EBRI/ICI 401(k) database, which consists of a large cross section of 11.5 million 401(k) plan participants. This paper presents a longitudinal analysis — the analysis of 401(k) participants who maintained accounts each year from 2016 through 2020 — that was not included in the previous report. The longitudinal analysis tracks the account balances of 3.7 million 401(k) plan participants who had accounts in the year-end 2016 EBRI/ICI 401(k) database and each subsequent year through year-end 2020 (a four-year period).

For all of the figures in this report, components may not add to the totals presented because of rounding. Figures A1 through A7 are available in the appendix.

# What Does Consistent Participation in 401(k) Plans Generate? Changes in 401(k) Plan Account Balances, 2016–2020

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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. For example, at year-end 2020, 14 percent of 401(k) participants in the EBRI/ICI 401(k) database were in their twenties, while 14 percent were in their sixties (Figure A1); 18 percent of participants had two or fewer years of tenure at their current jobs, while 4 percent had more than 30 years of tenure (Figure A2). Participants in the consistent sample are both older and longer tenured than participants in the overall database at year-end 2020.

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>1</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>2</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. This paper provides an analysis of the account balances of 3.7 million consistent participants in the EBRI/ICI 401(k) database over the four-year period from year-end 2016 through year-end 2020.

## Sample of Consistent 401(k) Participants, 2016–2020

Among the 401(k) participants with accounts at the end of 2016 in the EBRI/ICI 401(k) database, 3.7 million are in the consistent sample.<sup>3</sup> These consistent participants had accounts at the end of each year from 2016 through 2020; 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 2016.<sup>4</sup> However, by year-end 2020, these participants had grown older, accrued longer job tenures, and accumulated larger account balances compared with participants in the year-end 2020 cross section. At year-end 2016, the median participant in the consistent sample was 46 years old, similar to the median age of 45 in the entire database. By year-end 2020, the median participant in the consistent sample had aged four years (the length of time for the longitudinal analysis), while the median participant for the entire database remained 45 years old (Figure A1). Similarly, while the median tenure in the entire database was seven years at both year-end 2016 and year-end 2020, the median tenure for the consistent panel rose from 8 years to 12 years over the same period (Figure A2).<sup>5</sup>

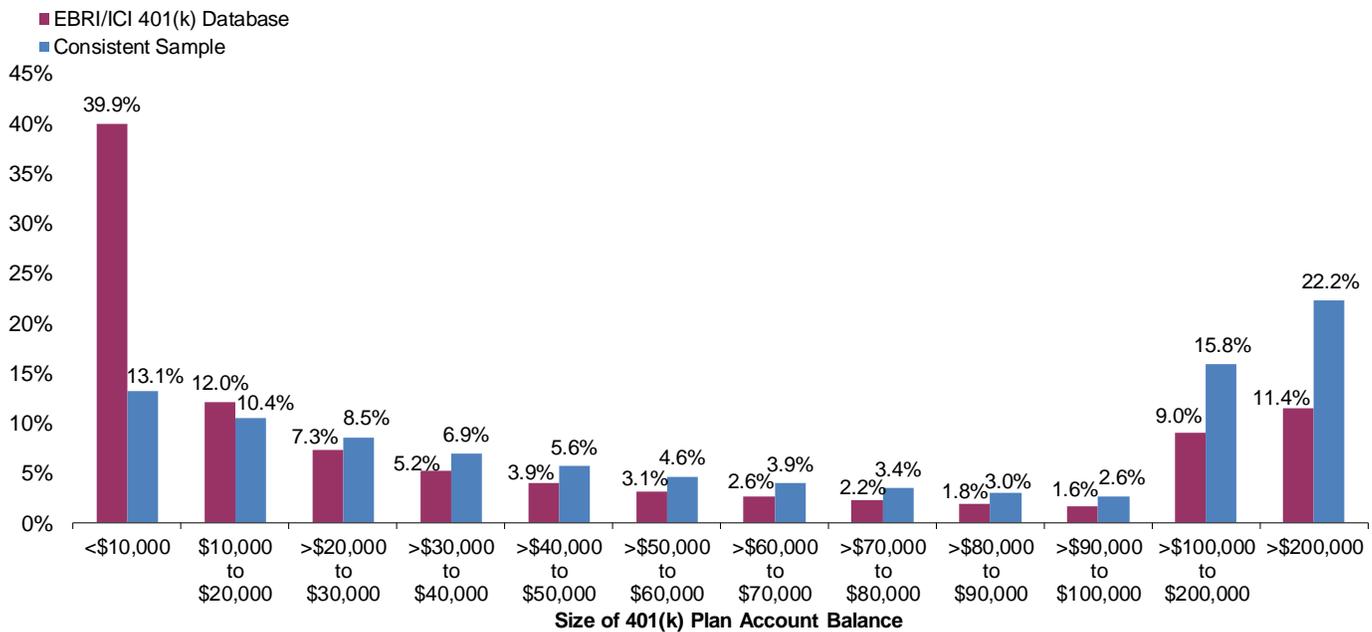
## 401(k) Participants Can Accumulate Sizable 401(k) Plan Account Balances

Trends in the consistent group's account balances highlight the accumulation effect of ongoing 401(k) participation. At year-end 2020, 22.2 percent of the consistent group had more than \$200,000 in their 401(k) plan accounts at their current employers, while another 15.8 percent had between \$100,000 and \$200,000 (Figure 1). In contrast, in the

broader EBRI/ICI 401(k) database, 11.4 percent had accounts with more than \$200,000, and 9.0 percent had between \$100,000 and \$200,000.

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 2). At year-end 2020, the average 401(k) plan account balance of the consistent group was \$158,361, more than 80 percent higher than the average account balance of \$87,040 among participants in the entire EBRI/ICI 401(k) database. The median 401(k) plan account balance among the consistent participants was \$62,134 at year-end 2020, nearly three and a half times the median account balance of \$17,961 for participants in the entire EBRI/ICI 401(k) database.

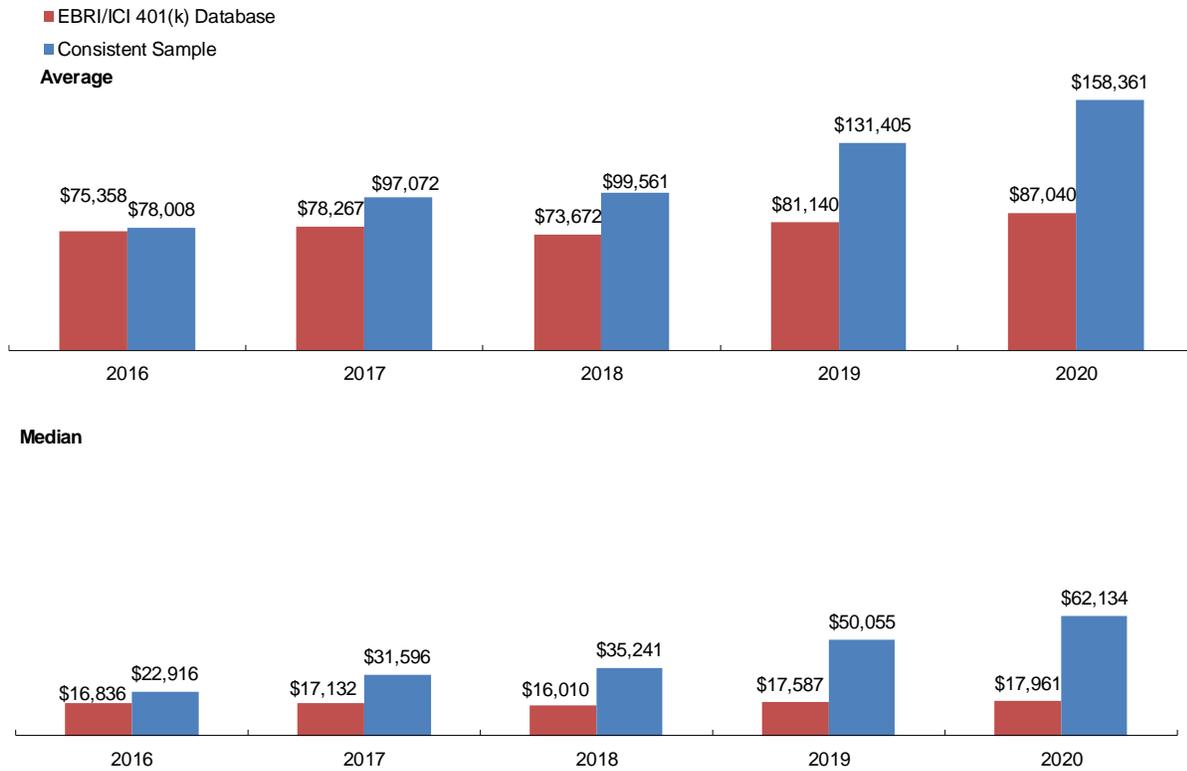
Figure 1  
**Distribution of 401(k) Account Balances by Size of Account Balance**  
 Percentage of participants with account balances in specified ranges, year-end 2020



Note: The consistent sample is 3.7 million 401(k) plan participants with account balances at the end of each year from 2016 through 2020. The year-end 2020 EBRI/ICI 401(k) database represents 11.5 million 401(k) plan participants. 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

Figure 2  
**Consistent 401(k) Participants Accumulate Significant Account Balances**



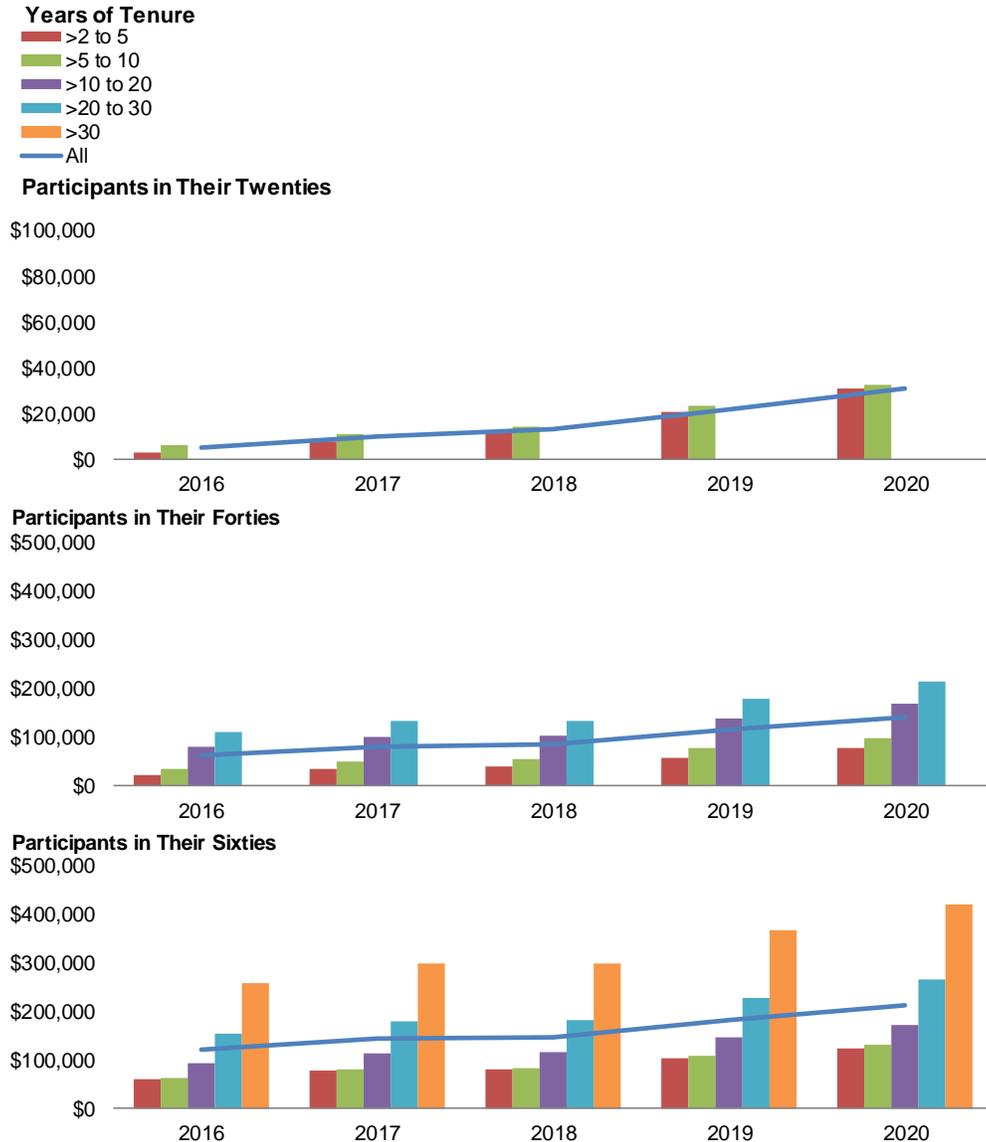
Note: Account balances are participant account balances held in 401(k) plans at the participants' current employers and are net of plan loans. Retirement savings held in plans at previous employers or rolled over into IRAs are not included. See Figure A3 for additional detail.  
 Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

401(k) plan account balances tend 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>6</sup> For example, within the consistent group, among 401(k) participants with more than five to 10 years of tenure at year-end 2020, older participants tended to have higher balances than younger participants: those in their forties with more than five to 10 years of tenure had an average account balance of \$98,708, compared with an average of \$130,175 for participants in their sixties with more than five to 10 years of tenure (Figures 3 and A3). Among consistent participants in their sixties at year-end 2020, those with more than five to 10 years of tenure had a lower average 401(k) plan balance (\$130,175) than those with more than 30 years of tenure (\$418,928).

Figure 3

**Account Balances Tend to Increase With Age and Tenure**

Average 401(k) plan account balance for consistent 401(k) participants by selected age and tenure, year-end



Note: Age and tenure groups are based on participant age and tenure at year-end 2020. 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. See Figure A3 for additional detail.

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

## 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.
- 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.

Altogether, from year-end 2016 through year-end 2020, the average 401(k) plan account balance among the group of consistent participants more than doubled (increasing by 103 percent; Figure 4), rising from \$78,008 at year-end 2016 to \$158,361 at year-end 2020 (Figures 2 and A3). This translates into a compound annual average growth rate of 19.4 percent over the four-year period (Figure 4). The median account balance among this consistent group also grew, nearly tripling from \$22,916 in 2016 to \$62,134 in 2020 (a compound annual average growth rate of 28.3 percent) (Figure 2).

Among the consistent group, individual 401(k) participants experienced a wide range of outcomes, often influenced by the relationship among 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 2016 and year-end 2020. For example, the average account balance of 401(k) participants in their thirties rose 198.6 percent (a 31.5 percent compound annual average growth rate) between the end of 2016 and the end of 2020 (Figure 4). Because younger participants' account balances tended to be smaller (Figures 3 and A3), their contributions produced significant percentage growth in their account balances. In contrast, the average account balance of older participants, or those with longer tenures—both of whom tended to have larger balances at the beginning of the study period than younger workers or those with shorter tenures—showed more modest percentage growth in account size (Figure 4). For example, the average account balance of 401(k) participants in their sixties increased 77.4 percent (a 15.4 percent compound annual average growth rate) between year-end 2016 and year-end 2020. Investment returns, rather than annual contributions,<sup>7</sup> generally account for most of the change in accounts with larger balances.

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 2020, equities—equity funds, the equity portion of target date funds, the equity portion of non-target date balanced funds,<sup>8</sup> and company stock—represented more than two-thirds of consistent 401(k) plan participants' assets (Figures 5 and A4).<sup>9</sup>

Figure 4

**Changes in 401(k) Plan Account Balances Among Consistent 401(k) Participants**

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

Age Group	Tenure (years)	2016–2017	2017–2018	2018–2019	2019–2020	Compound Annual Average Growth Rate,	
						2016–2020	2016–2020
20s	All	95.2%	32.4%	67.4%	41.8%	513.5%	57.4%
	>2 to 5	154.1	48.3	76.1	47.3	877.0	76.8
	>5 to 10	77.3	27.2	63.2	38.7	410.4	50.3
30s	All	42.0	10.6	46.7	29.6	198.6	31.5
	>2 to 5	88.5	28.8	61.3	39.9	448.0	53.0
	>5 to 10	51.0	14.4	50.6	32.4	244.5	36.2
	>10 to 20	29.4	5.1	40.5	24.4	137.9	24.2
40s	All	28.5	3.3	36.6	23.1	123.3	22.2
	>2 to 5	56.2	15.1	47.7	31.7	249.9	36.8
	>5 to 10	40.1	8.6	42.2	27.4	175.7	28.9
	>10 to 20	25.8	2.2	34.7	21.9	111.1	20.5
	>20 to 30	20.9	0.7	34.2	19.7	95.6	18.3
50s	All	23.4	1.7	31.7	20.0	98.3	18.7
	>2 to 5	41.3	9.4	38.5	26.5	170.9	28.3
	>5 to 10	32.9	6.3	36.3	24.3	139.4	24.4
	>10 to 20	23.8	2.2	31.6	20.3	100.4	19.0
	>20 to 30	20.1	0.4	31.0	18.5	87.2	17.0
	>30	17.8	-0.1	29.3	16.7	77.7	15.5
60s	All	19.9	1.2	25.6	16.4	77.4	15.4
	>2 to 5	28.5	4.0	28.8	19.3	105.3	19.7
	>5 to 10	27.2	4.5	29.3	20.1	106.3	19.9
	>10 to 20	21.1	2.3	26.3	17.4	83.7	16.4
	>20 to 30	17.6	0.8	25.6	15.7	72.2	14.6
	>30	15.7	-0.3	23.1	13.9	61.7	12.8
All	All	24.4	2.6	32.0	20.5	103.0	19.4

Note: Age and tenure groups are based on participant age and tenure at year-end 2020. 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.

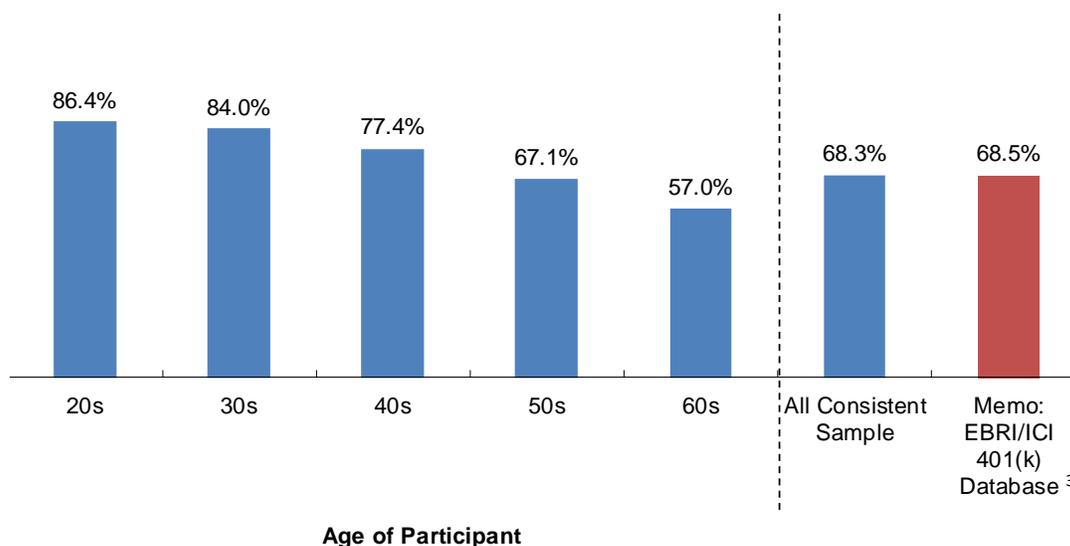
Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

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.<sup>10</sup> Younger participants generally tended to be more invested in 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>11</sup> participants in their sixties tend to have a higher propensity to make withdrawals, as they approach retirement.<sup>12</sup>

Figure 5  
**Younger Participants Tend to Have Larger Shares Allocated to Equities**

Percentage of 401(k) plan account balances allocated to equities<sup>1</sup> by age,<sup>2</sup> 2020



<sup>1</sup>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.

<sup>2</sup>Asset allocation by age group is among the consistent sample of 3.7 million 401(k) plan participants with account balances at the end of each year from 2016 through 2020. Age group is based on the participant's age at year-end 2020.

<sup>3</sup>The year-end 2020 EBRI/ICI 401(k) database represents 11.5 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. Percentages are dollar-weighted averages. See Figure A4 for additional detail.

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. Between year-end 2016 and year-end 2020 (the latest data available), contributions to 401(k) plans have averaged \$477 billion a year, and benefits paid (including rollovers) have averaged \$508 billion (Figure A5). Investment returns—interest, dividends, and realized and unrealized asset appreciation/depreciation—vary significantly from year to year. For example, they provided a significant boost as the stock market rose sharply in 2017, 2019, and 2020, but had a negative effect on assets in 2018 when the stock market was down. From year-end 2016 through year-end 2020, investment returns averaged \$622 billion per year.

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 2020, more than nine in 10 participants were in 401(k) plans where the employer made contributions (Figure A6). This figure was relatively unchanged during 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>13</sup>

The pattern of 401(k) plan account balance growth rates from year to year also reflects the stock market performance. Between year-end 2016 and year-end 2020, the US stock market generally rose (Figure A7), 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 (Figures 5 and A4).

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>14</sup> Data from the EBRI/ICI 401(k) database indicate that 16 percent of 401(k) plan participants in plans offering loans had loans outstanding at year-end 2020, with the youngest (6 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.<sup>15</sup> 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.

## **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**

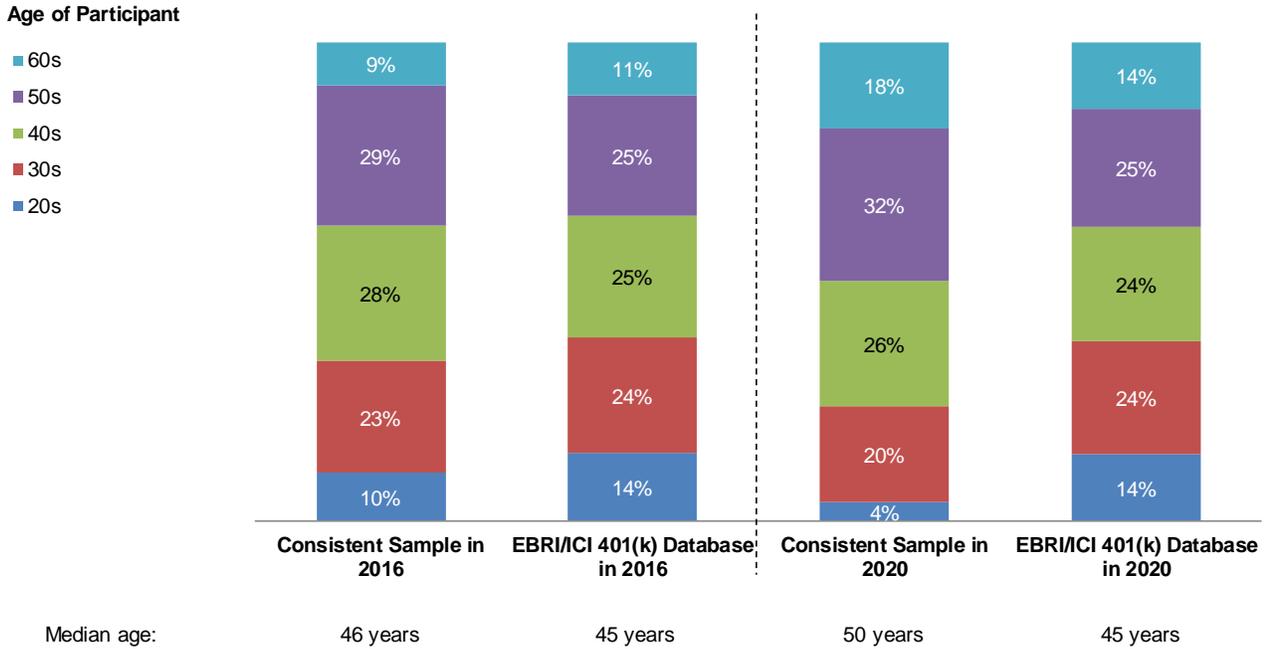
Several EBRI and ICI members provided records on active participants in 401(k) plans for which they kept records for year-end 2016 through year-end 2020.<sup>16</sup> These plan recordkeepers include mutual fund companies, banks, insurance companies, and consulting firms. Although the EBRI/ICI 401(k) project has collected data from 1996 through 2020, 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>

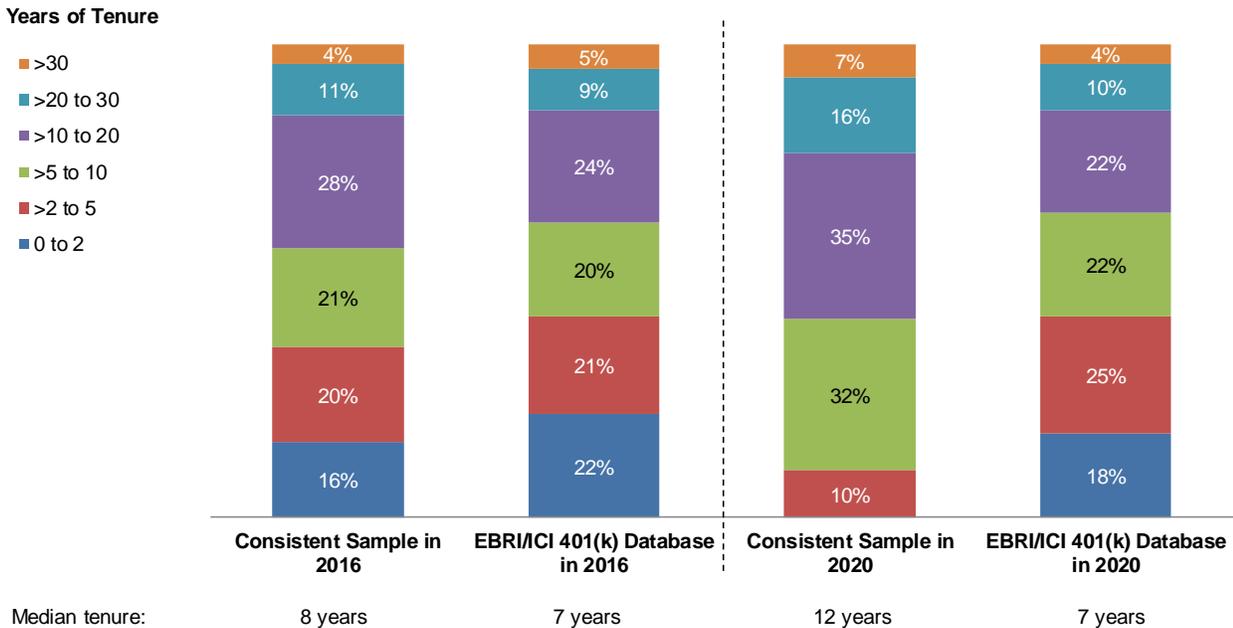
# Appendix

Figure A1  
**Consistent Sample Was Older Than Participants in the EBRI/ICI 401(k) Database at Year-End 2020**  
 Percentage of participants by age, year-end



Note: The consistent sample is 3.7 million 401(k) plan participants with account balances at the end of each year from 2016 through 2020. Participant age is age as of the year-end indicated.  
 Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Figure A2  
**Consistent Sample Had Longer Tenure Than Participants in the EBRI/ICI 401(k) Database at Year-End 2020**



Note: The consistent sample is 3.7 million 401(k) plan participants with account balances at the end of each year from 2016 through 2020. Participant tenure is tenure as of the year-end indicated.  
 Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project

Figure A3  
**401(k) Plan Account Balances Among Consistent 401(k) Participants**  
Average 401(k) plan account balance for consistent 401(k) participants by age and tenure, year-end

Age Group	Tenure (years)	2016	2017	2018	2019	2020
20s	All	\$5,118	\$9,992	\$13,227	\$22,144	\$31,400
	>2 to 5	3,160	8,028	11,903	20,966	30,874
	>5 to 10	6,404	11,353	14,445	23,571	32,688
30s	All	23,828	33,839	37,416	54,886	71,153
	>2 to 5	8,907	16,786	21,627	34,883	48,808
	>5 to 10	18,547	28,007	32,042	48,248	63,899
	>10 to 20	40,298	52,157	54,827	77,044	95,852
40s	All	63,673	81,822	84,555	115,500	142,183
	>2 to 5	22,020	34,386	39,595	58,483	77,043
	>5 to 10	35,804	50,146	54,468	77,461	98,708
	>10 to 20	79,650	100,234	102,397	137,900	168,142
	>20 to 30	110,218	133,282	134,204	180,133	215,599
50s	All	106,038	130,839	133,096	175,332	210,325
	>2 to 5	38,344	54,167	59,280	82,122	103,892
	>5 to 10	51,725	68,766	73,101	99,651	123,820
	>10 to 20	96,672	119,658	122,301	160,982	193,683
	>20 to 30	163,974	196,973	197,828	259,068	306,924
	>30	215,260	253,621	253,460	327,634	382,455
60s	All	120,154	144,079	145,812	183,152	213,180
	>2 to 5	60,333	77,512	80,617	103,807	123,851
	>5 to 10	63,090	80,242	83,819	108,403	130,175
	>10 to 20	93,544	113,287	115,839	146,329	171,837
	>20 to 30	153,581	180,666	182,152	228,726	264,529
>30	259,009	299,599	298,843	367,938	418,928	
<b>All</b>	<b>All</b>	<b>78,008</b>	<b>97,072</b>	<b>99,562</b>	<b>131,405</b>	<b>158,361</b>

Note: Age and tenure groups are based on participant age and tenure at year-end 2019. 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 EBR/ICI Participant-Directed Retirement Plan Data Collection Project

Figure A4  
**Average Asset Allocation of 401(k) Plan Accounts by Participant Age**  
 Percentage of 401(k) plan account balances

Year-End 2016											
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	25.6%	58.2%	2.1%	3.4%	0.3%	1.6%	2.0%	1.8%	5.0%	80.6%	
30s	35.0	45.8	2.8	4.9	0.7	2.9	3.7	2.6	1.6	80.8	
40s	44.0	31.5	3.2	6.5	0.9	4.5	4.9	3.1	1.3	77.0	
50s	44.6	24.9	3.7	8.2	1.0	7.0	5.7	3.4	1.3	68.8	
60s	38.7	24.7	3.8	10.8	1.2	10.6	4.9	4.0	1.3	57.3	
All Consistent Sample <sup>5</sup>	41.8	27.4	3.6	8.6	1.0	7.6	5.1	3.6	1.3	67.2	
2016 EBRI/ICI 401(k) Database <sup>6</sup>	43.5	21.3	6.1	8.2	3.1	5.8	5.9	5.1	0.9	67.4	

Year-End 2020											
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	33.1	53.4	4.4	4.5	0.3	1.1	1.2	1.4	0.7	86.4	
30s	38.8	44.6	4.0	5.0	0.6	2.2	2.2	1.9	0.8	84.0	
40s	46.7	32.8	2.3	6.9	0.9	3.9	3.4	2.3	0.9	77.4	
50s	44.7	28.6	2.8	8.8	1.0	6.6	4.0	2.7	0.8	67.1	
60s	38.8	28.1	3.4	11.1	1.4	10.0	3.7	2.8	0.9	57.0	
All Consistent Sample <sup>5</sup>	42.9	30.8	3.0	8.6	1.0	6.5	3.6	2.6	0.9	68.3	
2020 EBRI/ICI 401(k) Database <sup>7</sup>	41.8	31.0	3.7	8.7	0.9	5.6	3.7	2.5	1.0	68.5	

<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 3.7 million 401(k) plan participants with account balances at the end of each year from 2016 through 2020.

<sup>6</sup>The year-end 2016 EBRI/ICI 401(k) database represents 27.1 million 401(k) plan participants.

<sup>7</sup>The year-end 2020 EBRI/ICI 401(k) database represents 11.5 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 2020. Percentages are dollar-weighted averages.

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

Figure A5

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

Annual flows reported on Form 5500 and year-end assets, billions of dollars, 2000–2021

	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	378	386	-1	4,377
2016	399	391	335	4,741
2017	429	425	763	5,486
2018	464	474	-251	5,207
2019	499	519	1,074	6,256
2020	517	615	900	7,033
2021	N/A	N/A	N/A	7,975

<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 2020 are based on the Department of Labor Form 5500 Research File.

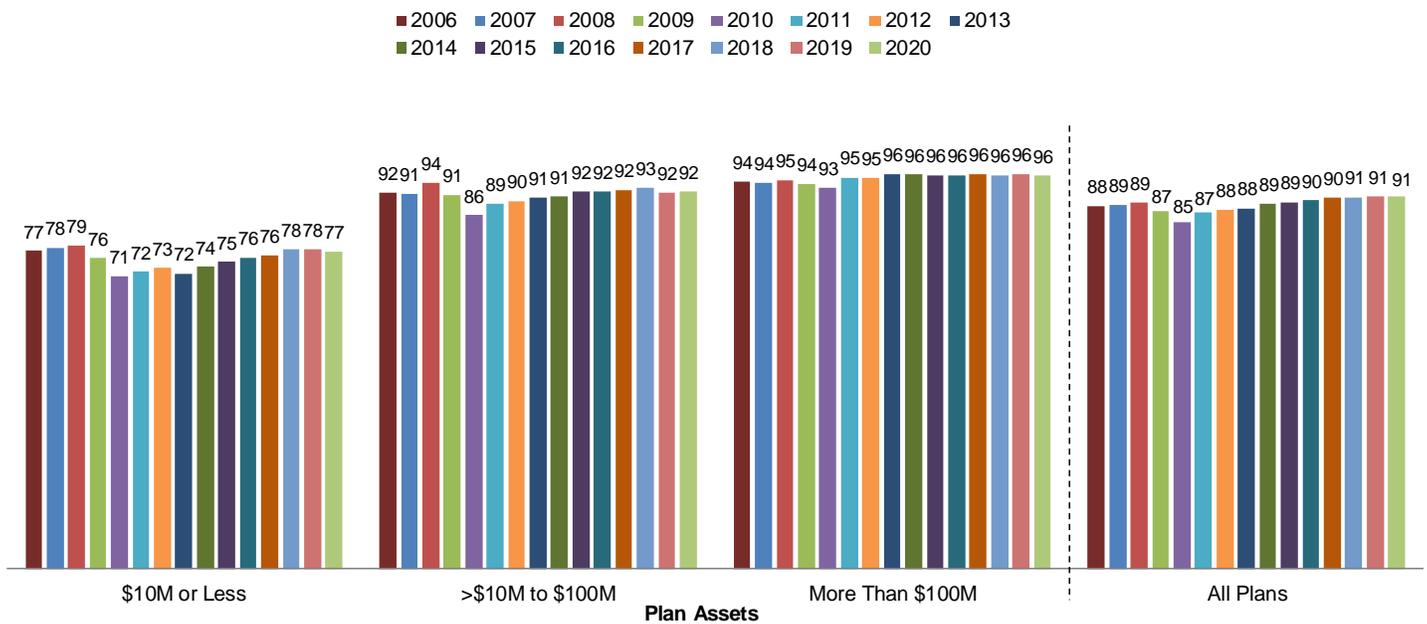
Note: Data exclude plans covering only one participant.

N/A = not available

Sources: Investment Company Institute and Department of Labor

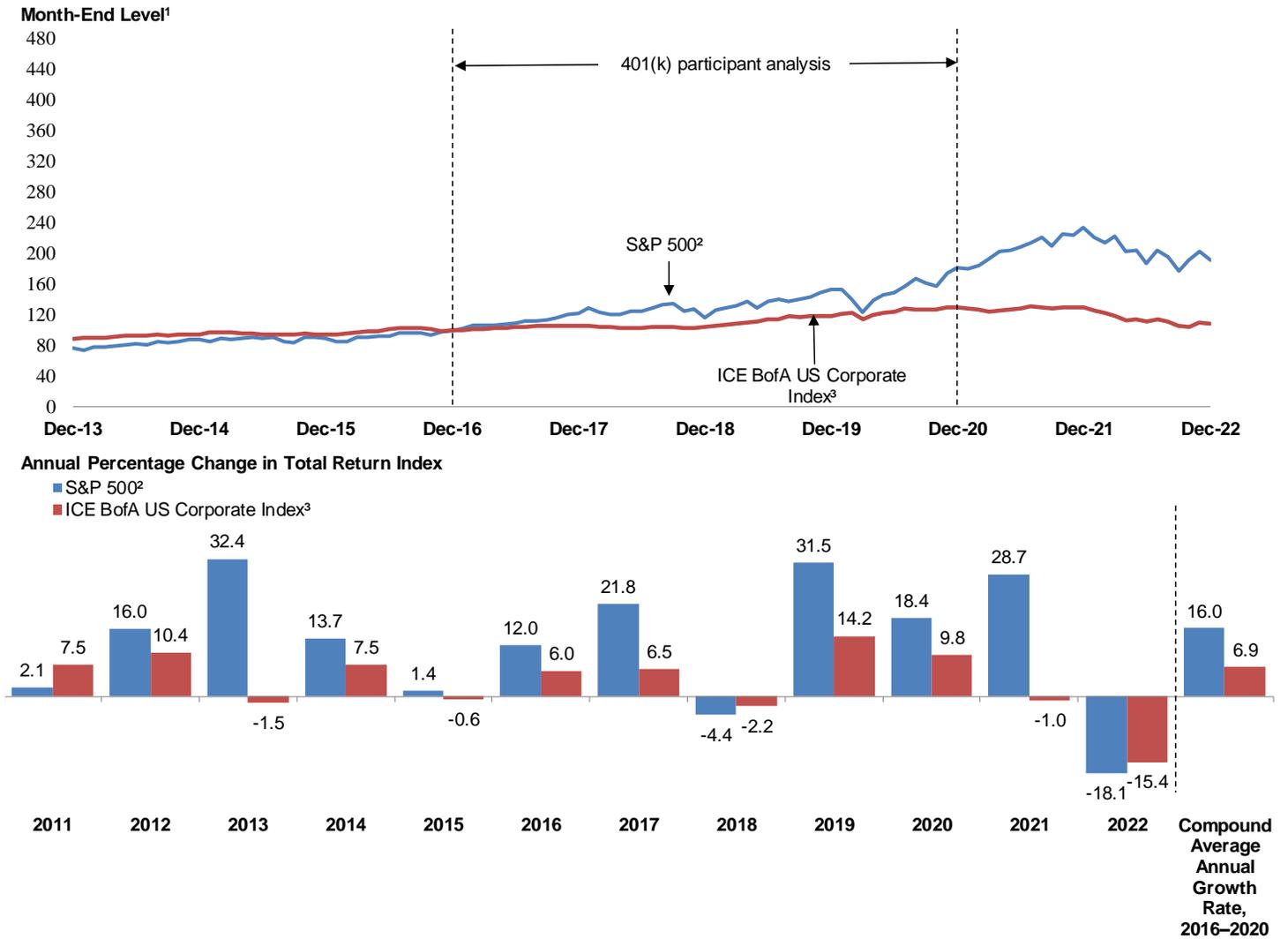
Figure A6

**Most 401(k) Plan Participants Are in Plans With Employer Contributions**



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

Figure A7  
Domestic Stock and Bond Market Total Return Indexes



<sup>1</sup>Indexes are set to 100 in December 2016.

<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 ICE BofA US Corporate Index tracks the performance of investment grade corporate debt that is publicly issued in the US domestic market and denominated in US dollars.

Sources: Yahoo, Federal Reserve Bank of St. Louis, ICE Data Indices, and Standard & Poor's

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## Notes

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<sup>1</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 to other tax-qualified accounts.

<sup>2</sup> Account balances are net of unpaid loan balances.

<sup>3</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>4</sup> For the report on the year-end 2016 EBRI/ICI 401(k) database, see Holden et al. 2018.

<sup>5</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>6</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, Bass, and Copeland 2022.

<sup>7</sup> Contribution amounts and contribution rates tend to increase with age and earnings. See Figures A3 and A4 in Brady and Bass 2021 or data tables in Internal Revenue Service, Statistics of Income Division 2021.

<sup>8</sup> At year-end 2020, 60 percent of non-target date balanced fund assets were assumed to be invested in equities (see Investment Company Institute, Quarterly Long-Term Mutual Fund Asset Composition). 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, which was calculated using the Morningstar Lifecycle Allocation Indexes (see Morningstar 2020).

<sup>9</sup> For a description of the investment options, see page 11.

<sup>10</sup> See Holden, Bass, and Copeland 2022.

<sup>11</sup> See Holden, Schrass, and Chism 2023.

<sup>12</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 Clark 2022).

<sup>13</sup> Data from the ICI Survey of Defined Contribution Plan Recordkeepers find that DC plan participants generally stay the course. During each year from 2016 through 2020, 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, Schrass, and Chism 2023 for DC plan participants' annual activities between 2008 and 2022. 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

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materially affected by the bear market in equities from 2000 through 2002, whether measured in dollar amounts or percentage of salary they contributed.

<sup>14</sup> See Holden, Schrass, and Chism 2023.

<sup>15</sup> See Holden, Bass, and Copeland 2022.

<sup>16</sup> For the complete update from the year-end 2020 EBRI/ICI 401(k) database, see Holden, Bass, and Copeland 2022.

<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. Plan Sponsor Council of America 2021 indicates that in 2020, the average number of investment fund options available for participant contributions was 21 among the more than 500 plans surveyed. BrightScope and Investment Company Institute 2021 reports an average of 28 investment options in 2019, and an average of 21 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.

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