



MarketPro Retirement
POWERED BY BRIGHTSCOPE

The ICI/ISS MI Defined
Contribution Plan Profile:

A Close Look at 401(k) Plans, 2023

March 2026



The ICI/ISS MI Defined Contribution Plan Profile

The ICI/ISS MI Defined Contribution Plan Profile is a collaborative research effort between the Investment Company Institute (ICI) and ISS Market Intelligence (ISS MI) that analyzes plan-level data gathered from audited Form 5500 filings of private-sector defined contribution (DC) plans, providing unique, new insights into private-sector DC plan design. The research draws from information collected in MarketPro Retirement powered by BrightScope. The database is designed to shed light on DC plan design across many dimensions, including the number and type of investment options offered, the presence and design of employer contributions, the types of recordkeepers used by DC plans, and changes to plan design over time. In addition, industrywide fee information is matched to investments in DC plans, allowing analysis of the cost of DC plans. *The ICI/ISS MI Defined Contribution Plan Profile* supplements existing plan sponsor surveys and research based on recordkept data, and it is designed to increase public understanding in this critical area of retirement savings. This material is not intended for benchmarking the costs of specific plans to the broad averages presented here.

This report in *The ICI/ISS MI Defined Contribution Plan Profile* series focuses on private-sector 401(k) plans in 2023. This report first analyzes large 401(k) plans in the Department of Labor 2023 Form 5500 Research File. Focus then shifts to more than 53,000 audited 401(k) plans in MarketPro Retirement powered by BrightScope, each of which have between four and 100 investment options and typically 100 participants or more. Private-sector 403(b) plans have been excluded from this analysis; for analysis of 403(b) plans covered by the Employee Retirement Income Security Act of 1974 (ERISA), see *The ICI/ISS MI Defined Contribution Plan Profile: A Close Look at ERISA 403(b) Plans, 2022* (August 2025), available at www.ici.org/files/2025/25-rpt-dcplan-profile22-403b.pdf. In the exhibits in this report, dollars and percentages may not add to the totals because of rounding.

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Key Findings

401(k) Plan Enrollment, Employer Contributions, and Use of Loans

Employers choose the features to include in their 401(k) plans, including whether to automatically enroll participants, whether to offer employer contributions, and whether to offer plan loans. This study analyzes automatic enrollment, employer contributions, and participant loans outstanding in a sample of nearly 58,000 large private-sector 401(k) plans—typically plans with 100 participants or more in 2023.

- » **Larger 401(k) plans tended to be more likely to report that they automatically enroll workers into the plan.** More than half of large 401(k) plans with more than \$50 million in plan assets reported that they automatically enrolled their participants, and more than six in 10 plans with more than \$1 billion in plan assets did, compared with 35% of plans in the sample with \$1 million to \$10 million in plan assets.
- » **Most 401(k) plans offer employer contributions.** In 2023, 91% of large 401(k) plans, covering 94% of large 401(k) plan participants, had employer contributions. Nearly all of the largest plans—more than 95% of large 401(k) plans with 5,000 participants or more—had employer contributions. Employer contributions are also common even among smaller 401(k) plans—92% of 401(k) plans in the sample with 100 to 499 participants had them in 2023.
- » **Larger 401(k) plans are more likely to report participant loans outstanding.** More than 90% of 401(k) plans in the sample with more than \$50 million in plan assets had participant loans outstanding, compared with 76% of 401(k) plans with \$1 million to \$10 million in plan assets and 19% of plans with less than \$1 million. Overall, 81% of large 401(k) plans had participant loans outstanding, and 91% of participants were in those plans in 2023.
- » **Larger 401(k) plans tend to be more likely to have employer contributions, participant loans outstanding, and automatic enrollment.** More than 40% of plans in the sample with 1,000 participants or more had employer contributions, participant loans outstanding, and automatic enrollment, compared with 22% of plans in the sample with fewer than 100 participants. Overall, 33% of 401(k) plans in the sample reported evidence of all three activities in 2023.
- » **401(k) plans with automatic enrollment are more likely to have both employer contributions and participant loans outstanding than plans without automatic enrollment.** In 2023, 78% of large 401(k) plans with automatic enrollment also had both employer contributions and participant loans outstanding, compared with 73% of large 401(k) plans without automatic enrollment.

401(k) Investment Menu Design

When designing their 401(k) plans, employers choose the number and types of investment options in the plan, looking for a diverse range of options. This study also explores the investment menus that employers have chosen for 401(k) plans in MarketPro Retirement powered by BrightScope and how investments vary by plan size. MarketPro Retirement powered by BrightScope contains detailed information from audited Form 5500 reports for more than 53,000 large private-sector 401(k) plans—plans with between four and 100 investment options and typically 100 participants or more.

- » **401(k) plans offer participants a wide variety of investment options.** In 2023, the average large 401(k) plan offered 29 investment options, of which about 13 were equity funds, three were bond funds, and 10 were target date funds. Nearly all plans offered at least one domestic equity fund, international equity fund, and domestic bond fund, and 90% of plans offered target date funds. Funds include mutual funds, collective investment trusts (CITs), separate accounts, and other pooled investment products.
- » **CITs were the most common investment vehicle in large 401(k) plans.** CITs held 46% of large private-sector 401(k) plan assets in 2023. Mutual funds held 35% of assets, guaranteed investment contracts (GICs) held 5%, separate accounts held 3%, and the remaining 11% were invested in individual stocks—including company stock—individual bonds, brokerage, and other investments. However, mutual funds accounted for the largest share of assets in all but the very largest plans, where a larger share of assets was held in CITs.
- » **Equity funds accounted for the largest share of assets in 401(k) plans.** In 2023, 42% of large 401(k) plan assets were held in equity funds, 35% were held in balanced funds—with most of that being held in target date funds—and 6% were held in bond funds. GICs and money funds accounted for 6% of assets.
- » **Target date funds have become more common in 401(k) plans since 2006.** In 2006, 32% of large 401(k) plans offered target date funds, and 90% of plans offered them in 2023. Similarly, the percentage of participants who were offered target date funds increased from 42% of participants to 87% between 2006 and 2023, and the percentage of assets invested in target date funds increased from 3% to 33%.
- » **Index funds make up a significant component of 401(k) assets, holding 46% of 401(k) assets in 2023.** Index funds held a slightly greater share of assets in larger 401(k) plans, rising from about 40% of assets in plans with \$1 million to \$250 million in plan assets to 49% of assets in plans with more than \$1 billion. Index funds are widely available across all plan sizes. More than 95% of 401(k) plans with \$1 million or more in plan assets offered index funds in their plan lineups in 2023, while 90% of 401(k) plans with less than \$1 million did. Index funds, which tend to be equity index funds, generally have lower expense ratios than actively managed equity funds.

401(k) Plans Engage a Variety of Service Providers

When employers offer a 401(k) plan to their employees, they engage service providers to help manage the operation of the plan. Drawing from MarketPro Retirement powered by BrightScope, this study explores the types of recordkeepers used by large 401(k) plans and the use of proprietary funds.

- » **Employers choose from a range of providers for 401(k) plan recordkeeping.** Insurance companies were the most common recordkeeper type for 401(k) plans and were more likely to provide recordkeeping services for the smaller 401(k) plans in the sample. Asset managers, which include mutual fund companies, were the second most common recordkeepers across plans, and they were more likely to provide recordkeeping services for larger plans. As a result, asset managers provided recordkeeping services for 33% of plans but for 44% of participants and 58% of plan assets in 2023.
- » **Most 401(k) plans offered investment options that were proprietary to the plan's recordkeeper, but proprietary investments accounted for a small share of total 401(k) assets.** Plan sponsors choose a plan recordkeeper and select the investment lineup for the plan. Fifty-eight percent of 401(k) plans included investment options proprietary to the plan's recordkeeper in their investment lineups, and those investments accounted for 26% of total plan assets in 2023.

401(k) Plan Fees

Employers offering 401(k) plans typically hire service providers to assist in operating the plans, and those service providers charge fees for their services. To better understand the impact of fees, ISS MI has developed a total plan cost measure that includes all fees on the audited Form 5500 reports as well as fees paid through investment expense ratios. In addition, the fees paid on mutual funds held in large 401(k) plans are analyzed. Total plan cost and mutual fund fee data are analyzed for large subsets of MarketPro Retirement powered by BrightScope, consisting of 401(k) plans with between four and 100 investment options and typically 100 participants or more, with sufficiently complete information.

- » **The ISS MI measure of total 401(k) plan costs has decreased since 2009, based on snapshots of 401(k) plan fees.** In 2023, the average total plan cost was 0.74% of assets, down from 1.02% in 2009. The average participant was in a lower-cost plan, with a total plan cost of 0.48% of assets in 2023, down from 0.65% in 2009, while the average dollar was invested in a plan with a total plan cost of 0.30% in 2023, down from 0.47% in 2009. ISS MI's total plan cost includes administrative, advice, and other fees from Form 5500 filings, as well as asset-based investment management fees.
- » **Mutual fund expense ratios in 401(k) plans tend to be lower in larger plans and have trended down over time.** For example, the average asset-weighted expense ratio for domestic equity mutual funds, including both index and actively managed funds, was 0.36% for plans with \$1 million to \$10 million in plan assets, compared with 0.30% for plans with more than \$1 billion in plan assets in 2023. Mutual fund expense ratios also tended to decrease in 401(k) plans between 2009 and 2023.

Introduction

The Role of 401(k) Plans in US Retirement Planning

A 401(k) is an employer-sponsored defined contribution (DC) retirement plan that enables employees to make tax-deferred contributions from their salaries to the plan. Employers offer 401(k) plans as part of an overall compensation package of wages and benefits in order to attract workers and provide them with a benefit package that helps them save for retirement. Employers determine the features their 401(k) plans will include, within rules governing 401(k) plans, and typically engage service providers to administer the plan and provide investment options.

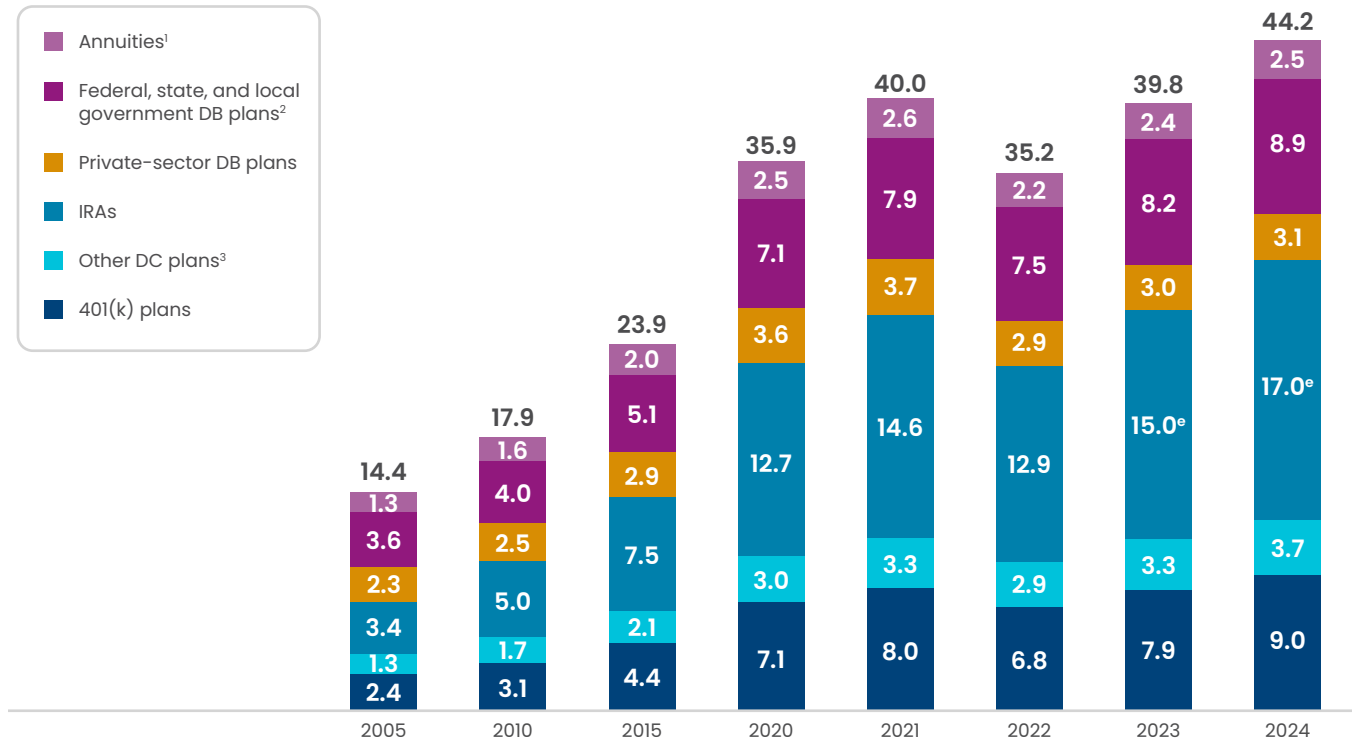
Employers decide whether they will automatically enroll employees or have employees sign up for the plan and whether they will allow access to 401(k) account assets through a loan feature. They may also make employer contributions into employee 401(k) accounts. Typically, plan participants direct the investment of their accounts, choosing from the lineup of options offered in the plan. With \$9.0 trillion in assets at the end of 2024, 401(k) plans have become one of the largest components of US retirement assets, accounting for about one-fifth of all retirement assets (Exhibit I.1).

As the prevalence of private-sector defined benefit (DB) pension plans has declined, DC plans such as 401(k) plans have become a more important component of retirement savings for American workers. Because of the tax advantages they provide and their importance for retirement, researchers and policymakers have an interest in understanding how workers are using 401(k) plans to prepare for retirement. Researchers and policymakers are also interested in how employers have structured their plans, including the incentives to participate, such as automatic enrollment or employer contributions, plan loans, the number and types of investment offerings, and the fees paid to operate the plan.

EXHIBIT I.1

401(k) Plans Hold \$8.9 Trillion in Assets

Trillions of dollars, year-end



¹ Annuities include all fixed and variable annuities held outside of retirement plans and IRAs.

² Federal DB plans include US Treasury security holdings of the civil service retirement and disability fund, the military retirement fund, the judicial retirement funds, the Railroad Retirement Board, and the foreign service retirement and disability fund. These plans also include securities held in the National Railroad Retirement Investment Trust.

³ Other DC plans include 403(b) plans, 457 plans, private employer-sponsored DC plans without 401(k) features, and the Federal Employees Retirement System (FERS) Thrift Savings Plan (TSP).

^e Data are estimated.

Sources: Investment Company Institute, Federal Reserve Board, Department of Labor, National Association of Government Defined Contribution Administrators, American Council of Life Insurers, Internal Revenue Service Statistics of Income Division, and Government Accountability Office; see Investment Company Institute 2026

The Department of Labor Form 5500 Research File

Private-sector 401(k) plans are required to file Form 5500 with the US Department of Labor (DOL).¹ The information in those filings includes the number of plan participants, assets held in the plan, and other plan features. The DOL makes available not only individual Form 5500 reports but also a comprehensive database for the universe of 401(k) plans, which researchers can analyze.² Tabulations of MarketPro Retirement powered by BrightScope find that there were more than 720,000 401(k) plans, covering more than 80 million participants in 2023 (Exhibit I.2).³ Small, medium, and large employers in all industries and covering diverse workforces sponsor these plans, and they choose to design their plans to meet their unique circumstances. Although most plans are small—nearly 60% have less than \$1 million in plan assets—most participants⁴ are in larger plans; 60% are in plans with more than \$50 million in plan assets. Therefore, this report will focus on plan design both from the plan perspective and from the participant perspective. Chapter 1 will discuss plan design with respect to automatic enrollment, employer contribution, and participant loan use across 401(k) plans.

EXHIBIT I.2

Universe of 401(k) Plans

Distribution of 401(k) plans, participants, and assets by plan assets or number of plan participants, 2023

Plan assets	Plans		Participants		Assets	
	Number	Percent	Thousands	Percent	Billions of dollars	Percent
Less than \$1M	428,651	59.4%	7,660.4	9.2%	\$116.0	1.5%
\$1M to \$10M	244,061	33.8	14,537.1	17.4	766.6	9.8
>\$10M to \$50M	37,385	5.2	11,053.6	13.2	761.9	9.8
>\$50M to \$100M	5,154	0.7	4,710.5	5.6	360.6	4.6
>\$100M to \$250M	3,425	0.5	6,910.4	8.3	529.7	6.8
>\$250M to \$500M	1,397	0.2	6,178.9	7.4	486.8	6.3
>\$500M to \$1B	872	0.1	6,131.5	7.3	611.6	7.9
More than \$1B	1,005	0.1	26,284.7	31.5	4,155.7	53.4
All plans	721,950	100.0	83,467.1	100.0	7,788.9	100.0

Number of plan participants	Plans		Participants		Assets	
	Number	Percent	Thousands	Percent	Billions of dollars	Percent
Fewer than 100	646,322	89.5%	13,203.2	15.8%	\$960.1	12.3%
100 to 499	59,863	8.3	11,594.2	13.9	820.4	10.5
500 to 999	7,263	1.0	5,059.6	6.1	401.6	5.2
1,000 to 4,999	6,586	0.9	13,662.8	16.4	1,327.4	17.0
5,000 to 9,999	964	0.1	6,699.7	8.0	771.2	9.9
10,000 or more	952	0.1	33,247.6	39.8	3,508.4	45.0
All plans	721,950	100.0	83,467.1	100.0	7,788.9	100.0

Note: Assets are fair market value at the year-end of the plan and include loans. The results exclude 403(b) plans with a 401(k) feature.

Source: MarketPro Retirement powered by BrightScope

MarketPro Retirement Powered by BrightScope

To better understand DC retirement plans, ISS MI has created MarketPro Retirement powered by BrightScope, which is compiled by extracting information from audited reports filed annually by larger private-sector DC plans with the DOL. These audited filings supplement the DOL Form 5500 Research File, providing additional detail for the larger plans. Generally, plans with 100 participants or more are required to file an audited report with the DOL.⁵ These reports generally contain information on the investments offered by the plan, assets in these investments, and employer contribution structures. ISS MI has also included information from the Form 5500, which private-sector sponsors of 401(k) plans, as well as other types of private-sector employer-sponsored pension plans, are required to file with the DOL annually.⁶ These filings contain important information about the plans, including the number of participants covered, total plan assets, and total contributions to and distributions from the plan. In addition, ISS MI has combined the audited data with outside data sources to incorporate the fees paid by 401(k) and other DC plan participants associated with the investments in their plans. For chapters 2, 3, and 4 of this report, the additional detailed data from audited Form 5500 filings for more than 53,000 large 401(k) plans are analyzed (Exhibit I.3). For 2023, MarketPro Retirement powered by BrightScope contains audited information on 7% of 401(k) plans, covering 78% of 401(k) plan participants and 85% of 401(k) plan assets (Exhibit I.4).⁷

EXHIBIT I.3

Audited 401(k) Filings and the Universe of 401(k) Plans by Plan Assets

Distribution of 401(k) plans, participants, and assets by plan assets, 2023

Plan assets	ISS MI audited 401(k) filings			Department of Labor 401(k) universe		
	Plans Number	Participants Thousands	Assets Billions of dollars	Plans Number	Participants Thousands	Assets Billions of dollars
Less than \$1M	841	215.9	\$0.4	428,651	7,660.4	\$116.0
\$1M to \$10M	17,339	5,417.7	97.9	244,061	14,537.1	766.6
>\$10M to \$50M	23,669	9,806.2	537.4	37,385	11,053.6	761.9
>\$50M to \$100M	4,848	4,564.2	340.2	5,154	4,710.5	360.6
>\$100M to \$250M	3,339	6,788.0	516.5	3,425	6,910.4	529.7
>\$250M to \$500M	1,367	6,104.3	476.8	1,397	6,178.9	486.8
>\$500M to \$1B	863	6,104.0	605.6	872	6,131.5	611.6
More than \$1B	992	26,037.4	4,054.1	1,005	26,284.7	4,155.7
All plans	53,258	65,037.7	6,628.9	721,950	83,467.1	7,788.9

Note: Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis. Assets are fair market value at the year-end of the plan and include loans.

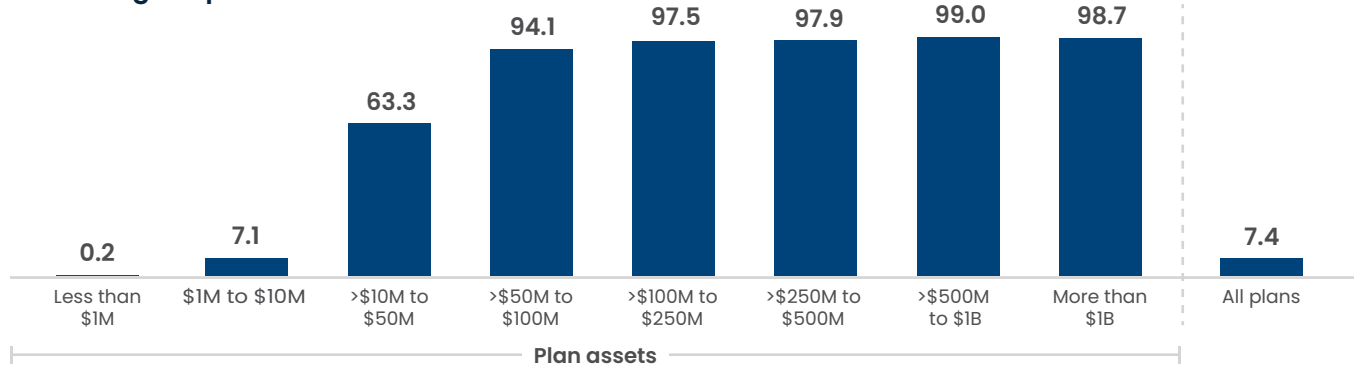
Source: MarketPro Retirement powered by BrightScope

EXHIBIT I.4

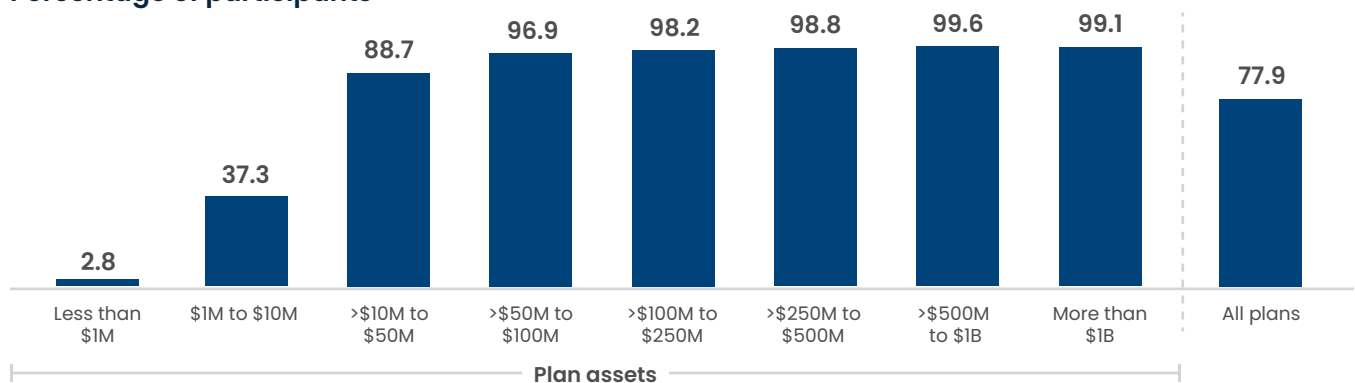
Audited 401(k) Plans' Share of the 401(k) Universe by Plan Assets

Share of Department of Labor 401(k) universe in audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets, 2023

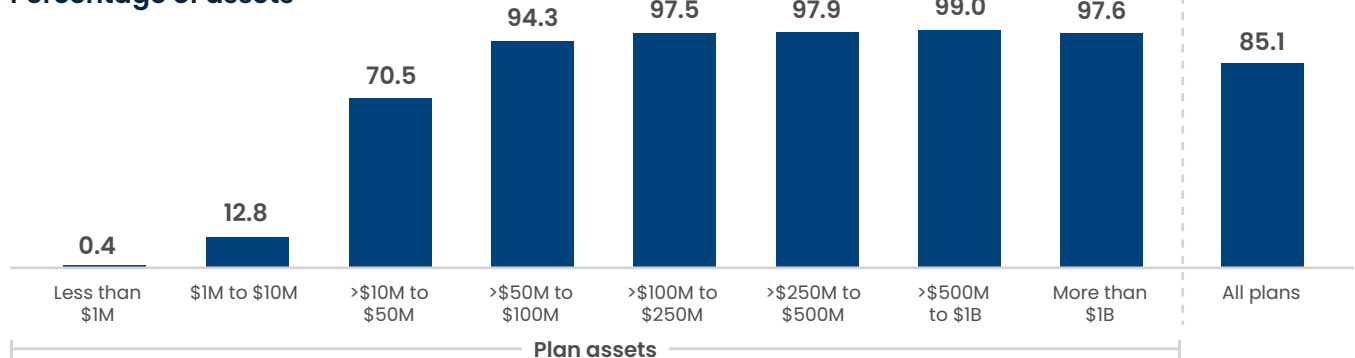
Percentage of plans



Percentage of participants



Percentage of assets



Note: The sample is 53,258 plans with 65.0 million participants and \$6.6 trillion in assets. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

Because 401(k) plans with fewer than 100 participants are generally not required to file the audited reports required of larger plans, MarketPro Retirement powered by BrightScope does not contain many small plans. Though most 401(k) plans are small plans, most participants and assets are in larger plans. For example, although the sample analyzed contains information on about 53,000, or 7%, of the more than 720,000 plans in the DOL 401(k) universe in 2023, it contains \$6.6 trillion, or 85%, of the \$7.8 trillion in assets (Exhibits I.3, I.4, and I.5). Coverage rates in the database are higher for larger plans—more than 95% of plans with more than \$100 million are included, but the database contains audited information on very few plans with less than \$1 million in plan assets (Exhibit I.4). Additionally, it should be noted that large 401(k) plans, typically plans with 100 participants or more, with less than \$1 million in plan assets tend to have much lower average account balances than smaller-participant 401(k) plans with less than \$1 million in assets, which impacts plan economics.⁸ Coverage rates of 401(k) plans in the database grouped by number of plan participants tell a similar story, with larger plans much more likely to be included than smaller plans (Exhibit I.5).

MarketPro Retirement powered by BrightScope contributes to an existing body of information on 401(k) plans. Surveys of households and plan sponsors have also contributed to a better understanding of how 401(k) plans are used and structured. ICI conducts two annual household surveys that provide information about 401(k) and other DC plans and participants.⁹ These surveys provide information about who participates in 401(k) plans, the assets they hold inside their plans, and their views about the features of their plans. In addition, other publicly available surveys provide important information to help researchers better understand how people use 401(k) plans to prepare for retirement.¹⁰ These surveys can provide detailed information about the people who participate in 401(k) plans including demographic characteristics such as age and income and how they feel about their plans, but the surveys may be limited in their ability to provide accurate information on account balances and plan design features, which individuals may have difficulty recalling. By using audited plan-level data, MarketPro Retirement powered by BrightScope increases the quality of information about plan design and allows for improved understanding about how 401(k) plans are structured.

Detailed information on plan design is also available through various surveys of plan sponsors.¹¹ These surveys provide information about plan design, including fees and expenses, but can suffer from small, nonrandom samples, which may limit their suitability for extrapolation to the entire 401(k) market. The MarketPro Retirement powered by BrightScope sample for this report of more than 53,000 large 401(k) plans in 2023 allows for analysis of a much broader array of DC plans based on regulatory filings. In addition, MarketPro Retirement powered by BrightScope has nearly universal coverage of larger plans.

ICI collects data from mutual fund companies directly, as well as from other sources, to gain an understanding of the fees and expenses that 401(k) plan participants pay as a group, on average.¹² MarketPro Retirement powered by BrightScope allows for analysis of the variation in mutual fund fees across different 401(k) plan sizes, as well as the ability to track consistent 401(k) plans over time. In addition, by combining mutual fund expense data with expenses on other assets as well as other fees and expenses paid for the operation of 401(k) plans, ISS MI also builds a total plan cost measure for many plans. This provides a comprehensive description of the range of fees and expenses incurred in 401(k) plans.

Researchers have also used administrative data to understand participant-level behavior in 401(k) plans.¹³ These data can provide a rich understanding of how 401(k) account balances, asset allocation, and contributions and distributions vary across participants, but they often lack detailed information about the design of each plan itself, which is included in MarketPro Retirement powered by BrightScope.

EXHIBIT I.5

Audited 401(k) Filings and the Universe of 401(k) Plans by Number of Plan Participants

Distribution of 401(k) plans, participants, and assets by number of plan participants, 2023

Number of plan participants	ISS MI audited 401(k) filings		
	Plans Number	Participants Thousands	Assets Billions of dollars
Fewer than 100	5,151	369.5	\$62.8
100 to 499	33,336	7,628.2	692.7
500 to 999	6,643	4,637.7	389.4
1,000 to 4,999	6,253	13,034.7	1,300.0
5,000 to 9,999	940	6,541.0	766.8
10,000 or more	935	32,826.6	3,417.2
All plans	53,258	65,037.7	6,628.9
Number of plan participants	Department of Labor 401(k) universe		
	Plans Number	Participants Thousands	Assets Billions of dollars
Fewer than 100	646,322	13,203.2	\$960.1
100 to 499	59,863	11,594.2	820.4
500 to 999	7,263	5,059.6	401.6
1,000 to 4,999	6,586	13,662.8	1,327.4
5,000 to 9,999	964	6,699.7	771.2
10,000 or more	952	33,247.6	3,508.4
All plans	721,950	83,467.1	7,788.9
Number of plan participants	Share of Department of Labor 401(k) universe in ISS MI audited 401(k) filings		
	Plans Percent	Participants Percent	Assets Percent
Fewer than 100	0.8%	2.8%	6.5%
100 to 499	55.7	65.8	84.4
500 to 999	91.5	91.7	97.0
1,000 to 4,999	94.9	95.4	97.9
5,000 to 9,999	97.5	97.6	99.4
10,000 or more	98.2	98.7	97.4
All plans	7.4	77.9	85.1

Note: Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

Research Agenda for This Report

This report primarily focuses on plan year 2023 from the DOL Form 5500 Research File and from MarketPro Retirement powered by BrightScope, which contains details from audited Form 5500 reports, for plans that filed Schedule H—typically plans with 100 participants or more (large plans). The report presents data on how these large 401(k) plans are structured, the types of service providers that plan sponsors engage with, the investment options offered in 401(k) plans, and the fees and expenses paid by 401(k) participants and plan sponsors. To explore changes over time, analysis of prior years is also included, both for all 401(k) plans in a given year and for 401(k) plans that are consistently included in the database.

Chapter 1 reports information about automatic enrollment, employer contributions, and plan loans outstanding, primarily relying on the DOL 2023 Form 5500 Research File. In designing their 401(k) plans, employers may choose to automatically enroll participants. Employers decide if and how much they will contribute to participants' 401(k) accounts. In addition, they may include a loan feature in the 401(k) plan. This chapter explores the combinations of these activities and how they vary across 401(k) plans.

Chapter 2 focuses on the structure of the 401(k) plans, analyzing the number and types of investment options that participants have available as well as the investment options that the participants choose, based on the audited 401(k) plans in MarketPro Retirement powered by BrightScope. Because target date funds have continued to become more prevalent in 401(k) plans over the past several years, this chapter explores how often they are offered in plans, what portion of plan assets are dedicated to these funds, and how these measures have changed in recent years. This chapter also explores the growing role of index funds.

Chapter 3 explores the types of recordkeepers that are engaged in servicing 401(k) plans based on the audited 401(k) plans in MarketPro Retirement powered by BrightScope. A wide variety of businesses, such as asset managers (including mutual fund companies), insurance companies, banks, brokerage firms, and pure recordkeepers provide recordkeeping services. Employers choose from a wide variety of investment options for their plan lineups, including in some cases funds that are sponsored by the plan's recordkeeper, known as proprietary funds. The percentage of plans offering at least one proprietary fund and the percentage of plan assets invested in proprietary funds are presented in this chapter.

Chapter 4 analyzes fees paid to operate 401(k) plans, based on the audited 401(k) plans in MarketPro Retirement powered by BrightScope and fee information from industry sources. ISS MI has built a total plan cost measure for plans with sufficiently complete information. Because participants and assets tend to be concentrated in larger plans, ISS MI's total plan cost measure is analyzed for the average participant and the average dollar, as well as for the average plan. Then, because investment fees tend to be a significant portion of plan expenses—and because extensive information on mutual fund fees is available—the expense ratios of mutual funds in 401(k) plans are presented, with a special focus on the variation in mutual fund fees across plan size and different investment objectives (e.g., equity funds, balanced funds, bond funds, money market funds, and other funds), often including both index and actively managed funds. This material is intended to provide general information on fees paid by participants in a wide variety of plans to provide insight into average fees across the marketplace. It is not intended for benchmarking the costs of specific plans to the broad averages presented here.

Chapter 1: 401(k) Plan Enrollment, Employer Contributions, and Use of Loans

When designing their 401(k) plans, employers make decisions regarding elements of plan design, including these key features:

- » automatic enrollment of employees into the plan at a given contribution rate to encourage participation;
- » provision of employer contributions (perhaps designing those contributions to encourage contribution of at least a certain percentage of salary from participants),¹⁴ eligibility for employer contributions, and vesting time frame; and
- » access to plan assets through participant loans.¹⁵

These plan design features have an impact on employee experience with 401(k) plans, and the thinking on plan design has evolved. In addition to these plan design features, plan sponsors also select the lineup of investment options¹⁶ offered in the plan (which will be discussed in chapter 2).

Employer Plan Design Choices

Although participants generally choose whether and how much to contribute to 401(k) plans and what assets to invest in, employers are responsible for the plan architecture in which those decisions are made. For example, employers pick the investment choices to offer in the plan, whether to automatically enroll employees in the plan, whether to encourage participant contributions through an employer match, and whether to allow access to account assets before retirement. This chapter focuses on three such plan design features: automatic enrollment, employer contributions, and loans. Prior work has tended to focus on the availability of individual plan design features in isolation.¹⁷ However, plans are designed by selecting a package of features in order to attract and retain qualified workers. To understand the choices that employers make, this chapter uses data primarily from the 2023 DOL Form 5500 Research File to focus on the plan feature combinations that employers choose when designing their 401(k) plans.^{18, 19}

Data on Automatic Enrollment, Employer Contributions, and Use of Loans

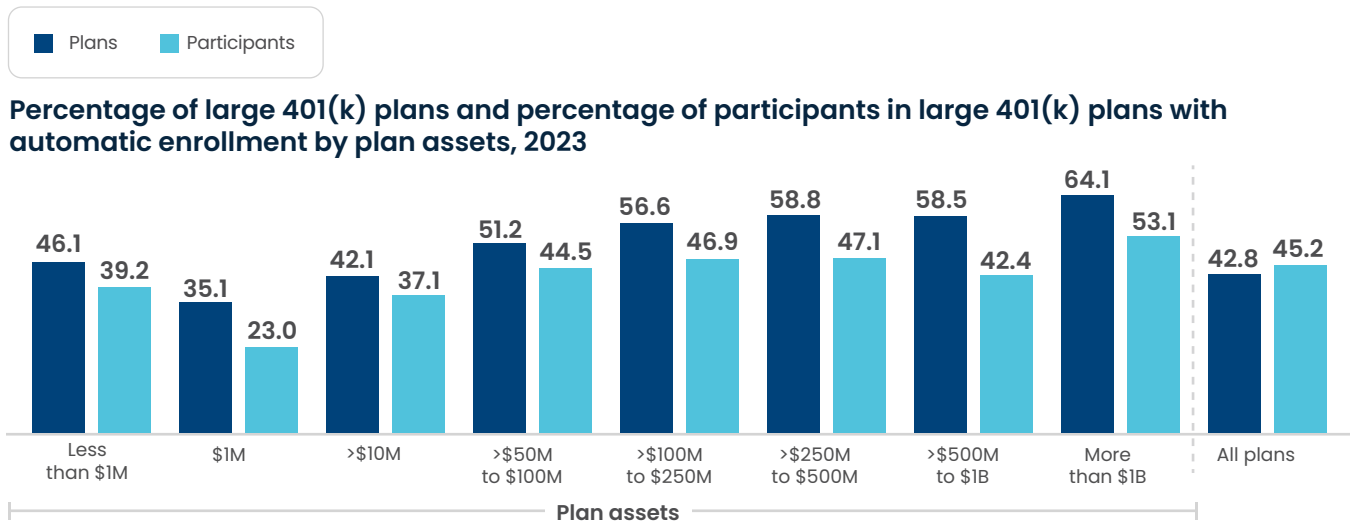
This chapter's analysis relies primarily on data from the Department of Labor 2023 Form 5500 Research File focusing on plans that filed Schedule H—typically plans with 100 participants or more (large plans). The use of automatic enrollment by a plan is confirmed by the reported plan feature on the 2023 Form 5500. Determining the presence and amount of employer contributions relies on Form 5500 reports of the income statement of the 401(k) plans. The availability of a loan feature is not reported, but it is possible to determine whether any participants have loans by using the balance sheet item on the Form 5500 for participant loans outstanding. Although the loan analysis captures loan use rather than loan offering, it is likely that at least one participant in such plans offering loans would have a loan outstanding in the larger plans analyzed.

The Role of Automatic Enrollment

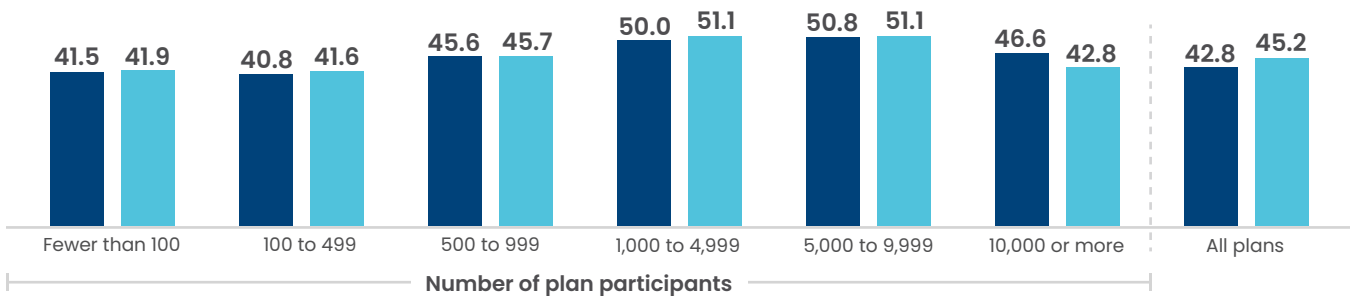
The adoption of automatic enrollment by many plan sponsors marks a significant innovation and change to 401(k) plan design. Employers can choose to automatically enroll employees in 401(k) plans, selecting a default initial contribution rate and a default investment, unless the employee indicates otherwise. The employee can then choose to opt out of the plan entirely, adjust the contribution rate or investment allocation, or leave the default options unchanged. Larger plans are more likely to report an automatic enrollment feature. Plans were determined to have automatic enrollment if the plan sponsor reported the feature on its 2023 Form 5500.²⁰ In 2023, more than half of 401(k) plans in the sample with more than \$50 million in plan assets had automatic enrollment, and more than six in 10 plans with more than \$1 billion in plan assets did (Exhibit 1.1). Overall, 43% of large 401(k) plans reported that they automatically enrolled participants.

EXHIBIT 1.1

Larger 401(k) Plans Are More Likely To Automatically Enroll Participants



Percentage of large 401(k) plans and percentage of participants in large 401(k) plans with employer contributions by number of plan participants, 2023



Note: The sample is 57,721 plans with 67.3 million participants and \$6.9 trillion in assets. The results include plans that filed Form 5500 Schedule H (typically plans with 100 participants or more) and exclude 403(b) plans with a 401(k) feature.

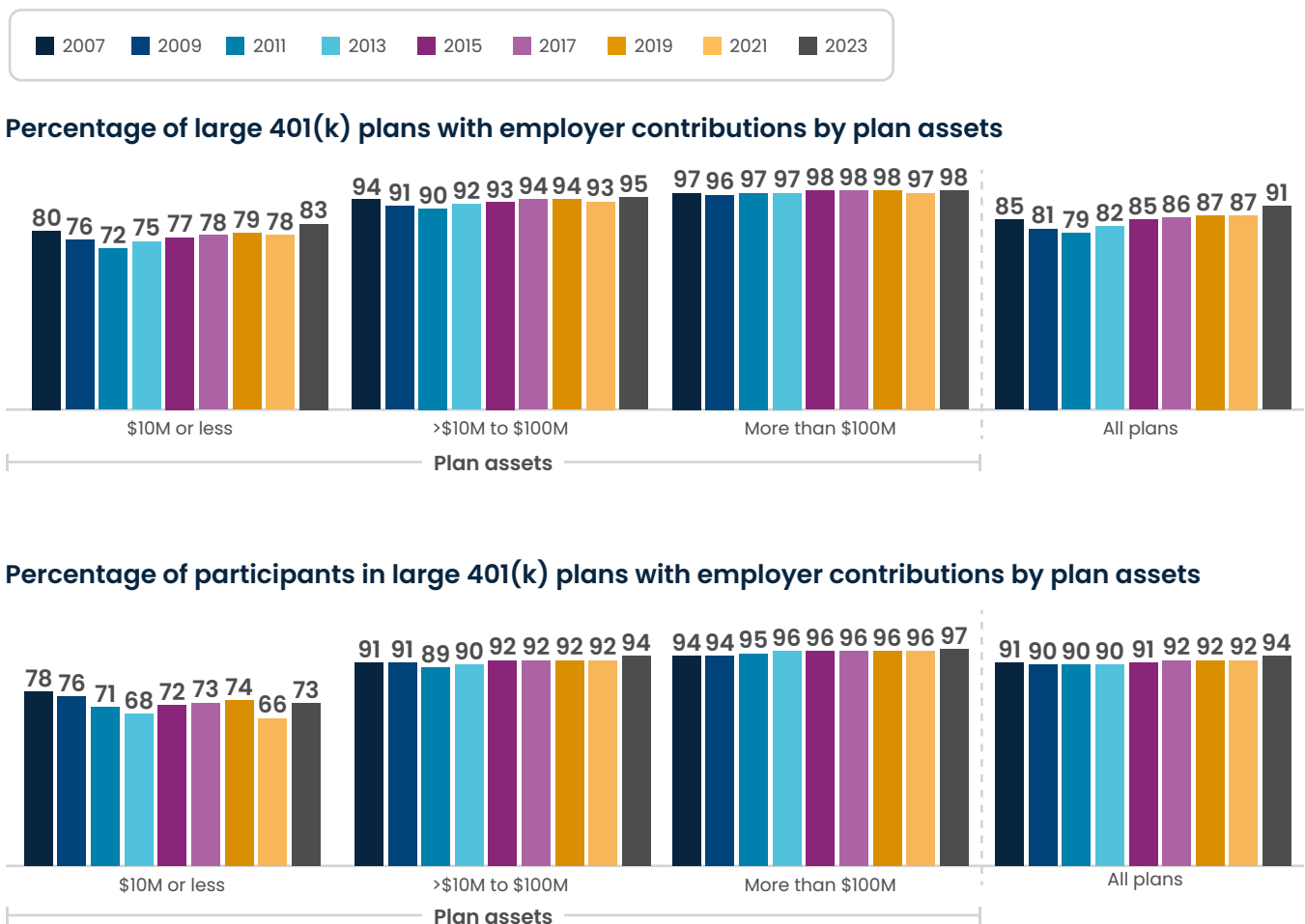
Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 Research File

The Role of Employer Contributions

Employers choose whether, how, and how much to contribute to their employees' 401(k) accounts. Employers can choose to make contributions to their employees' 401(k) plan accounts, either through matching employee contributions or by making automatic contributions without regard to employee contribution behavior. The DOL Form 5500 Research File data for large 401(k) plans indicate that employers made contributions in 91% of large 401(k) plans in 2023,²¹ up from 85% in 2007 (Exhibit 1.2). In addition, 94% of large 401(k) plan participants were in plans with employer contributions, up slightly from 91% in 2007, reflecting the fact that larger 401(k) plans are more likely to have employer contributions.

EXHIBIT 1.2

Employers Make Contributions in Most Large 401(k) Plans



Note: The results include plans that filed Form 5500 Schedule H (typically plans with 100 participants or more) and exclude 403(b) plans with a 401(k) feature. See Exhibit A.3 in the appendix for data on the full 401(k) universe.

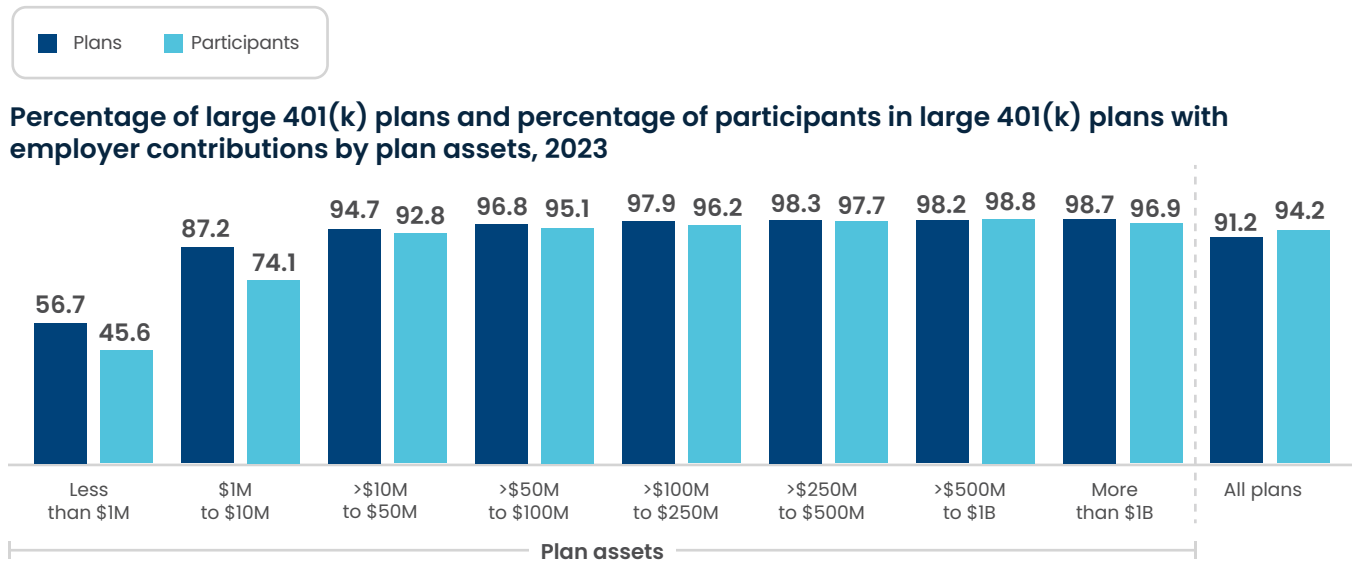
Source: Investment Company Institute tabulations of US Department of Labor Form 5500 Research File

Larger 401(k) plans were more likely than smaller plans to provide employer contributions. For example, in 2023, more than 90% of 401(k) plans with more than \$10 million in plan assets had employer contributions, compared with 87% of 401(k) plans with \$1 million to \$10 million (Exhibit 1.3, upper panel). A similar pattern is evident across 401(k) plans analyzed by number of plan participants (Exhibit 1.3, lower panel).²²

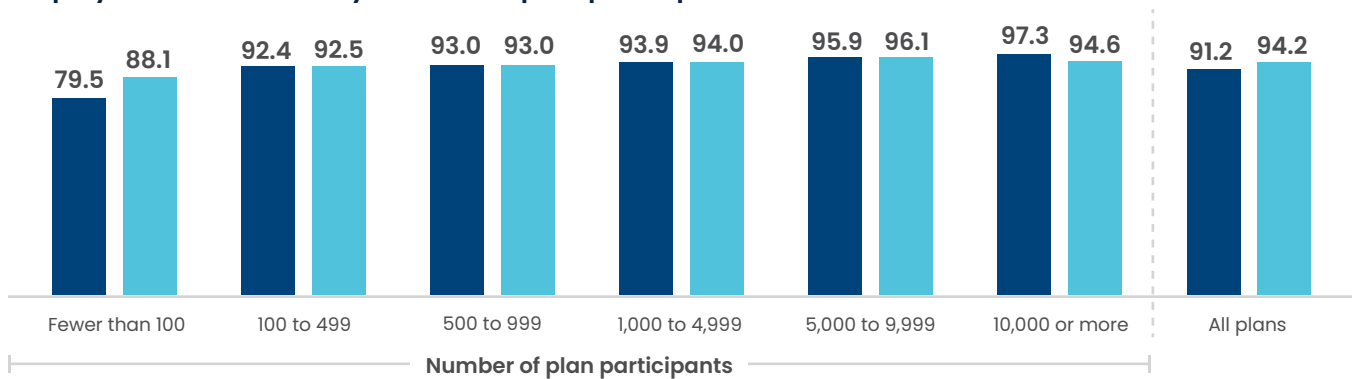
EXHIBIT 1.3

Larger 401(k) Plans Are More Likely To Offer Employer Contributions

Percentage of large 401(k) plans and percentage of participants in large 401(k) plans with employer contributions by plan assets, 2023



Percentage of large 401(k) plans and percentage of participants in large 401(k) plans with employer contributions by number of plan participants, 2023



Note: The sample is 57,721 plans with 67.3 million participants and \$6.9 trillion in assets. The results include plans that filed Form 5500 Schedule H (typically plans with 100 participants or more) and exclude 403(b) plans with a 401(k) feature. See Exhibit A.3 in the appendix for data on the full 401(k) universe.

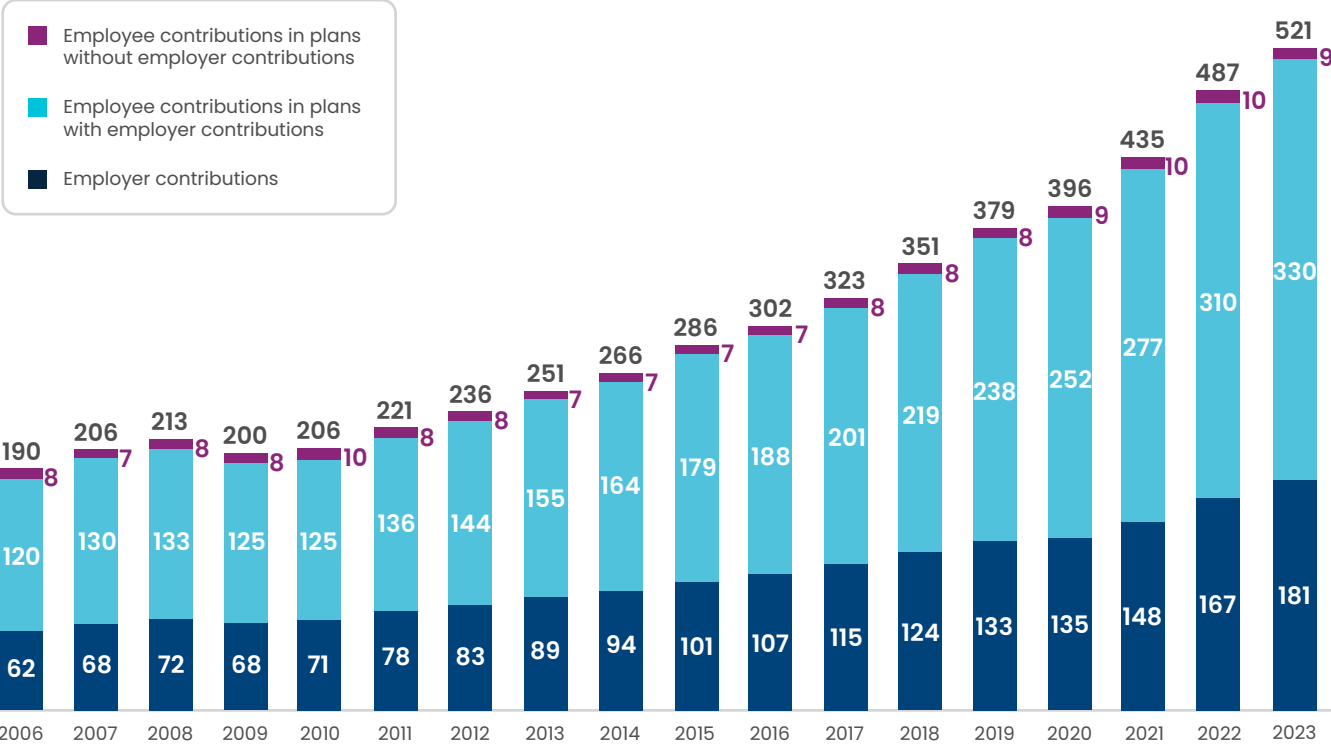
Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 Research File

Employer contributions represent a significant portion of contributions flowing into large 401(k) plans. In 2023, \$181 billion, or 35% of employer and employee contributions into large 401(k) plans, was from employer contributions (Exhibits 1.4 and 1.5). Employer contributions have represented a relatively steady share of contributions over the past several years—ranging from 33% to 36% of total contributions between 2006 and 2023.

EXHIBIT 1.4

Employers Make Significant Contributions to Large 401(k) Plans

Employer and employee contributions to large 401(k) plans, billions of dollars



Note: Employer and employee contributions exclude contributions from others (which includes rollovers into 401(k) plans) and noncash contributions. The results include plans that filed Form 5500 Schedule H (typically plans with 100 participants or more) and exclude 403(b) plans with a 401(k) feature. See Exhibit A.4 in the appendix for data on the full 401(k) universe.

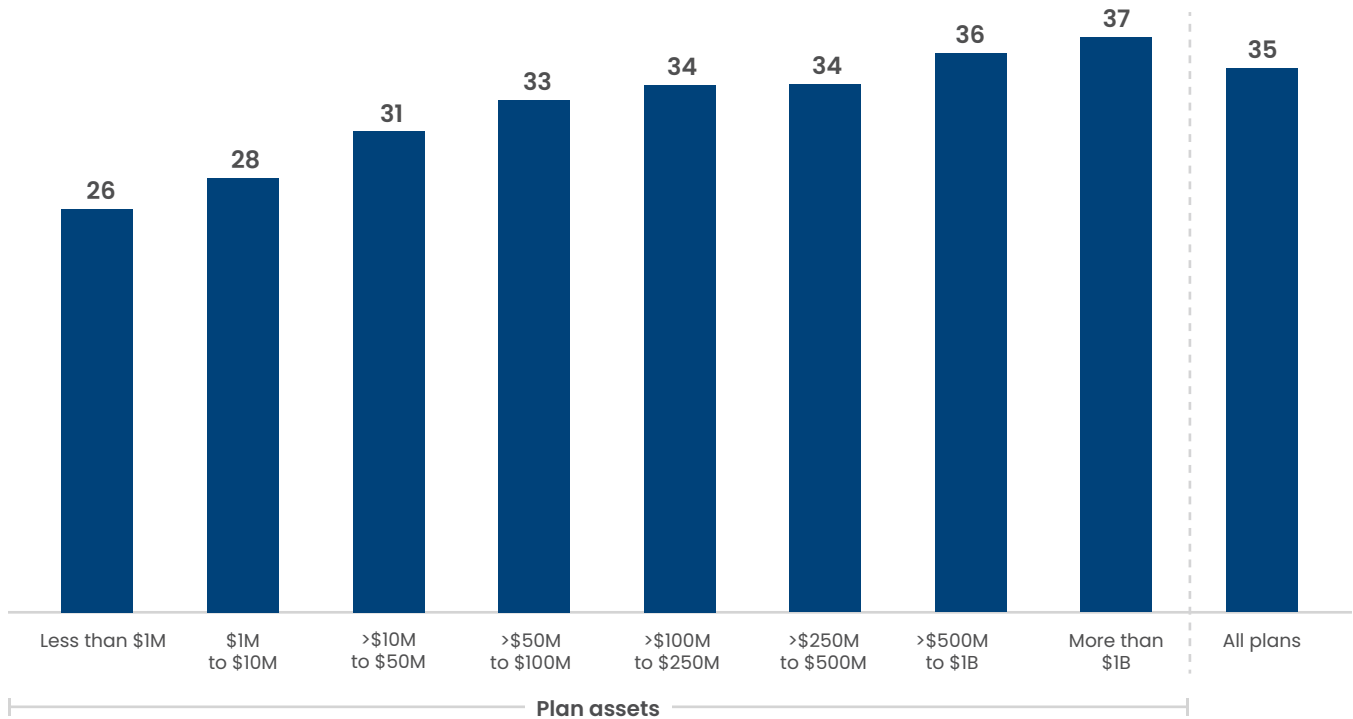
Source: Investment Company Institute tabulations of US Department of Labor Form 5500 Research File

The share of employer contributions in large 401(k) plan contributions varies only slightly by 401(k) plan size. In 2023, 26% of employer and employee contributions flowing into large 401(k) plans with less than \$1 million in plan assets in the sample came from employers, while 37% of contributions flowing into 401(k) plans with more than \$1 billion did (Exhibit 1.5).

EXHIBIT 1.5

Employer Contributions Are a Slightly Larger Share of Employer and Employee Contributions in Larger 401(k) Plans

Percentage of large 401(k) plan employer and employee contributions by plan assets, 2023



Note: The sample is 57,721 plans with 67.3 million participants and \$6.9 trillion in assets. Employer and employee contributions exclude contributions from others (which includes rollovers into 401(k) plans) and noncash contributions. The results include plans that filed Form 5500 Schedule H (typically plans with 100 participants or more) and exclude 403(b) plans with a 401(k) feature. See Exhibit A.5 in the appendix for data on the full 401(k) universe.

Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 Research File

TYPES OF EMPLOYER CONTRIBUTIONS

Employers choosing to make contributions to their employees' 401(k) plan accounts can choose either to match contributions made by the employees or to make contributions regardless of employee contributions. If the employer chooses to match employee contributions, the options include a simple match formula, a tiered match formula, or a maximum dollar match formula. With a simple match formula, employee contributions are matched up to a fixed percentage of salary—for example, the employer matches 50% of employee contributions for the first 6% of the employee's salary for a maximum employer contribution of 3% of the employee's salary. With a tiered match formula, different levels of employee contributions are matched at different rates—for example, matching 100% of the first 4% of salary contributed and 50% of the next 2% for a maximum employer contribution of 5% of the employee's salary. With a maximum dollar match formula, employee contributions are matched up to a given dollar threshold—for example, matching 50% of the first \$2,000 in contributions for a maximum employer contribution of \$1,000. In addition, employers can choose to make automatic contributions without regard to participant behavior, either alone or in addition to a matching contribution.

Simple matching formulas are the most common type of employer contribution. In 2023, 37% of large 401(k) plans with employer contributions contributed through a simple matching formula alone, and another 10% of large 401(k) plans had automatic contributions in addition to a simple match (Exhibit 1.6). Twenty-three percent of large 401(k) plans with employer contributions used a tiered matching formula, 1% used a maximum dollar match, and 29% contributed money to the plan without regard to how much the employee contributed.²³ Overall, 47% of large 401(k) plans with employer contributions had a simple matching formula, and 25% made automatic contributions (Exhibits 1.6 and 1.7).

EXHIBIT 1.6

Employer Contribution Matching Formulas

Percentage of plans among large 401(k) plans with employer contributions, 2023

	Plan assets					All plans
	\$10M or less	>\$10M to \$50M	>\$50M to \$100M	>\$100M to \$250M	More than \$250M	
No match data ¹	19.1	17.1	14.6	12.6	14.2	17.1
No match data ¹ + automatic contribution ²	8.0	15.1	14.3	8.9	8.7	11.8
Maximum dollar match ³ only	0.0	1.7	2.4	0.7	1.1	1.1
Maximum dollar match ³ + automatic contribution ²	0.0	0.7	0.3	0.0	0.1	0.3
Tiered match ⁴ only	22.1	19.2	14.3	18.2	18.7	19.6
Tiered match ⁴ + automatic contribution ²	2.3	3.1	6.1	5.5	5.1	3.4
Simple match ⁵ only	43.5	31.2	35.1	39.7	38.6	36.8
Simple match ⁵ + automatic contribution ²	5.0	12.0	12.9	14.4	13.6	9.9

¹ Plans with missing match data may be included in this category.

² Automatic contributions include nonelective employer contributions and lump-sum employer contributions.

³ Maximum dollar match formulas match some percentage of employee contributions up to a fixed dollar amount (for example, matching 50% of the first \$2,000 of employee contributions).

⁴ Tiered match formulas match employee contributions at different rates for different levels of employee contributions (for example, matching 100% of the first 4% of salary contributed and 50% of the next 2%).

⁵ Simple match formulas match a specified percentage of employee contributions up to a fixed percentage of employee salary (for example, matching 50% of employee contributions up to 6% of the employee's salary).

Note: The sample is 2,099 large 401(k) plans with 17.2 million participants and \$3.0 trillion in assets, drawn from the 91.2% of large 401(k) plans with employer contributions (see Exhibit 1.3).

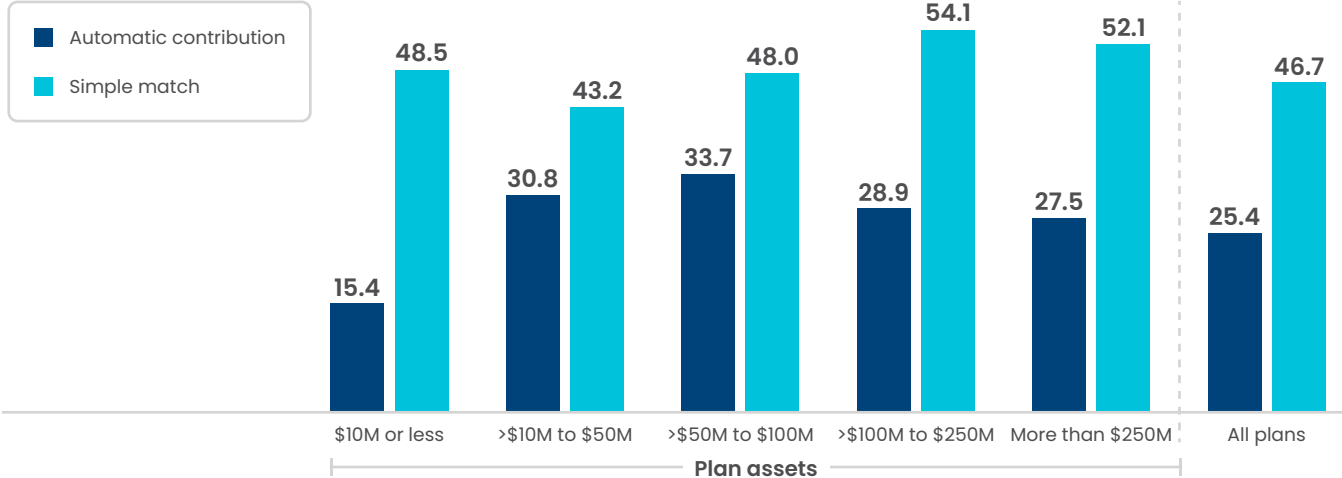
Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 audited reports

Many large 401(k) plans across all plan sizes with employer contributions had simple matches (Exhibit 1.7). The smallest plans were the least likely to make automatic employer contributions—for example, this feature was seen in 15% of plans with \$10 million or less in plan assets, compared with more than one-quarter of plans with more than \$10 million in plan assets.

EXHIBIT 1.7

Many Large 401(k) Plans Make Automatic Employer Contributions

Percentage of large 401(k) plans with employer contributions by plan assets, 2023



Note: The sample is 2,099 large 401(k) plans with 17.2 million participants and \$3.0 trillion in assets, drawn from the 91.2% of large 401(k) plans with employer contributions (see Exhibit 1.3). See Exhibit 1.6 for additional detail.

Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 audited reports

SIMPLE MATCH FORMULAS

For simple match formulas, the employer chooses the percentage of employee contributions to match, as well as the maximum contribution percentage to match. Among the 46.7% of large 401(k) plans with employer contributions with simple match formulas, the most common formula was matching 50% of contributions up to 6% of employee salary, with 22.7% of large 401(k) plans using this formula for their matching contributions (Exhibit 1.8). The next most common simple match formula, used by 16.5% of large 401(k) plans with simple matches, was a 100% match of contributions up to 4% of employee salary. Altogether, the most common match rates for employer contributions, with various limits on the maximum employee contribution matched, were 100%, used by 45.4% of large 401(k) plans with simple matches, and 50%, used by 39.8% of large 401(k) plans with simple matches. The most common percentage of employee contributions matched, with a variety of limits on the percentage of the contribution matched, was 6%, used by 38.7% of large 401(k) plans with simple matches.

EXHIBIT 1.8

Employers With Simple Matches Use a Variety of Matching Formulas

Percentage of plans among large 401(k) plans with a simple match, 2023

Percentage of deferral matched	Maximum deferral percentage matched								Total
	<3%	3%	4%	5%	6%	7%, 8%, or 9%	10% or more	Other	
25%	0.1	0.3	2.4	1.2	3.1	0.5	1.0	0.0	8.6
50%	0.7	2.3	5.2	4.0	22.7	2.6	1.9	0.4	39.8
75%	(*)	0.0	(*)	(*)	0.5	(*)	0.0	(*)	0.7
100%	1.8	6.8	16.5	8.3	11.0	0.2	0.6	0.3	45.4
Other	0.4	0.7	0.3	1.6	1.3	0.7	0.7	(*)	5.6
Total	2.9	10.1	24.4	15.1	38.7	4.0	4.1	0.7	100.0

(*) = less than 0.05%

Note: Plans with no employer contribution, maximum dollar contributions, tiered match formulas, or only a nonmatching contribution were excluded. The sample is the 46.7% of large 401(k) plans with employer contributions that had simple match formulas (see Exhibit 1.7). Form 5500 audited 401(k) filings generally include plans with 100 participants or more.

Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 audited reports

TIMING OF EMPLOYER CONTRIBUTIONS

If employers offer contributions to employees, they can choose to impose a minimum service requirement before employees are eligible to receive the contributions. Employers also can choose to implement a vesting schedule, where employees forfeit some or all of the employer contributions in their accounts if they leave the employer before a specified length of time, although employees are always 100% vested in their own contributions. The most common combination of contribution eligibility and vesting for large 401(k) plans with employer contributions was for employees to receive employer contributions sometime after hire but within the first year of service and to be fully vested in those contributions immediately: 35.5% of 401(k) plans in the sample of large 401(k) plans providing this information had this combination in 2023 (Exhibit 1.9). This was followed by plans in which employees were eligible for employer contributions at the one-year mark and were fully vested in those contributions immediately, comprising 17.8% of 401(k) plans in the sample. Overall, employees in 64.6% of the large 401(k) plans analyzed were immediately vested, and 48.4% of plans made employees eligible for employer contributions within their first year, followed by 37.6% of plans that made employees eligible for employer contributions at the one-year mark.

EXHIBIT 1.9

Eligibility and Vesting in Audited 401(k) Plans

Years until fully vested by months until eligible for matching contribution among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope, percentage of plans, 2023

Months until eligible for matching contribution	Years until fully vested							Total
	Zero	One	Two	Three	Four	Five	Six	
Immediate	10.7	0.2	0.7	0.6	0.2	0.5	0.5	13.4
>0 to <12	35.5	0.4	3.6	1.8	0.8	2.5	3.6	48.4
12	17.8	0.2	1.1	3.2	1.5	4.5	9.2	37.6
More than 12	0.6	(*)	(*)	(*)	(*)	(*)	(*)	0.7
Total	64.6	0.8	5.5	5.7	2.5	7.6	13.4	100.0

(*) = less than 0.05%

Note: The sample is 19,624 plans with information on eligibility and vesting. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

The Use of Participant Loans

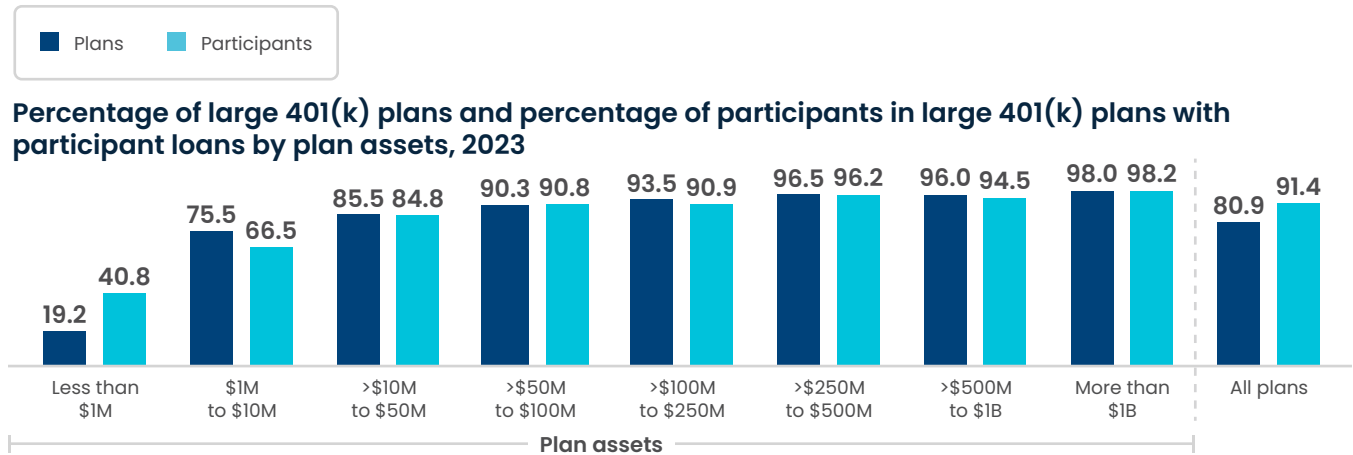
Employers may also consider whether to allow access to 401(k) account assets before retirement through a loan feature.²⁴ In plans that offer loans, participants can take a loan from their own accounts, subject to plan limits. Participants must then repay their loans, plus interest, into their accounts within a set period.²⁵ Although participants typically must repay any loans shortly after leaving their employers, which can lead to defaults,²⁶ the existence of a loan feature may encourage workers to sign up for the plan in the first place or to defer more of their salary into the plan.²⁷ It is possible to determine whether a participant has taken out a loan by gathering data on participant loans outstanding, which are part of the balance sheet reporting on the Form 5500.²⁸

Larger 401(k) plans are more likely to have loans outstanding than smaller 401(k) plans. In 2023, overall, 81% of the large 401(k) plans analyzed had participant loans outstanding (Exhibit 1.10). More than 90% of 401(k) plans in the sample with more than \$50 million in plan assets had participant loans outstanding, compared with 76% of 401(k) plans in the sample with \$1 million to \$10 million in plan assets.

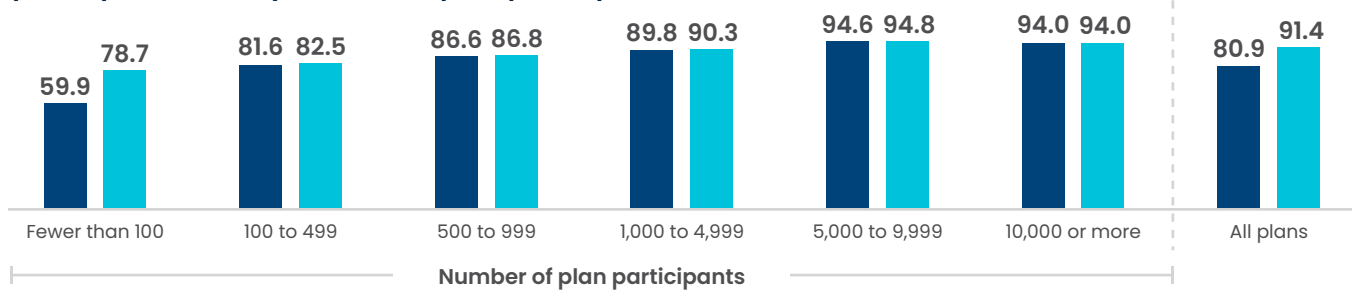
Because nearly all larger 401(k) plans in the sample had participant loans outstanding, 91% of 401(k) plan participants in the sample were in plans that had loans outstanding (Exhibit 1.10).²⁹ Similarly, larger 401(k) plans, as measured by the number of plan participants, were more likely to have participant loans outstanding, rising from 60% of plans with fewer than 100 participants to nearly 95% of plans with 5,000 participants or more. Even though loans are widely available, the amounts borrowed represent 1% of 401(k) plan assets.³⁰ In addition, DC plan recordkeeper data indicate that fewer than one in five 401(k) plan participants have loans outstanding.³¹

EXHIBIT 1.10

Nearly All Larger 401(k) Plans Have Participant Loans Outstanding



Percentage of large 401(k) plans and percentage of participants in large 401(k) plans with participant loans by number of plan participants, 2023



Note: The sample is 57,721 plans with 67.3 million participants and \$6.9 trillion in assets. A plan was determined to allow participant loans if any participant had a loan outstanding at the end of plan year 2023. The results include plans that filed Form 5500 Schedule H (typically plans with 100 participants or more) and exclude 403(b) plans with a 401(k) feature.

Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 Research File

401(k) Plan Activity Combinations

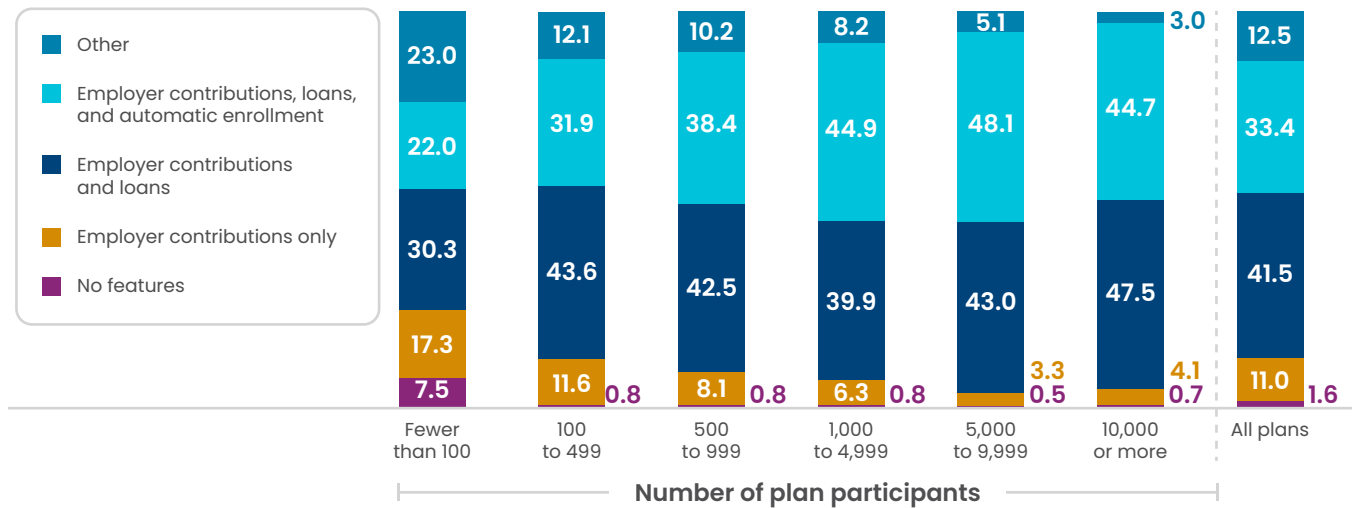
When designing their compensation structures, employers choose a combination of wages and benefits to attract qualified workers. Similarly, employers design 401(k) plans by selecting a combination of features that their employees are likely to value. Nearly all of the sample of nearly 58,000 large 401(k) plans included at least one of the three activities explored in this research. Across the sample of large 401(k) plans in 2023, only 1.6% did not offer employer contributions, did not automatically enroll employees, and did not have participant loans outstanding (Exhibit 1.11). The most prevalent combination of plan activities was employer contributions in plans that also had participant loans outstanding, which was observed in 41.5% of large 401(k) plans. Another 11.0% of large 401(k) plans had employer contributions only, and 33.4% had employer contributions, outstanding loans, and automatic enrollment. The remaining 12.5% of 401(k) plans in the sample had some other configuration of the three features.

Larger 401(k) plans tend to be more likely to have employer contributions, participant loans outstanding, and automatic enrollment (Exhibit 1.11). In 2023, more than 40% of 401(k) plans in the sample that had 1,000 participants or more had employer contributions, participant loans outstanding, and automatic enrollment, compared with 22% of plans in the sample with fewer than 100 participants. Overall, one-third of 401(k) plans in the sample had reported evidence of all three activities.

EXHIBIT 1.11

Large 401(k) Plans with Selected Plan Activity Combinations

Percentage of large 401(k) plans with selected plan activity combinations by number of plan participants, 2023



Note: The sample is 57,721 plans with 67.3 million participants and \$6.9 trillion in assets. Plan activities include employer contributions, automatic enrollment, and participant loans outstanding. A plan was determined to allow participant loans if any participant had a loan outstanding at the end of plan year 2023. The results include plans that filed Form 5500 Schedule H (typically plans with 100 participants or more) and exclude 403(b) plans with a 401(k) feature. For additional detail and analysis by plan assets, see Exhibit A.1 in the appendix.

Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 Research File

401(k) Plan Activities by Presence of Automatic Enrollment

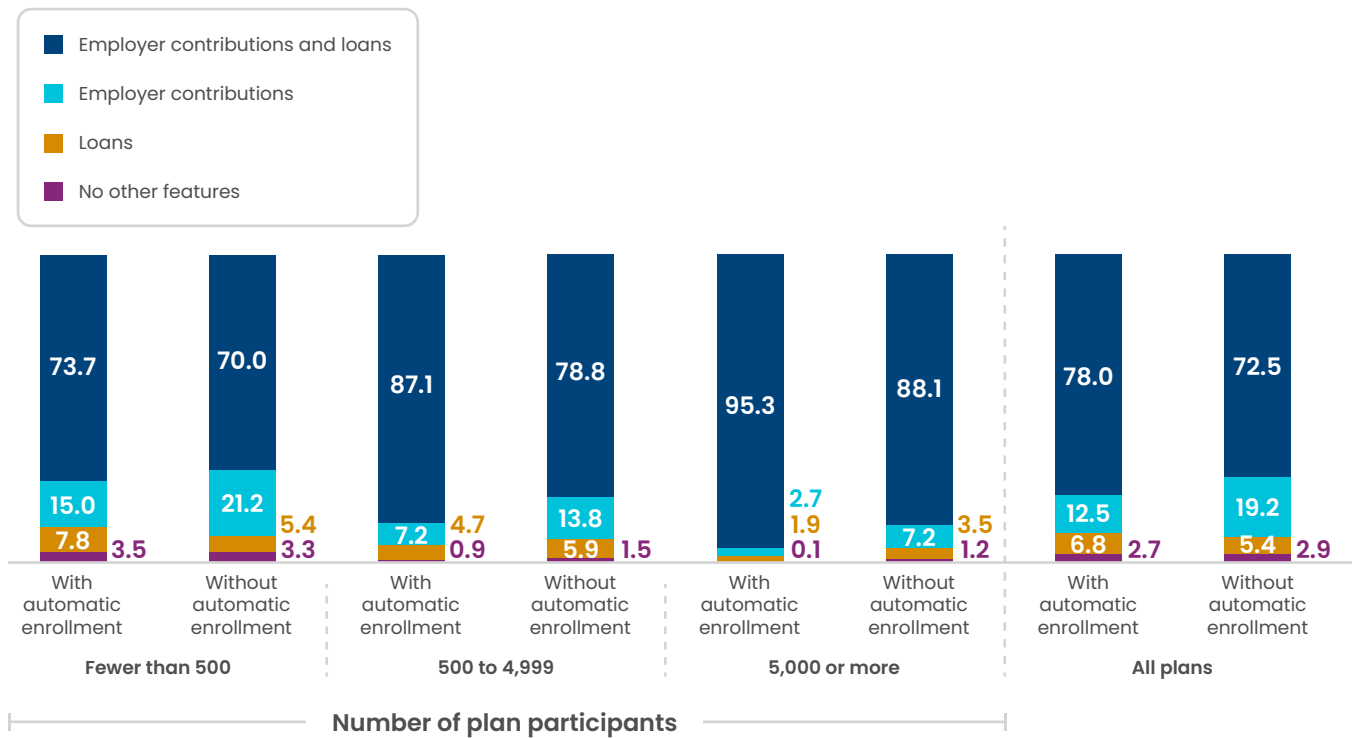
Another way to analyze the plan design combinations that employers choose is to look at how remaining plan design features vary while controlling for one feature. This section discusses employer contributions and outstanding participant loans, comparing their incidence in large 401(k) plans with and without automatic enrollment. The data are explored this way because the participation results achieved with automatic enrollment may also be reflecting the influence of other plan features.

Plans with automatic enrollment are more likely to have both employer contributions and participant loans outstanding than plans without automatic enrollment. In 2023, 78.0% of 401(k) plans in the sample that had automatic enrollment had employer contributions and outstanding participant loans, compared with 72.5% of plans in the sample without automatic enrollment (Exhibit 1.12). Nevertheless, employer contributions were similarly likely in 401(k) plans with automatic enrollment: in 2023, 90.5% of 401(k) plans in the sample with automatic enrollment had employer contributions, compared with 91.7% of plans without automatic enrollment. A similar pattern is observed across plan sizes, although plans with more participants are more likely to have employer contributions and outstanding participant loans whether or not they also automatically enroll participants.

EXHIBIT 1.12

Large 401(k) Plans With Automatic Enrollment Are More Likely To Have Both Employer Contributions and Outstanding Loans

Percentage of large 401(k) plans with selected plan design feature combinations by automatic enrollment and number of plan participants, 2023



Note: The sample is 57,721 plans with 67.3 million participants and \$6.9 trillion in assets. Plan activities include employer contributions and participant loans outstanding. A plan was determined to allow participant loans if any participant had a loan outstanding at the end of plan year 2023. The results include plans that filed Form 5500 Schedule H (typically plans with 100 participants or more) and exclude 403(b) plans with a 401(k) feature. For additional detail and analysis by plan assets, see Exhibit A.1 in the appendix.

Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 Research File

Chapter 2: 401(k) Investment Menu Design

Employers choose whether or not to offer 401(k) plans to their employees, and if so, how to design their plans to attract and retain qualified workers.³² These design choices include the number and types of investment options in the plan. This chapter explores the investment menus that employers have chosen for 401(k) plans in MarketPro Retirement powered by BrightScope and how investments vary by plan size. MarketPro Retirement powered by BrightScope contains detailed information from audited Form 5500 reports for large private-sector 401(k) plans that filed Schedule H, typically plans with 100 participants or more. This chapter analyzes plans from MarketPro Retirement powered by BrightScope with between four and 100 investment options.

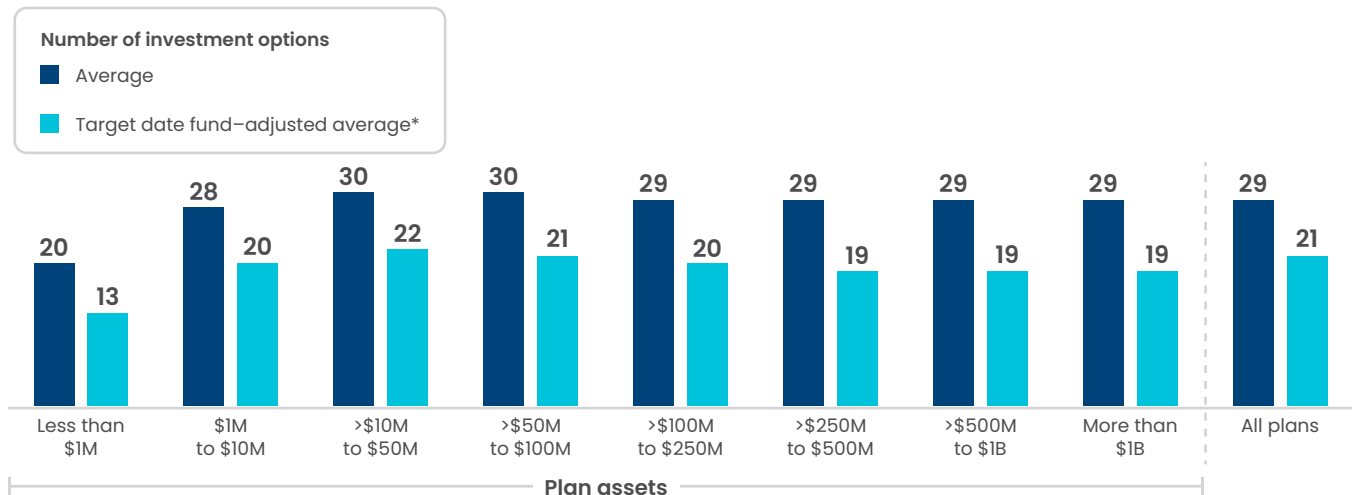
Number and Types of Investment Options

On average, large 401(k) plans in MarketPro Retirement powered by BrightScope offered participants 29 investment options in 2023 (Exhibit 2.1). The number of investment options offered varies little among 401(k) plans with \$1 million or more in plan assets (ranging between 28 options and 30 options). Plans with less than \$1 million in plan assets offered 20 options on average. Because plans may offer suites of target date funds with options tailored to multiple anticipated retirement dates, an adjusted number that counts a suite of target date funds as one investment option is also presented. On average, large 401(k) plans offer 21 options according to this target date fund-adjusted number, similarly with little variation across plan size categories.

EXHIBIT 2.1

Number of Investment Options in 401(k) Plans

Average number of investment options among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets, 2023



* This measure counts an entire suite of target date funds as one investment option for plans offering target date 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. A suite will cover a range of anticipated retirement dates.

Note: The sample is 53,258 plans with 65.0 million participants and \$6.6 trillion in assets. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

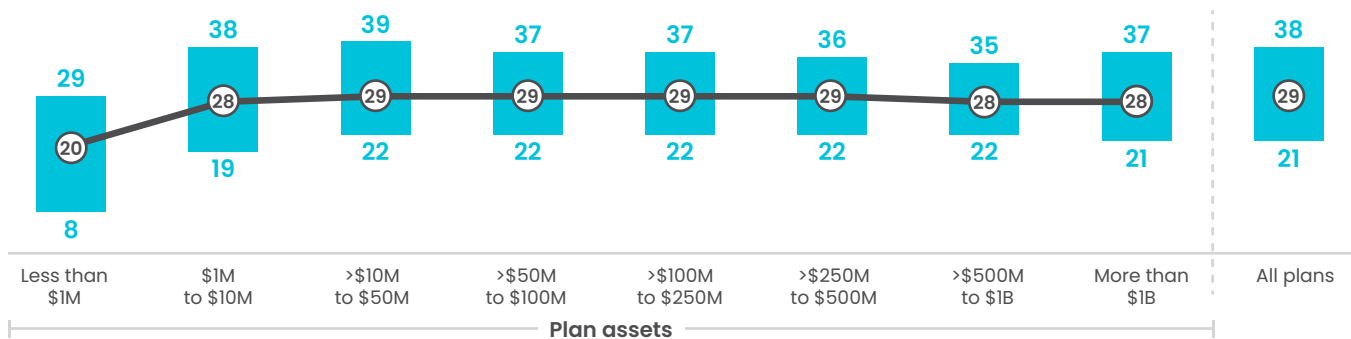
Source: MarketPro Retirement powered by BrightScope

Although the average number of investment options varies little by plan size, there is considerable variation between plans. For example, in 2023, 10% of these large 401(k) plans offered 21 or fewer investment options, and plans at the 90th percentile offered 38 options (Exhibit 2.2, upper panel). Even with a target date fund–adjusted measure, plans vary considerably, ranging from 13 options to 29 options at the 10th and 90th percentiles (Exhibit 2.2, lower panel).

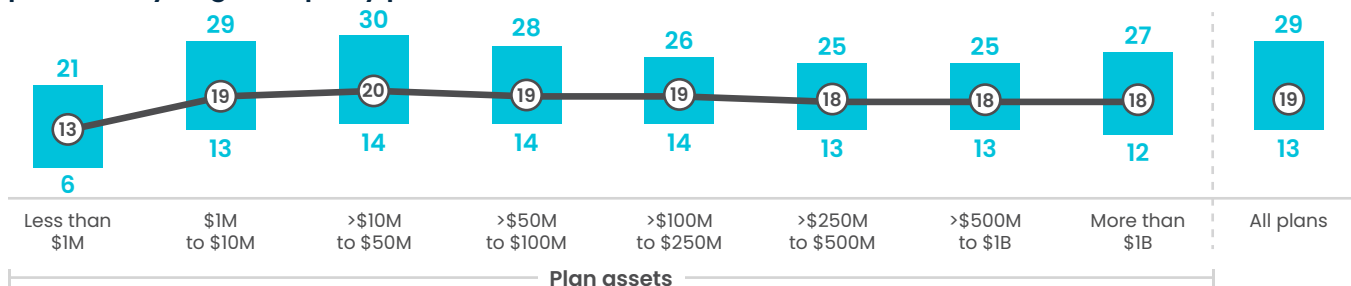
EXHIBIT 2.2

Distribution of Number of Investment Options in 401(k) Plans

10th percentile, median, and 90th percentile number of investment options among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets, 2023



10th percentile, median, and 90th percentile number of target date fund–adjusted* investment options among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets, 2023



* This measure counts an entire suite of target date funds as one investment option for plans offering target date 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. A suite will cover a range of anticipated retirement dates.

Note: The sample is 53,258 plans with 65.0 million participants and \$6.6 trillion in assets. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

Between 2006 and 2023, large 401(k) plans that were in MarketPro Retirement powered by BrightScope in every year, referred to as consistent plans in this report,³³ added an average of seven investment options, on net, to their plan lineups, going from 22 investment options on average in 2006 to 29 in 2023 (Exhibit 2.3).³⁴ Target date funds accounted for much of the net increase in the number of investment options offered. If a target date fund suite is counted as a single investment option, then the number of investment options offered in consistent plans only increased, on average, from 19 options in 2006 to 20 options in 2023.³⁵

EXHIBIT 2.3

Consistent 401(k) Plans Have Increased the Number of Investment Options Offered

Average number of investment options among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope in every year by plan assets

	Plan assets							All plans
	\$1M to \$10M	>\$10M to \$50M	>\$50M to \$100M	>\$100M to \$250M	>\$250M to \$500M	>\$500M to \$1B	More than \$1B	
2006	21	21	21	22	20	25	28	22
2007	23	23	23	23	22	27	29	24
2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2009	25	24	25	25	24	30	34	26
2010	26	25	25	26	25	30	31	26
2011	27	25	25	27	26	34	29	26
2012	26	25	25	26	27	35	29	26
2013	27	26	26	26	27	34	29	27
2014	27	26	27	26	28	28	29	27
2015	28	26	26	26	27	26	28	27
2016	28	26	27	27	29	27	27	27
2017	28	27	27	27	27	28	28	27
2018	29	27	27	28	27	28	28	28
2019	29	28	27	28	28	28	27	28
2020	29	28	28	28	28	27	27	28
2021	29	28	28	29	28	26	27	28
2022	30	29	28	29	29	27	27	29
2023	30	29	28	29	29	27	28	29

Continued on the next page

EXHIBIT 2.3 CONTINUED

Consistent 401(k) Plans Have Increased the Number of Investment Options Offered

Average number of investment options among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope in every year by plan assets

Target date fund—adjusted average number of investment options*

	Plan assets							All plans
	\$1M to \$10M	>\$10M to \$50M	>\$50M to \$100M	>\$100M to \$250M	>\$250M to \$500M	>\$500M to \$1B	More than \$1B	
2006	20	19	18	18	16	21	25	19
2007	20	19	19	18	17	22	26	20
2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2009	21	20	19	19	17	23	29	21
2010	21	20	19	19	18	23	25	21
2011	22	20	19	19	18	26	23	20
2012	21	19	19	18	19	26	22	20
2013	21	20	19	18	18	25	22	20
2014	21	20	20	18	19	20	22	20
2015	21	20	19	18	18	18	20	20
2016	21	19	19	18	19	18	20	20
2017	21	19	19	18	17	19	21	20
2018	21	20	19	19	17	18	20	20
2019	21	20	19	19	18	18	19	20
2020	21	20	19	19	18	17	19	20
2021	21	19	19	19	18	17	19	19
2022	21	20	18	19	19	17	19	20
2023	21	20	19	19	19	17	20	20

* This measure counts an entire suite of target date funds as one investment option for plans offering target date 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. A suite will cover a range of anticipated retirement dates.

N/A = not available

Note: The sample is 1,628 plans in MarketPro Retirement powered by BrightScope in each year available between 2006 and 2023 (data for 2008 are not available). Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options, more than 100 investment options, or less than \$1 million in plan assets are excluded from audited 401(k) filings for this analysis. The *plan assets* category represents plan assets in 2006.

Source: MarketPro Retirement powered by BrightScope

Domestic equity funds, international equity funds, and domestic bond funds—all of which include both index and actively managed funds—were the most likely investment options to be offered in large 401(k) plans in 2023. Nearly all large plans offered these types of funds, which can be mutual funds, collective investment trusts (CITs), or separate accounts (Exhibit 2.4). Ninety percent of large plans offered target date funds, and more than 55% offered non-target date balanced funds. Forty-nine percent of large 401(k) plans offered money funds, and 72% offered guaranteed investment contracts (GICs). More than 70% of large 401(k) plans had other investments, which include individual stocks (including company stock) and bonds. Nearly three in 10 large 401(k) plans had international bond funds in their investment lineups.

For most investment types, availability by plan size did not vary much. However, larger plans were more likely to offer other investments (which include company stock), GICs, and money funds. For example, 52.4% of the smallest plans in the database offered other investments in 2023, compared with 85.8% of the largest plans (Exhibit 2.4).³⁶ Similarly, 39.2% of plans with less than \$1 million in plan assets offered money funds in 2023, compared with 74.5% of plans with more than \$1 billion. In contrast, smaller plans were generally more likely to offer non–target date balanced funds. While about six in 10 plans with \$1 million to \$50 million in plan assets offered non–target date balanced funds, about one-third of plans with more than \$1 billion did.

EXHIBIT 2.4

Equity and Bond Funds Are the Most Common Investment Options in 401(k) Plans

Percentage of plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope offering the specified investment option by plan assets, 2023

Plan assets	Equity funds		Balanced funds		Bond funds			Money funds	GICs	Other ²	Memo: index funds
	Domestic	International	Target date funds ¹	Non–target date balanced funds	Domestic	International					
Less than \$1M	98.2	86.8	74.4	36.7	85.0	30.7	39.2	43.5	52.4	89.9	
\$1M to \$10M	99.8	98.1	89.6	58.9	97.1	29.5	44.3	66.8	68.7	95.2	
>\$10M to \$50M	99.9	99.2	90.7	61.0	99.3	29.7	47.2	74.5	74.4	98.2	
>\$50M to \$100M	99.9	99.0	89.9	55.0	99.4	25.3	54.1	78.4	74.1	99.3	
>\$100M to \$250M	100.0	99.1	90.4	51.0	99.6	21.3	59.5	79.0	73.9	99.5	
>\$250M to \$500M	99.9	98.7	91.9	46.5	99.2	18.7	63.6	77.2	76.4	99.6	
>\$500M to \$1B	100.0	98.5	93.6	41.5	99.2	17.4	68.6	76.2	78.2	99.7	
More than \$1B	99.9	97.9	89.1	34.3	98.1	16.1	74.5	79.2	85.8	98.7	
All plans	99.8	98.6	90.0	57.6	98.4	28.0	48.8	72.3	72.5	97.3	

¹ 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.

² Other includes commodity funds, real estate funds, and individual stocks (including company stock) and bonds.

Note: The sample is 53,258 plans with 65.0 million participants and \$6.6 trillion in assets. Participant loans are excluded. Funds include mutual funds, collective investment trusts, separate accounts, and other pooled investment products. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

Equity funds, including both index and actively managed funds, were the most common investment option in 2023, with large 401(k) plans offering 13 funds on average, of which nine were domestic equity funds and three were international equity funds (Exhibit 2.5). The average number of equity funds offered varied from eight equity funds among the smallest plans to 13 equity funds in plans with more than \$10 million to \$50 million in plan assets.

The next most common category in large 401(k) investment lineups in 2023 was balanced funds, including both index and actively managed funds. On average, plans offered 11 of these funds, most of which, on average 10 funds, were target date funds (Exhibit 2.5). Larger 401(k) plans tended to have more target date funds for two reasons. First, larger plans tended to be slightly more likely to offer target date funds (Exhibit 2.4). Second, larger plans offered more funds as part of their target date fund suites on average. For example, among plans with more than \$1 billion in plan assets, the average target date fund suite included around 12 funds (10.5 target date funds divided by 0.9 target date fund suites) (Exhibit 2.5). For plans with less than \$1 million in plan assets, the average target date fund suite included around nine funds (7.0 target date funds divided by 0.8 target date fund suites). On average, there were about 10 target date funds in a suite across all plans in the sample.

In 2023, large 401(k) plans included three bond funds—mostly domestic, including both index and actively managed funds—in their investment lineups, on average (Exhibit 2.5). Plans also offered money funds, GICs, and other options. These investments were not offered as widely (Exhibit 2.4) and were often included as the single choice in that investment type (Exhibit 2.6). Larger 401(k) plans tended to be somewhat more likely to offer these options and offered more of these funds when including that investment category.

EXHIBIT 2.5

Average Number of Investment Options in 401(k) Plans by Type of Investment

Average number of investment options among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets, 2023

Plan assets	Equity funds		Balanced funds		Bond funds					Memo	
	Domestic	International	Target date funds ¹	Non-target date balanced funds	Domestic	International	Money funds	GICs	Other ²	Index funds	Adjusted target date fund ³
Less than \$1M	5.9	2.0	7.0	0.6	2.1	0.3	0.4	0.4	0.8	8.6	0.8
\$1M to \$10M	9.3	3.0	9.1	1.4	3.0	0.3	0.5	0.7	1.0	9.8	1.0
>\$10M to \$50M	9.9	3.3	9.8	1.3	3.2	0.3	0.5	0.8	1.2	10.0	1.0
>\$50M to \$100M	9.3	3.1	10.3	1.0	3.1	0.3	0.6	0.8	1.2	10.1	1.0
>\$100M to \$250M	8.8	3.1	10.5	0.8	3.0	0.2	0.7	0.9	1.3	10.2	1.0
>\$250M to \$500M	8.3	2.9	10.9	0.7	2.9	0.2	0.7	0.9	1.5	10.3	1.0
>\$500M to \$1B	7.9	2.8	11.2	0.6	2.9	0.2	0.8	0.9	1.6	11.1	1.0
More than \$1B	7.1	2.7	10.5	0.5	2.9	0.2	1.0	1.3	2.4	11.8	0.9
All plans	9.4	3.1	9.7	1.2	3.1	0.3	0.5	0.8	1.2	10.0	1.0

¹ 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.

² *Other* includes commodity funds, real estate funds, and individual stocks (including company stock) and bonds, but each separate option is counted as a unique investment option.

³ This measure counts an entire suite of target date funds as one investment option for plans offering target date funds. A suite will cover a range of anticipated retirement dates.

Note: The sample is 53,258 plans with 65.0 million participants and \$6.6 trillion in assets. Participant loans are excluded. Funds include mutual funds, collective investment trusts, separate accounts, and other pooled investment products. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis. Exhibit A.6 in the appendix shows the average number of a given investment option offered by plans that have at least one of that investment option.

Source: MarketPro Retirement powered by BrightScope

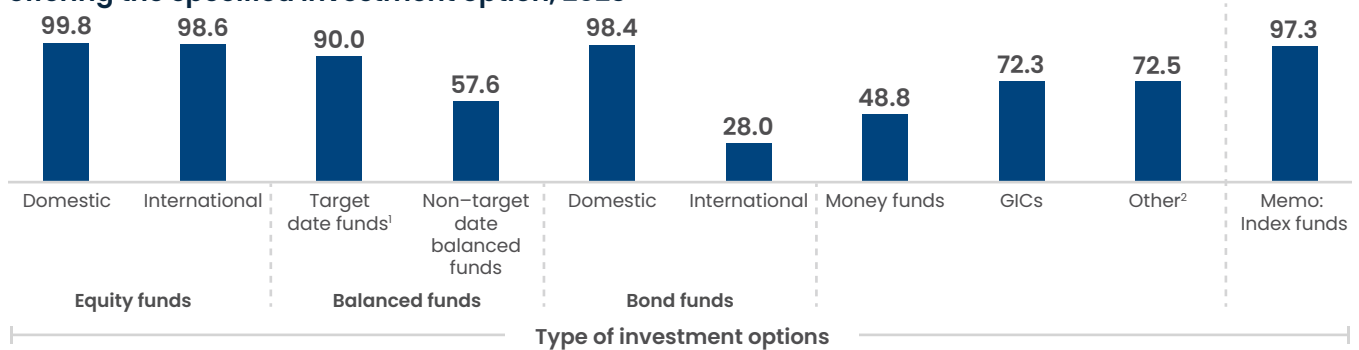
It is instructive to consider availability and then the number of investment options by investment category contingent on that investment category being offered in the 401(k) plan. For example, not only are domestic equity funds, including both index and actively managed funds, widely available, with 99.8% of large 401(k) plans including them in their investment lineups in 2023 (Exhibit 2.6, upper panel), but also, when they are an option, multiple domestic equity funds—nine on average—are offered (Exhibit 2.6, lower panel). International equity funds, including both index and actively managed funds, are widely available, offered in 98.6% of 401(k) plans in 2023, but, on average, three international equity funds are offered in large 401(k) plans including that investment type. Similarly, domestic bond funds are widely available, offered in 98.4% of large 401(k) plans in 2023, but, on

average, three domestic bond funds, including both index and actively managed funds are offered in large 401(k) plans including that investment type. Forty-nine percent of large 401(k) plans offer one money fund on average, and 72% of large 401(k) plans offer one GIC on average. More than 95% of large 401(k) plans in 2023 had index funds in their investment lineups, offering 10 index funds on average.

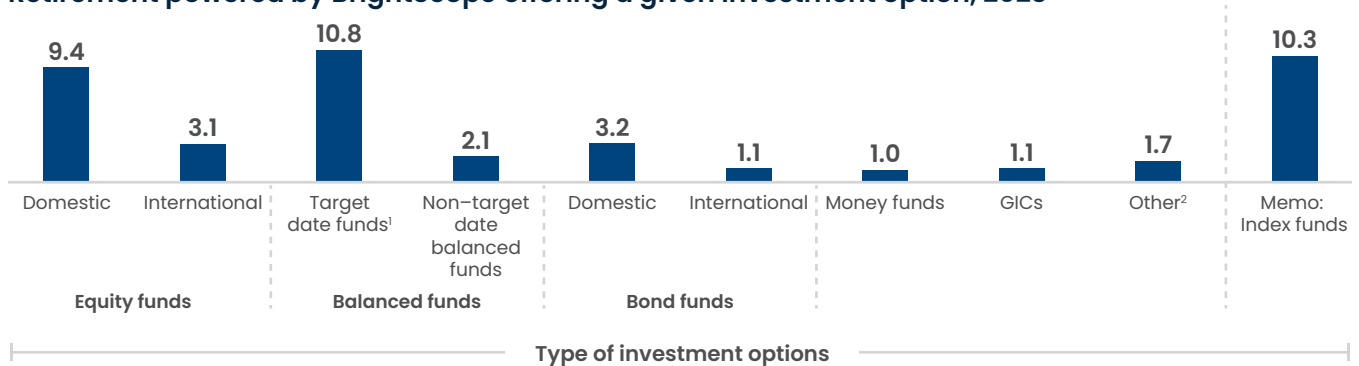
EXHIBIT 2.6

Incidence and Number of Investment Options Offered in 401(k) Plans by Type of Investment

Percentage of plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope offering the specified investment option, 2023



Average number of investment options among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope offering a given investment option, 2023



¹ 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.

² Other includes commodity funds, real estate funds, and individual stocks (including company stock) and bonds, but each separate option is counted as a unique investment option.

Note: The sample is 53,258 plans with 65.0 million participants and \$6.6 trillion in assets. Participant loans are excluded. Funds include mutual funds, collective investment trusts, separate accounts, and other pooled investment products. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis. Exhibit A.6 in the appendix shows the average number of a given investment option offered by plans that have at least one of that investment option.

Source: MarketPro Retirement powered by BrightScope

For large consistent 401(k) plans—plans that were in MarketPro Retirement powered by BrightScope from 2006 to 2023—investment offerings remained relatively stable between 2006 and 2023. The largest net change was in target date fund offerings, which increased from three funds per plan on average in 2006 to 10 funds per plan in 2023 (Exhibit 2.7). In addition, index fund investing rose in popularity during the same period: in 2006, large consistent 401(k) plans offered two index funds, on average, which increased to nine index funds on average in 2023.

EXHIBIT 2.7

Average Number of Investment Options in Consistent 401(k) Plans

Average number of investment options among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope in every year by plan assets

Average number of investment options, 2006											
Plan assets	Equity funds		Balanced funds		Bond funds			Memo			
	Domestic	International	Target date funds ¹	Non-target date balanced funds	Domestic	International	Money funds	GICs	Other ²	Index funds	Adjusted target date fund ³
\$1M to \$10M	10.0	2.6	1.6	2.4	2.3	0.1	0.6	0.7	0.5	1.7	0.3
>\$10M to \$50M	9.5	2.5	2.8	1.9	2.0	0.1	0.6	0.7	0.8	1.8	0.4
>\$50M to \$100M	8.8	2.4	3.7	1.7	1.9	0.1	0.5	0.8	1.0	2.5	0.5
>\$100M to \$250M	9.1	2.4	4.3	1.5	1.9	(*)	0.6	0.8	1.2	2.9	0.6
>\$250M to \$500M	7.8	2.0	4.6	1.4	1.8	0.0	0.5	1.0	1.1	3.3	0.6
>\$500M to \$1B	10.5	2.8	4.1	1.8	2.3	0.1	0.9	1.1	1.5	3.8	0.5
More than \$1B	10.5	3.5	3.1	1.8	2.9	0.2	1.0	2.0	2.5	4.6	0.5
All plans	9.6	2.6	2.9	1.9	2.2	0.1	0.7	0.9	1.0	2.4	0.4

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EXHIBIT 2.7 CONTINUED

Average Number of Investment Options in Consistent 401(k) Plans

Average number of investment options among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope in every year by plan assets

Average number of investment options, 2023

Plan assets	Equity funds		Balanced funds		Bond funds			Memo				
	Domestic	International	Target date funds ¹	Non-target date balanced funds	Domestic	International	Money funds	GICs	Other ²	Index funds	Adjusted target date fund ³	
\$1M to \$10M	9.6	3.1	9.8	1.4	3.1	0.3	0.5	0.8	1.1	8.0	1.0	
>\$10M to \$50M	8.9	3.0	10.1	1.0	2.9	0.2	0.6	0.9	1.2	8.9	0.9	
>\$50M to \$100M	8.3	3.0	10.6	0.6	2.8	0.2	0.7	0.8	1.3	9.7	1.0	
>\$100M to \$250M	8.0	2.9	11.2	0.7	3.0	0.2	0.8	0.8	1.4	10.3	1.0	
>\$250M to \$500M	7.8	2.7	11.3	0.7	2.6	0.2	0.9	1.2	1.4	12.4	1.0	
>\$500M to \$1B	6.7	2.3	11.4	0.6	2.6	0.1	0.9	1.3	1.4	10.7	1.0	
More than \$1B	6.0	2.6	9.3	0.3	3.2	0.2	1.2	1.6	3.7	12.0	0.9	
All plans	8.5	3.0	10.2	0.9	3.0	0.2	0.7	0.9	1.5	9.4	0.9	

(*) = less than 0.05

¹ 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.

² Other includes commodity funds, real estate funds, and individual stocks (including company stock) and bonds, but each separate option is counted as a unique investment option.

³ This measure counts an entire suite of target date funds as one investment option for plans offering target date funds. A suite will cover a range of anticipated retirement dates.

Note: The sample is 1,628 plans in MarketPro Retirement powered by BrightScope in each year available between 2006 and 2023.

Participant loans are excluded. Funds include mutual funds, collective investment trusts, separate accounts, and other pooled investment products. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options, more than 100 investment options, or less than \$1 million in plan assets are excluded from audited 401(k) filings for this analysis. The *plan assets* category represents plan assets in 2006.

Source: MarketPro Retirement powered by BrightScope

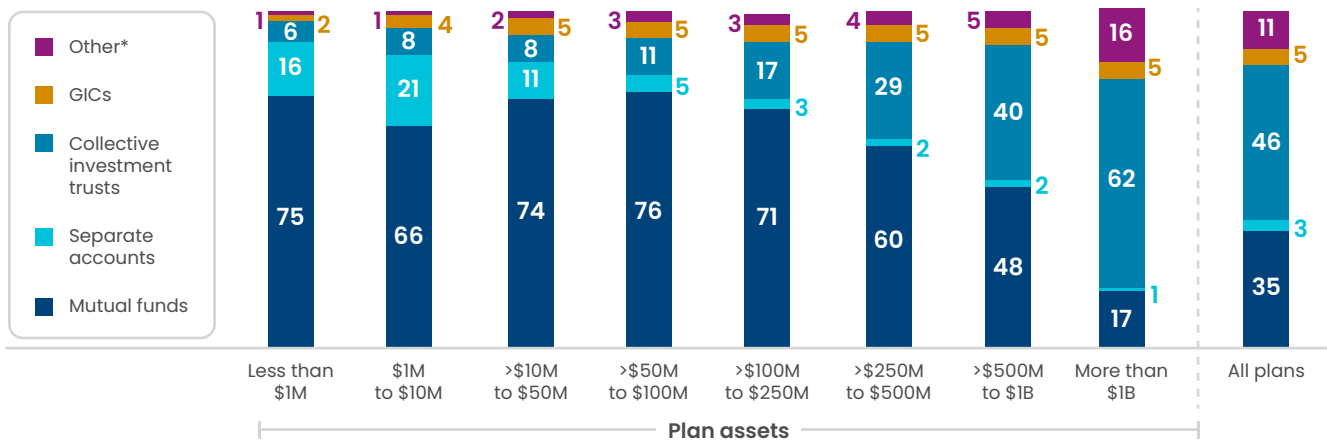
Investment Vehicles

When choosing which investment options to offer, employers also choose the investment vehicles—for example, mutual funds, CITs, or separate accounts—for these options. CITs were the most common investment vehicle in large 401(k) plans in MarketPro Retirement powered by BrightScope, representing 46% of assets in 2023 (Exhibit 2.8). Mutual funds accounted for an additional 35% of assets overall. Mutual funds were a smaller share of assets in the largest 401(k) plans in the sample, accounting for between 48% and 75% of assets in plans with \$1 billion or less in plan assets but 17% of assets in plans with more than \$1 billion in plan assets. Overall, GICs held 5% and separate accounts held 3% of assets. CITs accounted for a larger share of assets in larger plans, while separate accounts were responsible for a larger share of assets in smaller plans, and GICs accounted for a nearly constant share of assets across nearly all plan size categories. For example, CITs held less than 10% of assets in 401(k) plans with \$50 million or less in plan assets, compared with 62% in plans with more than \$1 billion. Conversely, separate accounts held more than one-fifth of assets in 401(k) plans with \$1 million to \$10 million in plan assets, compared with 1% of assets in plans with more than \$1 billion. Other investment vehicles, such as individual stocks (including company stock) and individual bonds, accounted for the remaining assets. The largest plans had the highest allocation (16%) to other investment vehicles, partially reflecting company stock investing.³⁷

EXHIBIT 2.8

Types of Investment Vehicles in 401(k) Plans

Percentage of total assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets, 2023



*Other includes individual stocks (including company stock), bonds, brokerage, and other investments. Participant loans are excluded.

Note: The sample is 53,258 plans with 65.0 million participants and \$6.6 trillion in assets. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

Aggregate Asset Allocation

Although employers choose the investment options offered in 401(k) plans, participants generally choose where to allocate the money in their accounts among the available options.³⁸ In 2023, equity funds, including both index and actively managed funds, held the largest share (41.6%) of large 401(k) plan assets in MarketPro Retirement powered by BrightScope, with the bulk invested in domestic equity funds (Exhibit 2.9). Balanced funds held the next largest share, with 34.6% of large 401(k) plan assets, which was divided between target date funds, with 32.8% of assets, and non–target date balanced funds, with 1.8% of assets. Other investments (which include company stock) followed with 11.6% of assets, then bond funds (mostly domestic) with 5.9% of assets. GICs also held 4.9% of assets, and money funds held 1.2%.³⁹

EXHIBIT 2.9

The Largest Share of 401(k) Assets Is Invested in Equity Funds

Percentage of total assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets or number of plan participants, 2023

Plan assets	Equity funds		Balanced funds		Bond funds			Money funds	GICs	Other ²	Memo: index funds
	Domestic	International	Target date funds ¹	Non–target date balanced funds	Domestic	International					
Less than \$1M	20.8	6.2	58.5	4.5	4.3	0.7	1.6	2.0	1.5	49.4	
\$1M to \$10M	27.9	5.7	48.5	5.6	5.0	0.3	1.3	4.4	1.3	40.3	
>\$10M to \$50M	33.5	6.1	41.3	4.6	5.5	0.2	1.3	5.1	2.4	38.5	
>\$50M to \$100M	35.3	6.1	39.0	3.3	5.7	0.2	1.3	5.5	3.5	39.0	
>\$100M to \$250M	35.7	6.0	39.3	2.6	5.7	0.1	1.2	5.4	3.9	41.0	
>\$250M to \$500M	35.9	5.9	39.1	2.3	5.9	0.1	1.2	5.1	4.5	42.0	
>\$500M to \$1B	35.4	5.5	40.0	1.8	5.7	0.1	1.2	4.9	5.4	45.6	
More than \$1B	35.7	6.6	28.1	1.1	6.0	0.1	1.2	4.7	16.5	49.3	
All plans	35.3	6.3	32.8	1.8	5.8	0.1	1.2	4.9	11.6	46.3	

Continued on the next page

EXHIBIT 2.9 CONTINUED

The Largest Share of 401(k) Assets Is Invested in Equity Funds

Percentage of total assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets or number of plan participants, 2023

Number of plan participants	Equity funds		Balanced funds		Bond funds			Money funds	GICs	Other ²	Memo: index funds
	Domestic	International	Target date funds ¹	Non-target date balanced funds	Domestic	International					
Fewer than 100	37.6	6.5	33.1	4.6	5.8	0.2	1.8	5.2	5.1	38.3	
100 to 499	35.9	6.4	36.3	4.5	5.9	0.2	1.5	5.1	4.1	37.9	
500 to 999	35.8	6.0	39.3	3.1	5.8	0.2	1.3	5.2	3.3	40.5	
1,000 to 4,999	36.0	5.9	38.0	2.2	5.7	0.2	1.3	5.1	5.7	43.0	
5,000 to 9,999	35.1	5.8	36.5	1.4	5.8	0.2	1.3	5.3	8.6	50.2	
10,000 or more	35.0	6.6	28.5	1.0	5.9	0.1	1.1	4.7	17.1	49.1	
All plans	35.3	6.3	32.8	1.8	5.8	0.1	1.2	4.9	11.6	46.3	

¹ 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.

² Other includes commodity funds, real estate funds, and individual stocks (including company stock) and bonds.

Note: The sample is 53,258 plans with 65.0 million participants and \$6.6 trillion in assets. Participant loans are excluded. Funds include mutual funds, collective investment trusts, separate accounts, and other pooled investment products. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

Participants in larger 401(k) plans in the sample, as measured by plan assets, tended to have less of their assets invested in balanced funds, including both index and actively managed funds. For example, participants in 401(k) plans with less than \$1 million in plan assets had more than three-fifths of their assets invested in balanced funds, on average, compared with less than 30% for participants in plans with more than \$1 billion in plan assets (Exhibit 2.9). However, participants in these larger 401(k) plans tended to have more of their money invested in other investments. This pattern reflects, in part, the pattern of company stock offering in 401(k) plans.⁴⁰ For example, in 2023, participants in plans with less than \$1 million in plan assets invested 1.5% of their assets in other investments, compared with 16.5% in other investments for plans with more than \$1 billion in plan assets.

Since 2006, the earliest data in MarketPro Retirement powered by BrightScope, large 401(k) plans have become more likely to offer target date funds.⁴¹ In 2023, 90% of large 401(k) plans in MarketPro Retirement powered by BrightScope offered target date funds, compared with 58% in 2009 and 32% in 2006 (Exhibit 2.10).⁴² The share of plan assets invested in these funds also increased, rising from 3% in 2006 to 8% in 2009 and 33% in 2023.⁴³ Smaller plans were more likely than larger plans to add target date funds to their investment lineups between 2006 and 2023. For example, 25.4% of plans with \$1 million to \$10 million in plan assets offered target date funds in 2006, and 89.6% did so in 2023 (Exhibit 2.11, upper panel). For plans with more than \$1 billion in plan assets, 43.6% offered target date funds in 2006, and 89.1% did so in 2023. Smaller plans also experienced the largest increase in the share of plan assets invested in target date funds. For example, in 2006, 3.5% of plan assets for plans with \$1 million to \$10 million in plan assets were invested in target date funds (Exhibit 2.11, lower panel). That rose to 48.5% in 2023. For plans with more than \$1 billion in plan assets, the percentage of plan assets invested in target date funds rose from 2.2% to 28.1% over the same period.

Index Funds

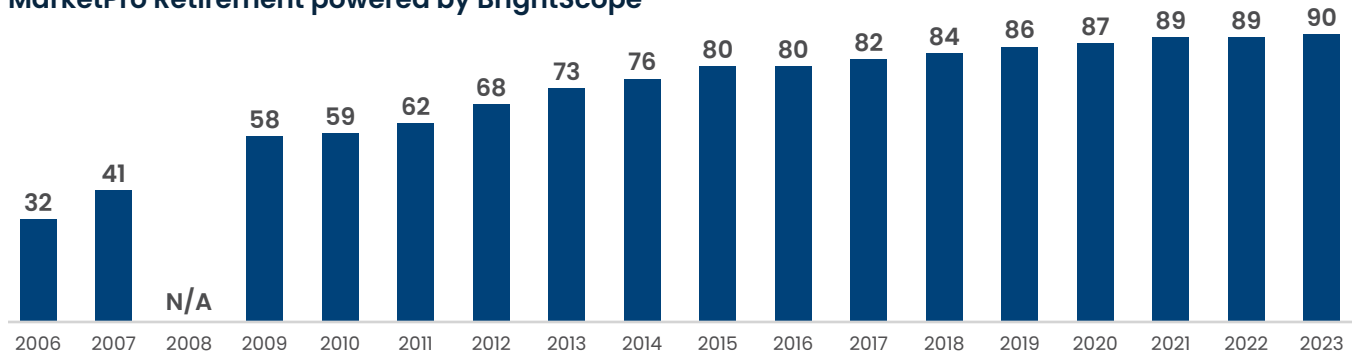
Index funds have also grown in popularity since 2006, the earliest data in MarketPro Retirement powered by BrightScope.⁴⁴ In 2006, 79% of large 401(k) plans in MarketPro Retirement powered by BrightScope offered index funds, and 17% of plan assets were invested in such products (Exhibit 2.12). The use of index funds increased to 97% of large 401(k) plans and 46% of assets in 2023. Although the percentage of large 401(k) plans offering index funds increased for nearly all plan asset groups, smaller plans experienced larger increases (Exhibit 2.13, upper panel). As a result, index funds are widely offered across large 401(k) plans. More than 98% of large 401(k) plans with more than \$10 million in plan assets offered index funds in their plan lineups in 2023, and 90% of large 401(k) plans with less than \$1 million offered them.

Index funds also generally claimed a greater share of assets in larger 401(k) plans in the sample than in smaller plans. On average, 46.3% of large 401(k) assets in MarketPro Retirement powered by BrightScope were invested in index funds in 2023, but this fraction varied across plan size, ranging from 38.5% of assets in plans with more than \$10 million to \$50 million in plan assets to 49.3% of assets in plans with more than \$1 billion (Exhibit 2.13, lower panel).

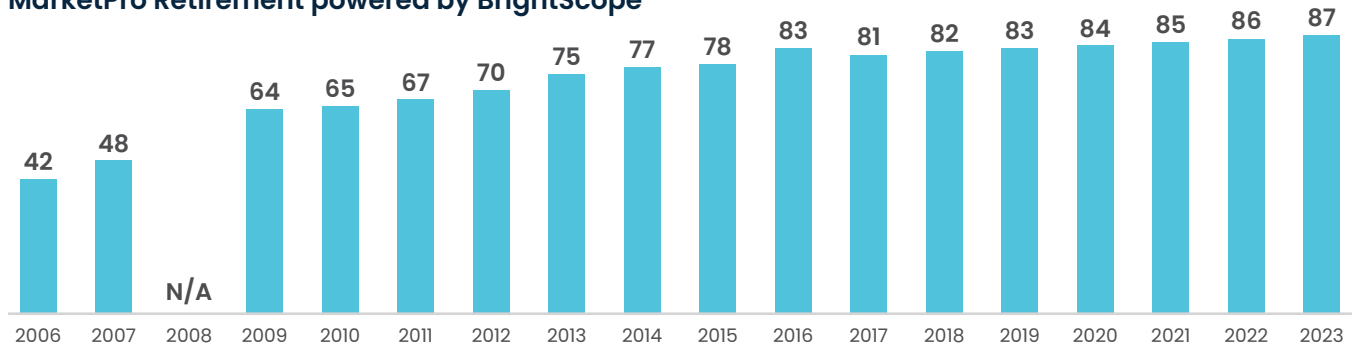
EXHIBIT 2.10

Target Date Fund Use Has Increased in 401(k) Plans

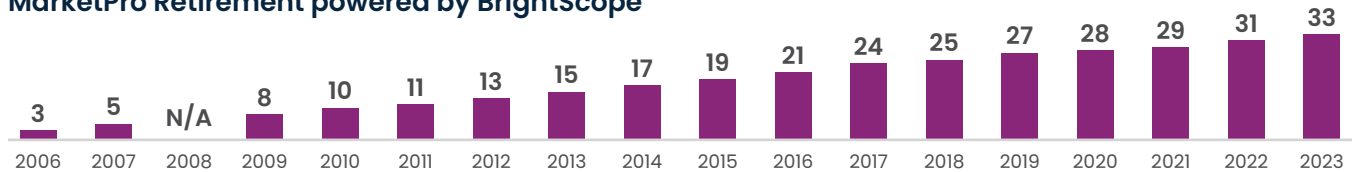
Percentage of plans offering target date funds* among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope



Percentage of participants offered target date funds* among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope



Percentage of assets in target date funds* among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope



*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, collective investment trusts, separate accounts, and other pooled investment products.

N/A = not available

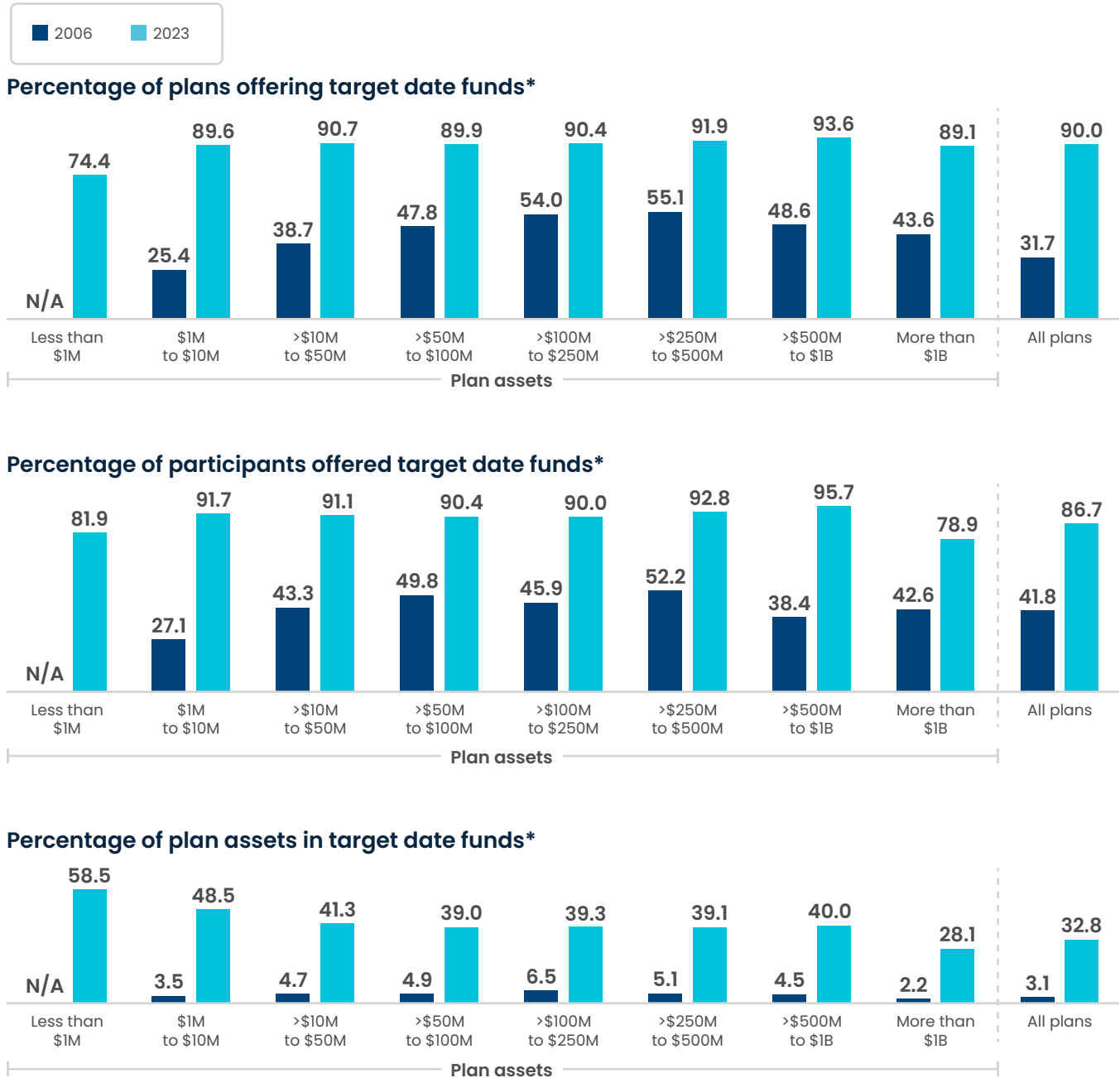
Note: Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis. In 2023, the sample is 53,258 plans with 65.0 million participants and \$6.6 trillion in assets.

Source: MarketPro Retirement powered by BrightScope

EXHIBIT 2.11

Larger 401(k) Plans Tend To Be More Likely To Offer Target Date Funds

Percentage of plans offering, participants offered, and plan assets in target date funds* among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets



*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, collective investment trusts, separate accounts, and other pooled investment products.

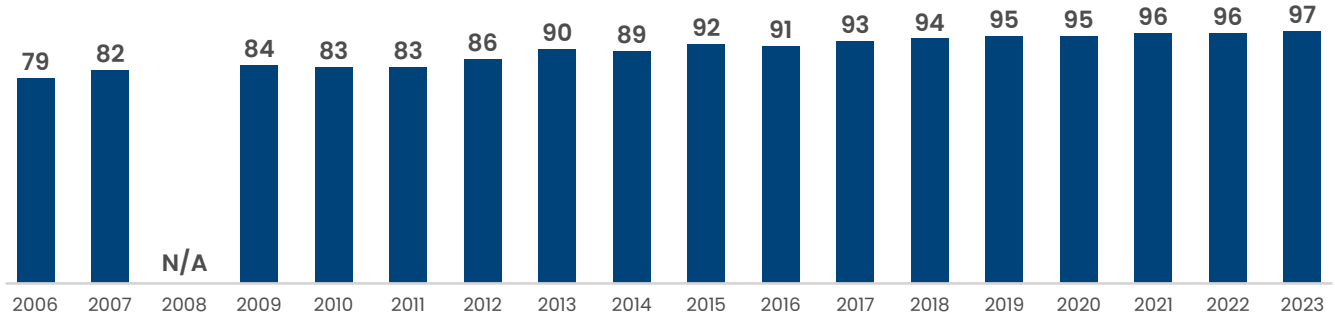
Note: The samples are 22,592 plans in 2006 and 53,258 plans in 2023. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) plans for this analysis.

Source: MarketPro Retirement powered by BrightScope

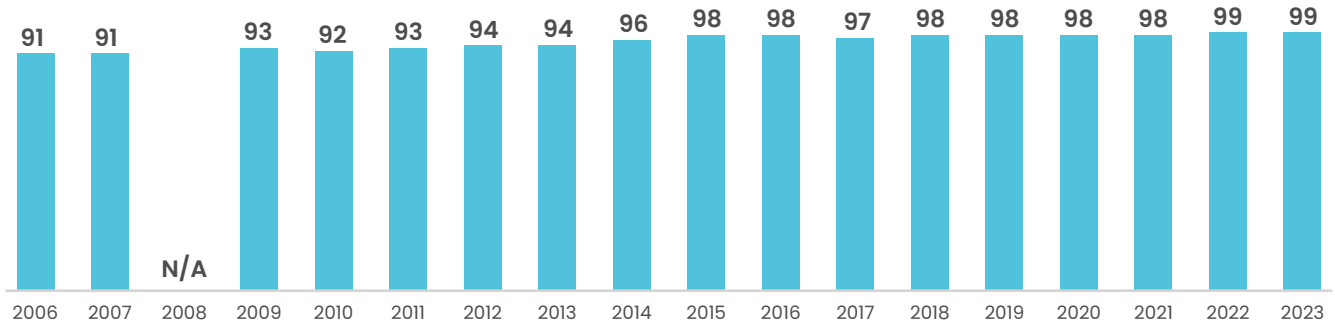
EXHIBIT 2.12

Index Fund Use Has Increased in 401(k) Plans

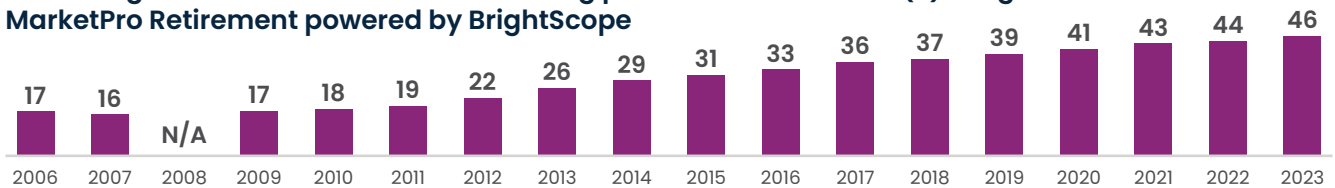
Percentage of plans offering index funds* among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope



Percentage of participants offered index funds* among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope



Percentage of assets in index funds* among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope



*An index fund is designed to track the performance of a market index. The fund's portfolio of securities is either a replicate or a representative sample of the designated market index. Funds include mutual funds, collective investment trusts, separate accounts, and other pooled investment products.

N/A = not available

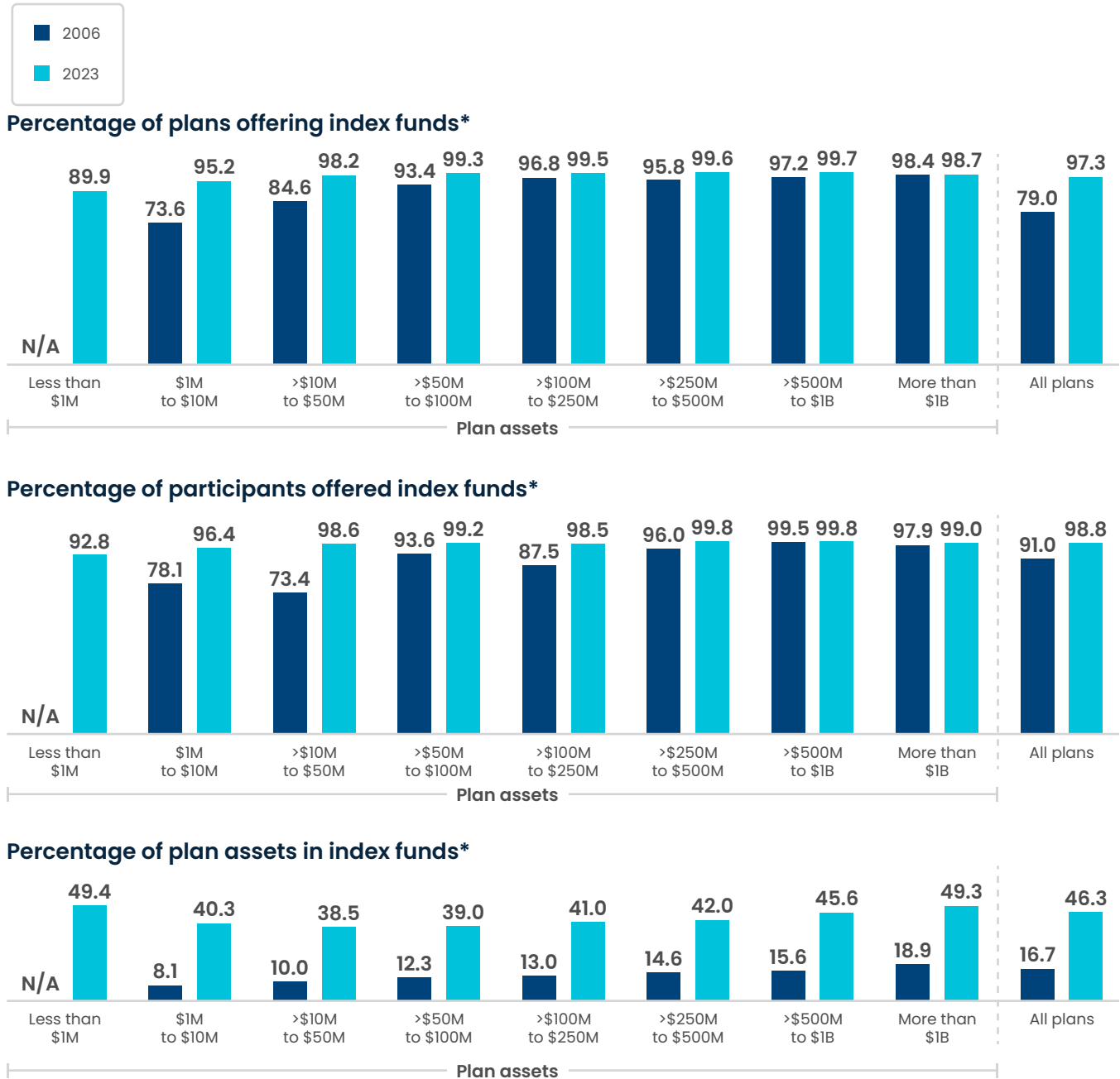
Note: Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis. In 2023, the sample is 53,258 plans with 65.0 million participants and \$6.6 trillion in assets.

Source: MarketPro Retirement powered by BrightScope

EXHIBIT 2.13

Index Fund Use Is Nearly Universal in Larger 401(k) Plans

Percentage of plans offering, participants offered, and plan assets in index funds* among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets



*An index fund is designed to track the performance of a market index. The fund's portfolio of securities is either a replicate or a representative sample of the designated market index. Funds include mutual funds, collective investment trusts, separate accounts, and other pooled investment products.

Note: The samples are 22,592 plans in 2006 and 53,258 plans in 2023. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) plans for this analysis.

Source: MarketPro Retirement powered by BrightScope

Chapter 3: 401(k) Plans Engage a Variety of Service Providers

When employers offer a 401(k) plan to their employees, they also engage service providers to help manage the operation of the plan. This chapter focuses on the service providers engaged to provide recordkeeping for the plan, including maintaining plan records, processing employee contributions and distributions, and issuing account statements to employees. Employers can choose from a large number of service providers to provide recordkeeping services for their plans. Asset managers, insurance companies, brokerage firms, banks, or pure recordkeepers can provide these services.⁴⁵ This chapter analyzes subsamples drawn from the more than 53,000 large 401(k) plans in MarketPro Retirement powered by BrightScope in 2023 with between four and 100 investment options and typically 100 participants or more.

Types of Recordkeepers

In 2023, insurance companies were the most common type of recordkeeper, providing recordkeeping services for 46.7% of large 401(k) plans in MarketPro Retirement powered by BrightScope (Exhibit 3.1).⁴⁶ Insurance companies were significantly more likely to provide recordkeeping services for smaller plans, doing so for about half of plans with \$1 million to \$50 million in plan assets but less than one-quarter of the plans with more than \$500 million.

Asset managers—which include mutual fund companies—serving as recordkeepers were more likely to provide services to larger plans. In 2023, asset managers provided recordkeeping services for 8.1% of plans with less than \$1 million in plan assets and 63.0% of plans with more than \$1 billion (Exhibit 3.1). Overall, asset managers provided recordkeeping for 32.8% of large 401(k) plans.

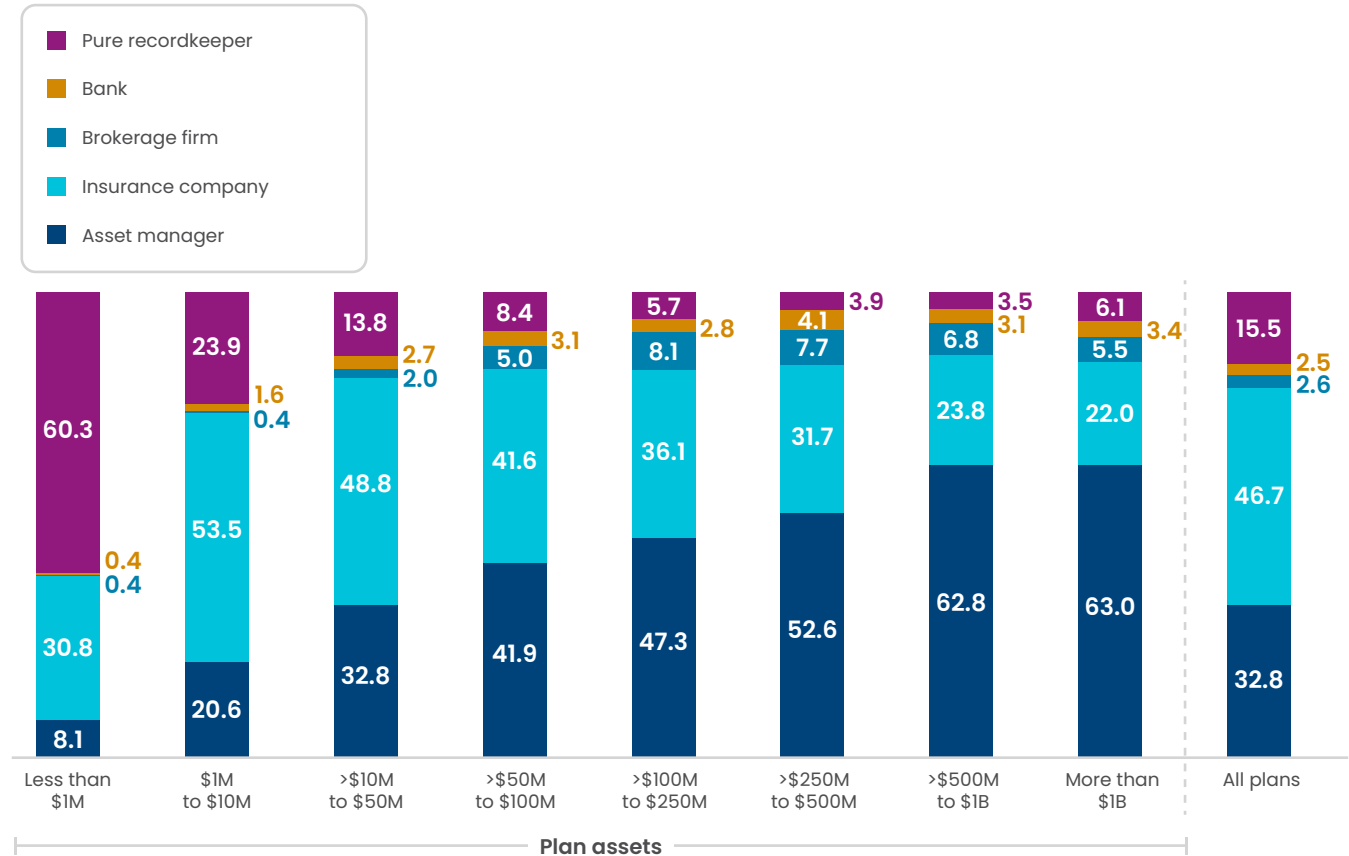
Banks, which provided recordkeeping for 2.5% of plans, tended to be slightly more likely to do so for midsize plans (Exhibit 3.1). Although banks provided recordkeeping services for only 0.4% of plans with less than \$1 million in plan assets and 3.4% of plans with more than \$1 billion in 2023, banks' recordkeeping activity rose to 4.1% of plans with more than \$250 million to \$500 million in plan assets. Pure recordkeepers—firms that only offer recordkeeping services—were more likely to provide recordkeeping services for smaller or larger 401(k) plans but less likely to do so for midsize plans in 2023. Overall, pure recordkeepers provided recordkeeping for 15.5% of plans, but that fell from 60.3% of plans with less than \$1 million in plan assets to 3.5% of plans with more than \$500 million to \$1 billion (Exhibit 3.1). However, this figure rose slightly for larger 401(k) plans—to 6.1% of plans with more than \$1 billion in plan assets.

Brokerage firms, which include discount and full-service brokerage firms, tended to be more likely to provide recordkeeping services for midsize plans. In 2023, brokerage firms provided recordkeeping for only 0.4% of plans with less than \$1 million in plan assets and 5.5% of plans with more than \$1 billion in plan assets but 8.1% of plans with more than \$100 million to \$250 million in plan assets (Exhibit 3.1).

EXHIBIT 3.1

Larger 401(k) Plans Are More Likely To Use Asset Managers for Recordkeeping

Percentage of plans among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets, 2023



Note: The sample is 43,118 plans with \$5.7 trillion in assets. The top 40 recordkeepers among audited 401(k) plans in MarketPro Retirement powered by BrightScope were classified according to their primary business, and only plans recordkept by those recordkeepers are included in this analysis. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

Because asset managers were more likely to provide recordkeeping services for large plans, their share of 401(k) assets is greater than their share of 401(k) plans. In 2023, asset managers provided recordkeeping services for 32.8% of large 401(k) plans (Exhibit 3.2, upper panel) but 57.7% of assets (Exhibit 3.2, lower panel) and 43.6% of participants (Exhibit 3.2, middle panel). Insurance companies, because they were more likely to provide recordkeeping for smaller plans, represented a smaller share of assets and participants than plans (25.3% of assets and 36.8% of participants versus 46.7% of plans). Brokerage firms (4.4% of assets), banks (3.4%), and pure recordkeepers (9.1%) provided the remaining recordkeeping services.

EXHIBIT 3.2

Types of Recordkeepers Used by 401(k) Plans

Percentage of plans among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by type of recordkeeper, 2023

Plan assets	Asset manager	Insurance company	Brokerage firm	Bank	Pure recordkeeper
Less than \$1M	8.1	30.8	0.4	0.4	60.3
\$1M to \$10M	20.6	53.5	0.4	1.6	23.9
>\$10M to \$50M	32.8	48.8	2.0	2.7	13.8
>\$50M to \$100M	41.9	41.6	5.0	3.1	8.4
>\$100M to \$250M	47.3	36.1	8.1	2.8	5.7
>\$250M to \$500M	52.6	31.7	7.7	4.1	3.9
>\$500M to \$1B	62.8	23.8	6.8	3.1	3.5
More than \$1B	63.0	22.0	5.5	3.4	6.1
All plans	32.8	46.7	2.6	2.5	15.5

Percentage of participants among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by type of recordkeeper, 2023

Plan assets	Asset manager	Insurance company	Brokerage firm	Bank	Pure recordkeeper
Less than \$1M	20.6	27.3	0.0	0.3	51.8
\$1M to \$10M	16.9	48.3	0.2	12.6	21.9
>\$10M to \$50M	29.9	52.1	1.6	2.6	13.8
>\$50M to \$100M	36.6	47.1	3.6	3.2	9.4
>\$100M to \$250M	40.4	43.0	5.3	4.3	7.0
>\$250M to \$500M	43.5	41.7	3.8	7.6	3.4
>\$500M to \$1B	52.9	33.9	3.3	5.0	4.8
More than \$1B	53.6	24.7	2.0	9.5	10.2
All plans	43.6	36.8	2.6	7.0	10.0

Percentage of plan assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by type of recordkeeper, 2023

Plan assets	Asset manager	Insurance company	Brokerage firm	Bank	Pure recordkeeper
Less than \$1M	6.8	34.0	0.3	0.6	58.2
\$1M to \$10M	22.4	53.9	0.4	1.7	21.6
>\$10M to \$50M	34.4	47.7	2.4	2.7	12.8
>\$50M to \$100M	42.2	41.4	5.1	3.0	8.2
>\$100M to \$250M	48.1	35.7	8.0	2.8	5.4
>\$250M to \$500M	53.2	31.2	7.7	4.0	3.9
>\$500M to \$1B	63.0	23.7	6.8	3.1	3.4
More than \$1B	64.2	18.2	3.4	3.6	10.7
All plans	57.7	25.3	4.4	3.4	9.1

Note: The sample is 43,118 plans with \$5.7 trillion in assets. The top 40 recordkeepers among audited 401(k) plans in MarketPro Retirement powered by BrightScope were classified according to their primary business, and only plans recordkept by those recordkeepers are included in this analysis. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

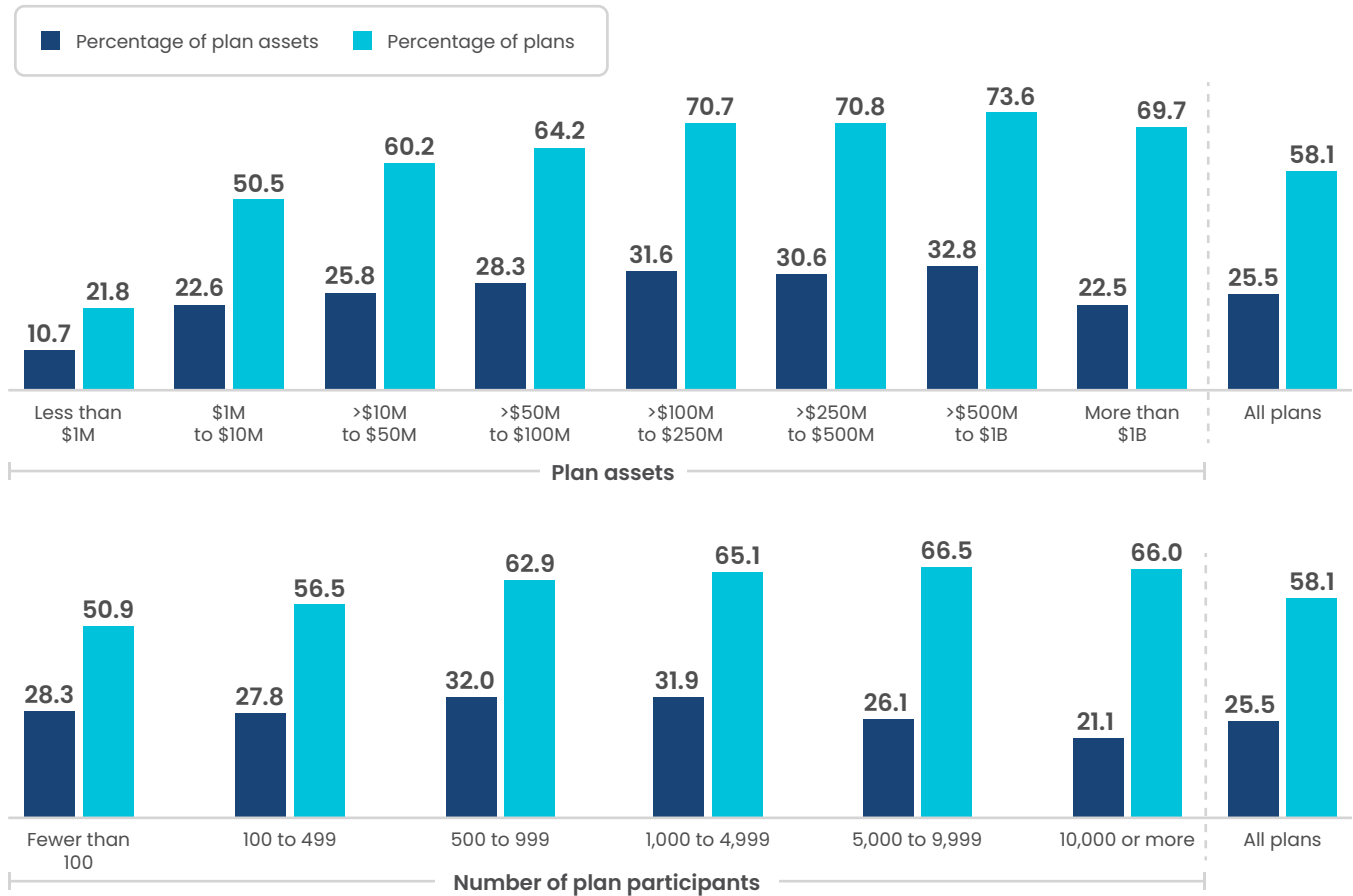
Proprietary Funds

Employers may consider many factors when deciding on a recordkeeper, including the recordkeepers' proprietary funds. That is, the employer may choose XYZ asset manager for recordkeeping and choose to include one or more XYZ mutual funds, XYZ collective investment trusts, or XYZ separate accounts in the investment lineup. In 2023, 58.1% of large 401(k) plans included proprietary funds in their investment lineups, and proprietary fund assets accounted for 25.5% of plan assets (Exhibit 3.3, upper panel). Larger plans tended to be more likely to include proprietary funds in their investment lineups, although this effect was reversed for the largest plans, those with more than \$1 billion in plan assets. For example, 21.8% of plans with less than \$1 million in plan assets, 73.6% of plans with more than \$500 million to \$1 billion in plan assets, and 69.7% of plans with more than \$1 billion in plan assets included proprietary funds. However, even though plans with more than \$500 million to \$1 billion in plan assets were significantly more likely to offer proprietary funds than the smallest of the plans analyzed, participant investment in proprietary funds was more similar. Proprietary funds accounted for between 22% and 33% of plan assets for plans with \$1 million or more in assets. Participants in plans with less than \$1 million or more than \$1 billion in plan assets held a lower share of their assets—10.7% and 22.5%, respectively—in proprietary funds. A roughly similar pattern emerges when variation across plans by number of plan participants is analyzed (Exhibit 3.3, lower panel).

EXHIBIT 3.3

Proprietary Fund Use Varies With 401(k) Plan Size

Percentage of plan assets invested in proprietary funds* and percentage of plans offering proprietary funds among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets or number of plan participants, 2023



*Proprietary funds are the investment products of the recordkeeping financial services firm. Funds include mutual funds, collective investment trusts, separate accounts, and other pooled investment products.

Note: The sample is 52,091 plans with \$5.9 trillion in assets. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

Chapter 4: 401(k) Plan Fees

Employers offering 401(k) plans typically hire service providers to assist in operating the plans, and those service providers charge fees for their services. Many types of services are required to operate a 401(k) plan, including administrative services (e.g., recordkeeping and transaction processing), participant-focused services (e.g., participant communication, education, and advice), regulatory and compliance services (e.g., plan document services; consulting, accounting, and audit services; and legal advice), and investment management.⁴⁷ As with any other employee benefit, the employer typically decides how the costs will be shared. To cover the expenses of providing a 401(k) plan, fees are paid by the plan itself, the employer, and/or the plan participants. These fees can be levied based on the number of participants, the amount of assets, or as a fixed dollar amount for the plan as a whole.

In order to better understand the impact of fees, ISS MI has developed a total plan cost measure that includes all fees on the audited Form 5500 reports as well as fees paid through investment expense ratios (see “About ISS MI’s Total Plan Cost” below). This chapter analyzes about 49,000 large 401(k) plans (with between four and 100 investment options and typically 100 participants or more) with total plan cost information, about 46,000 large 401(k) plans with mutual fund investments, and a sample of nearly 15,000 consistent large 401(k) plans with mutual funds present from 2009 to 2023.

Total Plan Cost

In the calculation of overall 401(k) plan fees, it is important to consider the sample to be analyzed. Fees can be calculated at the plan level (where each plan is treated equally), at the participant level (where each participant is treated equally), or at the asset level (where each dollar is treated equally). Because the average plan tends to be small and the average participant and average dollar are in larger plans, the focus of the fee analysis can produce different answers. For this reason, this paper presents the total plan cost weighted by plans, participants, and assets.

About ISS MI’S Total Plan Cost

Total plan cost includes asset-based investment management fees, asset-based administrative and advice fees, and other fees (including insurance charges) from the Form 5500 and audited financial statements of 401(k) plans covered by ERISA. When plans use products registered under the Investment Company Act of 1940, such as mutual funds, expense data from Lipper are used to calculate fees. When plans use non-1940 Act products, such as CITs and pooled separate accounts, ISS MI uses an algorithm to estimate investment management fees.

In 2023, the average 401(k) plan in MarketPro Retirement powered by BrightScope had a total plan cost of 0.74% of assets, while the average participant was in a plan with a total plan cost of 0.48% of assets and the average dollar was in a plan with a total plan cost of 0.30% of assets (Exhibit 4.1; upper, middle, and lower panels). This pattern is driven by two patterns in the data:

- » **First, participants and assets tend to be concentrated in larger plans.** For example, although less than 2% of audited 401(k) plans in MarketPro Retirement powered by BrightScope have more than \$1 billion in plan assets, two-fifths of participants are in these plans, and they hold about three-fifths of 401(k) assets (see Exhibit I.3). A similar pattern occurs in the DOL 401(k) universe.
- » **Second, larger plans tend to have a lower total plan cost when measured as a percentage of plan assets.** For example, large 401(k) plans with less than \$1 million in plan assets had an average total plan cost of 1.47% of plan assets in 2023, compared with 0.42% of plan assets for plans with more than \$100 million to \$250 million and 0.25% of plan assets for plans with more than \$1 billion (Exhibit 4.1, upper panel). Similar patterns occur for both the participant-weighted and asset-weighted numbers. One reason that larger plans tend to have lower fees is because a greater share of their assets is invested in index funds (Exhibit 2.13), which tend to have lower expenses than other types of investments (Exhibit 4.5). In addition, there are fixed costs associated with offering a 401(k) plan. As a plan grows in size, those fixed costs can be spread over more participants and a larger asset base, lowering the total plan cost as a percentage of assets.

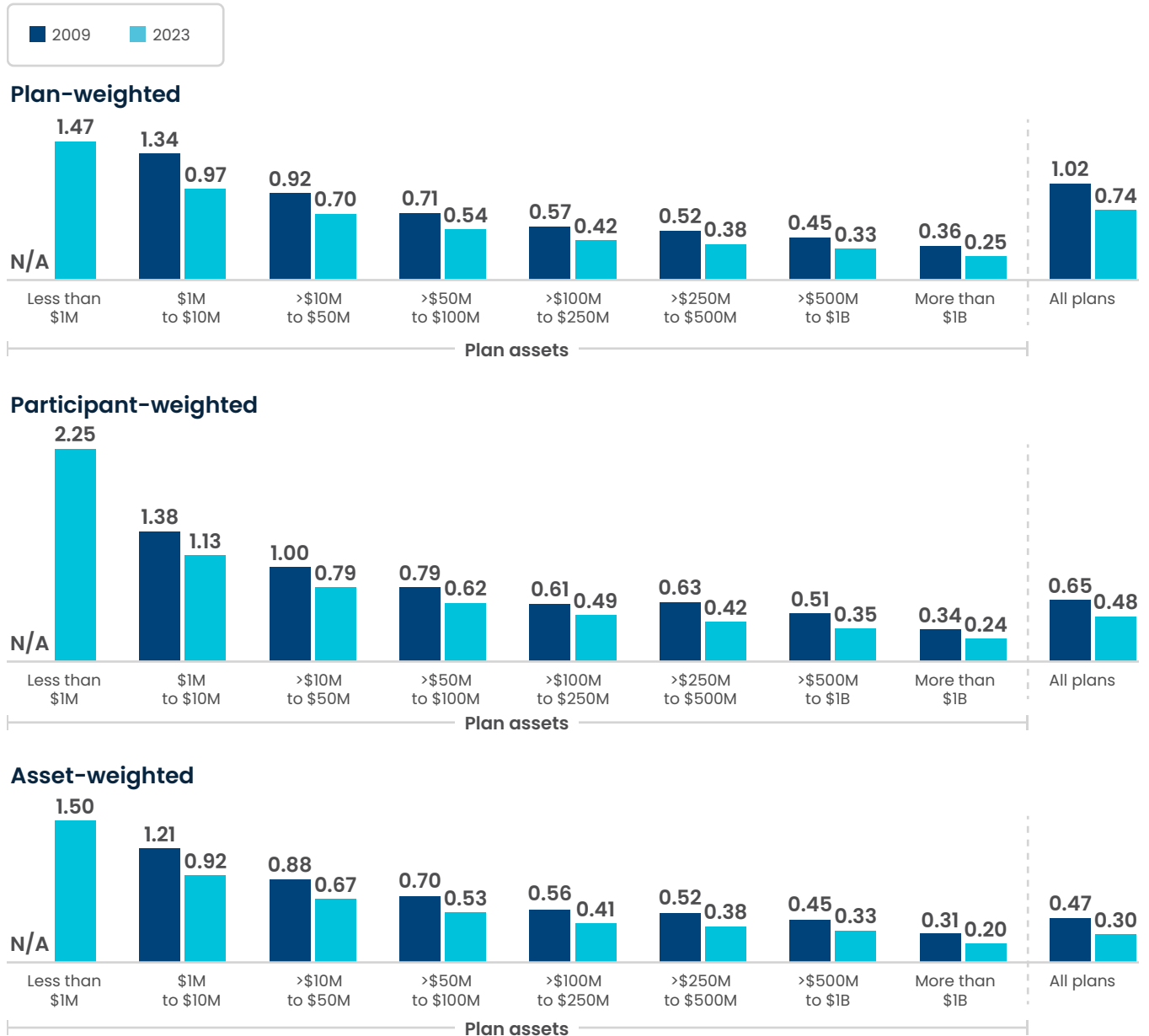
Since 2009, total plan cost has decreased whether measured on a plan-, participant-, or asset-weighted basis (Exhibit 4.1). For example, among the large 401(k) plans analyzed, total plan cost decreased from 1.02% in 2009 to 0.74% in 2023 on a plan-weighted basis, from 0.65% to 0.48% on a participant-weighted basis, and from 0.47% to 0.30% on an asset-weighted basis. All plan size groups saw reductions in total plan cost between 2009 and 2023, but the largest reduction tended to occur for the smallest plans.

Total 401(k) plan costs varied around the plan-weighted average of 0.74% in 2023. For example, 10% of plans had a total plan cost of 0.28% or less, while another 10% had a total plan cost of 1.26% or more (Exhibit 4.2). Although there is significant diversity in total plan cost, the difference between the 10th percentile and 90th percentile plans tends to decrease as plan size increases. For example, in 401(k) plans with less than \$1 million in plan assets, total plan cost for 80% of plans ranged between 0.08% and 3.31% of assets. For plans with more than \$1 billion in plan assets, that range was significantly narrower, varying from 0.13% of assets to 0.39%. Part of the variation among the smallest of the large 401(k) plans may reflect their large number of participants, typically 100 participants or more, versus their relatively small asset base. Indeed, according to Department of Labor Form 5500 data, the average account balance for 401(k) plans with less than \$1 million in plan assets and 100 participants or more was \$1,853 in 2023, compared with \$53,045 among 401(k) plans with less than \$1 million in plan assets and fewer than 100 participants.⁴⁸

EXHIBIT 4.1

Total Plan Cost by 401(k) Plan Assets

Total plan cost* as a percentage of assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets



*Total plan cost is ISS MI's measure of the total cost of operating the 401(k) plan and includes asset-based investment management fees, asset-based administrative and advice fees, and other fees (including insurance charges) from the Form 5500 and audited financial statements of ERISA-covered 401(k) plans. Total plan cost is computed only for plans with sufficiently complete information.

N/A = not available

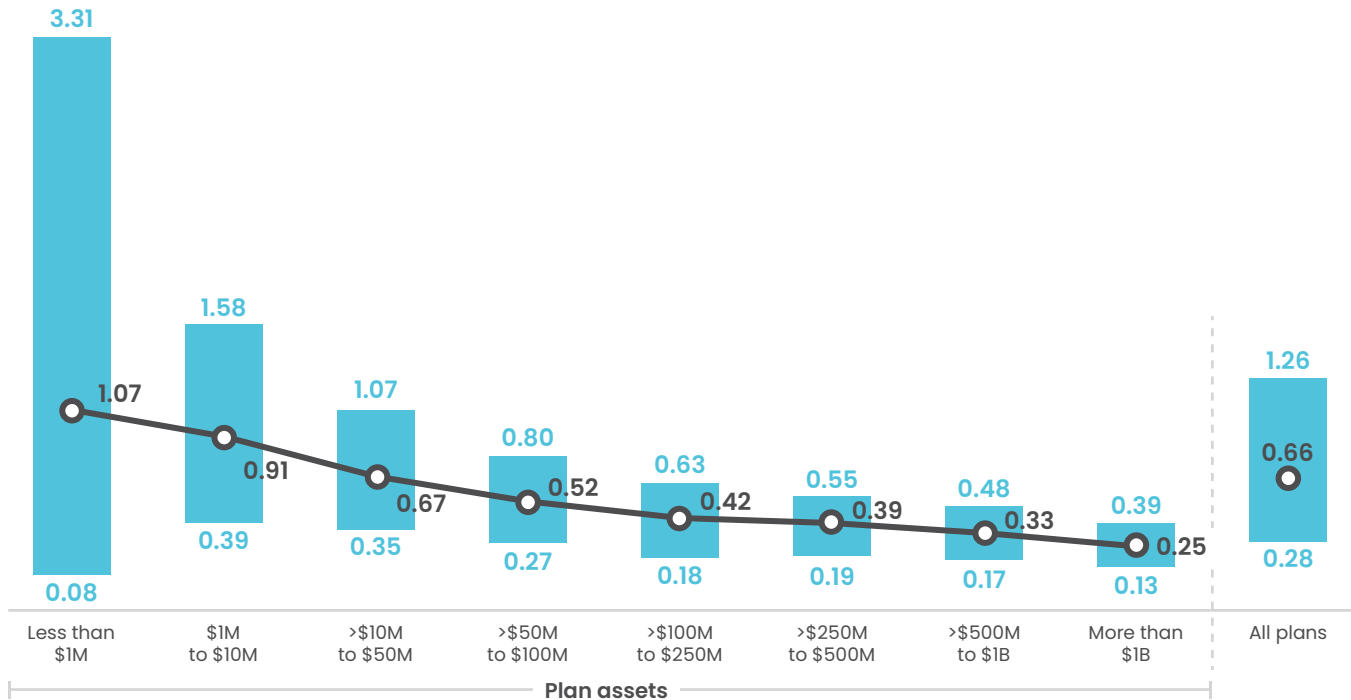
Note: The samples are 22,469 plans with \$1.9 trillion in assets in 2009, and 49,234 plans with \$6.3 trillion in assets in 2023. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope and Lipper

EXHIBIT 4.2

Distribution of Total Plan Cost by 401(k) Plan Assets

10th percentile, median, and 90th percentile plan-weighted total plan cost* as a percentage of assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by plan assets, 2023



*Total plan cost is ISS MI's measure of the total cost of operating the 401(k) plan and includes asset-based investment management fees, asset-based administrative and advice fees, and other fees (including insurance charges) from the Form 5500 and audited financial statements of ERISA-covered 401(k) plans. Total plan cost is computed only for plans with sufficiently complete information.

Note: The sample is 49,234 plans with \$6.3 trillion in assets. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope and Lipper

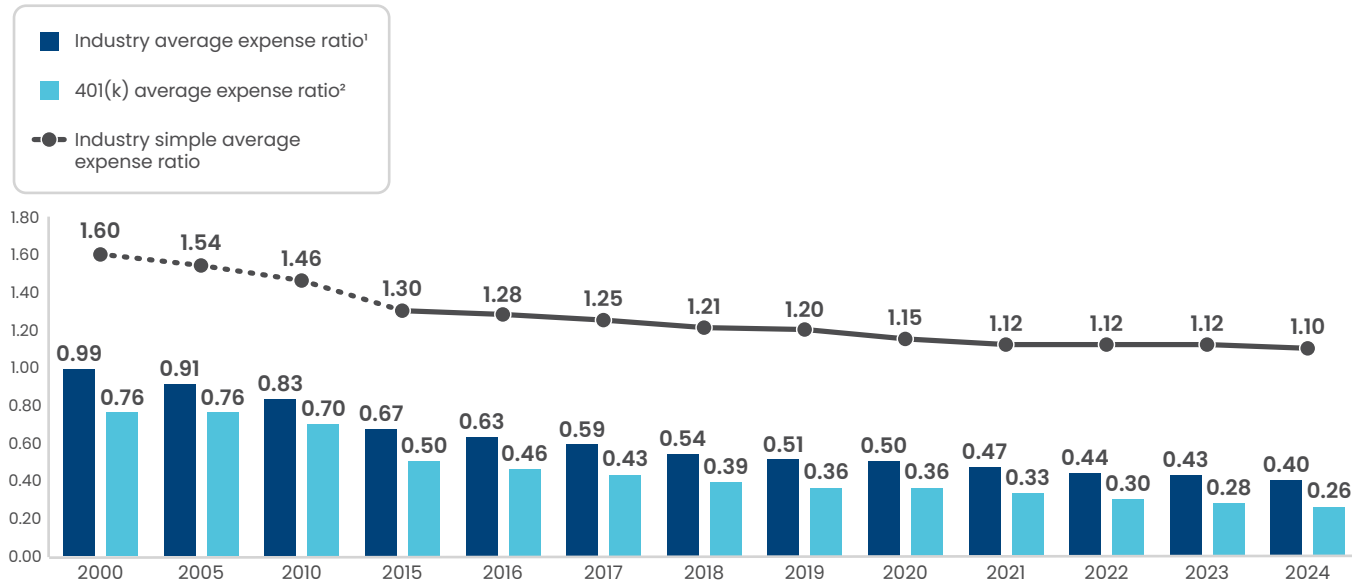
Mutual Fund Expenses

Some of the main costs of a 401(k) plan are the expenses associated with the investments in the plan.⁴⁹ Therefore, it is important to understand factors associated with these expenses, such as plan size or investment objective. ICI has analyzed mutual fund expenses for both the entire industry⁵⁰ and 401(k) plans specifically,⁵¹ combining Morningstar and Lipper fee information with ICI mutual fund asset data at a share class level (see "Fees Paid on Mutual Funds Held in 401(k) Plans" on page 54). The ICI analysis has found that, for both mutual funds industrywide and mutual funds in 401(k) plans, fund expenses have declined significantly since 2000. For example, the simple average expense ratio for equity mutual funds, including both index and actively managed funds was 1.60% in 2000; it had declined to 1.10% by 2024 (Exhibit 4.3).⁵² However, mutual fund investors tend to concentrate their assets in lower-cost funds. The asset-weighted industry average expense ratio in 2024, which gives greater weight to funds with higher assets, was 0.40%, less than half of the 1.10% industry simple average, and the asset-weighted average 401(k) expense ratio was even lower, at 0.26%.

EXHIBIT 4.3

401(k) Mutual Fund Investors Tend To Pay Lower-Than-Average Expenses for Equity Mutual Funds

Percent



¹ The industry average expense ratio is measured as an asset-weighted average.

² The 401(k) average expense ratio is measured as a 401(k) asset-weighted average.

Note: Data include both index and actively managed funds and exclude mutual funds available as investment choices in variable annuities.

Sources: Investment Company Institute, Lipper, and Morningstar; see Holden, Libanati, and Chism 2025

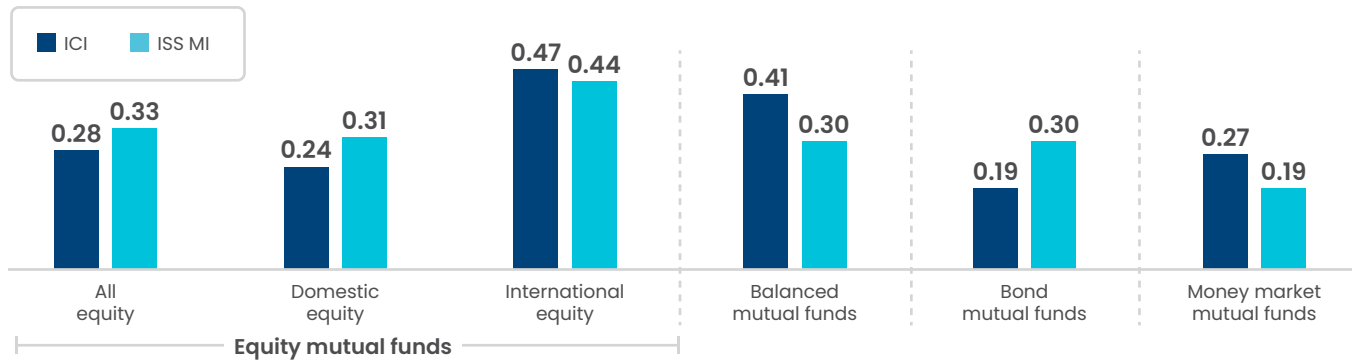
Comparison of ICI and ISS MI Mutual Fund Expense Analyses

The asset-weighted mutual fund expense ratios in 401(k) plans from the ICI data analysis tend to be fairly similar to those in MarketPro Retirement powered by BrightScope. For example, the asset-weighted total expense ratio paid by 401(k) participants for equity mutual funds, including both index and actively managed funds, was 0.28% of assets in 2023 in the ICI database and 0.33% in MarketPro Retirement powered by BrightScope, while the expense ratio for balanced mutual funds in the ICI database was 0.41% of assets, compared with 0.30% in MarketPro Retirement powered by BrightScope (Exhibit 4.4). The average expense ratio for bond mutual funds in the ICI database was 0.19%, compared with 0.30% in MarketPro Retirement powered by BrightScope, and the expense ratio for money market mutual funds was 0.27% in the ICI database compared with 0.19% in MarketPro Retirement powered by BrightScope.

EXHIBIT 4.4

ICI and ISS MI Analyses of 401(k) Mutual Fund Expenses

Asset-weighted average expense ratio as a percentage of assets by mutual fund investment objective, 2023



Note: The 401(k) average expense ratio is measured as a 401(k) asset-weighted average. See the box on page 54 for a description of the fee analysis. Sources: Investment Company Institute, MarketPro Retirement powered by BrightScope, and Morningstar

Mutual Fund Expenses by 401(k) Plan Size

In 2023, the asset-weighted average expense ratios of mutual funds in 401(k) plans in MarketPro Retirement powered by BrightScope varied both with the size of the plan—with larger plans, measured by assets or participants, tending to have concentrated assets in mutual funds with lower expense ratios—and the type of investment—with domestic investment mutual funds tending to have lower expense ratios than international mutual funds, and money market mutual funds tending to have lower expense ratios than equity or bond mutual funds (Exhibit 4.5).

The asset-weighted average expense ratio for domestic equity mutual funds, including both index and actively managed funds, held in 401(k) plans in 2023 was 0.31% of assets, ranging from 0.36% in 401(k) plans with \$1 million to \$10 million in plan assets to 0.29% in plans with more than \$500 million to \$1 billion (Exhibit 4.5, upper panel).⁵³ Expense ratios for international equity mutual funds held in 401(k) plans were higher compared with domestic equity mutual funds, with an asset-weighted average of 0.44% of assets. Plans with more participants also tended to have equity mutual funds with lower expense ratios. For example, domestic equity mutual funds ranged from an asset-weighted average expense ratio of 0.36% of assets in plans with fewer than 100 participants to 0.28% in plans with 5,000 to 9,999 participants, and international equity mutual fund asset-weighted average expense ratios ranged from 0.53% of assets in plans with fewer than 100 participants to 0.38% in plans with 10,000 participants or more (Exhibit 4.5, lower panel).

The average expense ratio for domestic bond mutual funds, including both index and actively managed funds, was similar to the average expense ratio for domestic equity mutual funds: 0.30% of assets for domestic bond mutual funds compared with 0.31% of assets for domestic equity mutual funds. The same held for international bond mutual funds—0.44% of assets for both international bond mutual funds and international equity mutual funds in 2023 (Exhibit 4.5, upper and lower panels). Balanced mutual funds, which invest in a mix of equity and fixed-income securities, tend to have expense ratios that reflect the share of their investments in the different asset categories. Money market mutual funds had the lowest expense ratio of any of the asset classes with an asset-weighted average expense ratio of 0.19% of assets in 2023 for money market mutual funds in large 401(k) plans.

Index mutual funds, which tend to be domestic equity index mutual funds,⁵⁴ typically had lower expense ratios than other fund types.⁵⁵ For example, the asset-weighted average expense ratio for index mutual funds in 401(k) plans was 0.06% of assets in 2023, compared with 0.31% of assets for domestic equity mutual funds, including both index and actively managed funds (Exhibit 4.5, upper and lower panels). Like other mutual fund types, index mutual funds also tend to have lower expense ratios in larger plans. For example, index mutual funds in plans with less than \$1 million in plan assets had an average expense ratio of 0.12% of assets, compared with 0.05% in plans with more than \$500 million in plan assets. Similarly, index mutual funds in plans with fewer than 100 participants had an asset-weighted average expense ratio of 0.08% of assets, compared with 0.05% in plans with 5,000 participants or more.

Fees Paid on Mutual Funds Held In 401(k) Plans

Each year, ICI updates its analysis of the fees paid by 401(k) investors in mutual funds on the funds held in their 401(k) plans, combining Morningstar and Lipper fee information with ICI data on 401(k) plan investments in mutual funds, share class by share class.⁵⁵ Because mutual fund company recordkeeping systems cannot see through to the underlying 401(k) plans, it is not possible to analyze how mutual fund fees vary by plan size using these data. The resulting asset-weighted measure of fees paid on 401(k) plan mutual fund investments reflects where the assets are invested and what 401(k) investors as a group paid on average for their 401(k) plan mutual fund investments.

MarketPro Retirement powered by BrightScope contains reporting of mutual fund holdings by share class in large DC plans for more than 80% of the funds in plans with audited Form 5500 filings. In the remaining cases where the mutual fund is known but not the specific share class, ISS MI assigns a share class to the mutual fund holdings in a given DC plan based on the size of the plan's investment in the mutual fund. If the DC plan has less than \$1 million invested in the mutual fund, a retail-type share class is assigned to the holding. If the DC plan has \$1 million or more invested in the mutual fund, then an institutional-type share class is assigned. Because ISS MI has plan-level information, it is possible to report how mutual fund fees vary across plan size and in aggregate.

The fund investment categories used in this report are broad and encompass diverse investment styles within the investment types (e.g., active and index); a range of general investment types (such as domestic equity funds, which aggregates growth, sector, alternative strategies, value, and blend); and a variety of arrangements for shareholder services, recordkeeping, or distribution charges (known as 12b-1 fees). This material is intended to provide general information on fees paid by participants in a wide variety of plans to provide insight into average fees across the marketplace. The fees of a particular plan will depend on factors specific to the plan, such as the exact investment options the plan offers and whether administrative and recordkeeping fees are included in the expense ratios or charged outside of

them. Consequently, this material is not intended for benchmarking the costs of specific plans to the broad averages presented here.

Mutual fund expenses decreased between 2009 and 2023 in 401(k) plans across all asset classes, according to cross-sectional data. For example, domestic equity mutual funds (including both index and actively managed funds) had an asset-weighted average expense ratio of 0.31% in 2023, down from 0.65% in 2009 (Exhibits 4.5 and 4.6).

EXHIBIT 4.5

Average Expense Ratios of Mutual Funds in 401(k) Plans, 2023

Asset-weighted average expense ratio as a percentage of mutual fund assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by mutual fund investment objective and plan size

Plan assets	Equity mutual funds		Balanced mutual funds		Bond mutual funds		Money market mutual funds	Other	Memo: index mutual funds
	Domestic	International	Target date mutual funds*	Non-target date balanced mutual funds	Domestic	International			
Less than \$1M	0.34	0.37	0.39	0.62	0.30	0.26	0.36	0.31	0.12
\$1M to \$10M	0.36	0.51	0.33	0.48	0.39	0.44	0.29	0.52	0.09
>\$10M to \$50M	0.35	0.52	0.31	0.43	0.38	0.54	0.27	0.61	0.08
>\$50M to \$100M	0.33	0.49	0.29	0.39	0.34	0.52	0.25	0.57	0.07
>\$100M to \$250M	0.31	0.46	0.27	0.37	0.31	0.51	0.22	0.57	0.07
>\$250M to \$500M	0.31	0.45	0.28	0.35	0.29	0.44	0.20	0.54	0.06
>\$500M to \$1B	0.29	0.43	0.31	0.34	0.27	0.40	0.18	0.51	0.05
More than \$1B	0.30	0.38	0.28	0.31	0.25	0.38	0.16	0.35	0.05
All plans	0.31	0.44	0.29	0.36	0.30	0.44	0.19	0.51	0.06

Number of plan participants	Equity mutual funds		Balanced mutual funds		Bond mutual funds		Money market mutual funds	Other	Memo: index mutual funds
	Domestic	International	Target date mutual funds*	Non-target date balanced mutual funds	Domestic	International			
Fewer than 100	0.36	0.53	0.31	0.40	0.37	0.49	0.26	0.56	0.08
100 to 499	0.34	0.50	0.31	0.41	0.35	0.51	0.25	0.59	0.07
500 to 999	0.32	0.48	0.29	0.38	0.32	0.53	0.24	0.55	0.07
1,000 to 4,999	0.31	0.45	0.28	0.36	0.29	0.47	0.20	0.54	0.06
5,000 to 9,999	0.28	0.40	0.30	0.34	0.25	0.43	0.17	0.47	0.05
10,000 or more	0.31	0.38	0.28	0.31	0.27	0.35	0.16	0.34	0.05
All plans	0.31	0.44	0.29	0.36	0.30	0.44	0.19	0.51	0.06

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

Note: The sample is 46,043 plans with \$2.2 trillion in mutual fund assets. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis. See the box on page 54 for a description of the fee analysis.

Sources: MarketPro Retirement powered by BrightScope and Morningstar

EXHIBIT 4.6

Average Expense Ratios of Mutual Funds in 401(k) Plans, 2009

Asset-weighted average expense ratio as a percentage of mutual fund assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by mutual fund investment objective and plan size

Plan assets	Equity mutual funds		Balanced mutual funds		Bond mutual funds		Money market mutual funds	Other	Memo: index mutual funds
	Domestic	International	Target date mutual funds*	Non-target date balanced mutual funds	Domestic	International			
Less than \$1M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
\$1M to \$10M	0.91	1.07	0.84	0.88	0.72	0.85	0.48	1.11	0.33
>\$10M to \$50M	0.79	0.95	0.74	0.71	0.58	0.82	0.42	1.01	0.23
>\$50M to \$100M	0.70	0.88	0.66	0.62	0.49	0.85	0.37	0.90	0.18
>\$100M to \$250M	0.65	0.83	0.62	0.57	0.45	0.82	0.36	0.87	0.16
>\$250M to \$500M	0.62	0.81	0.61	0.49	0.43	0.74	0.33	0.76	0.14
>\$500M to \$1B	0.60	0.79	0.62	0.53	0.41	0.79	0.28	0.85	0.12
More than \$1B	0.55	0.76	0.47	0.44	0.37	0.79	0.22	0.80	0.13
All plans	0.65	0.83	0.62	0.56	0.46	0.80	0.31	0.89	0.16

Number of plan participants	Equity mutual funds		Balanced mutual funds		Bond mutual funds		Money market mutual funds	Other	Memo: index mutual funds
	Domestic	International	Target date mutual funds*	Non-target date balanced mutual funds	Domestic	International			
Fewer than 100	0.81	0.98	0.76	0.77	0.62	0.90	0.44	1.07	0.24
100 to 499	0.80	0.97	0.74	0.72	0.59	0.82	0.42	1.02	0.23
500 to 999	0.71	0.90	0.67	0.64	0.51	0.81	0.35	0.96	0.18
1,000 to 4,999	0.66	0.84	0.63	0.56	0.45	0.79	0.34	0.89	0.16
5,000 to 9,999	0.60	0.79	0.59	0.52	0.42	0.79	0.29	0.67	0.13
10,000 or more	0.57	0.77	0.55	0.47	0.39	0.79	0.24	0.85	0.14
All plans	0.65	0.83	0.62	0.56	0.46	0.80	0.31	0.89	0.16

* 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.

N/A = not available

Note: The sample is 17,430 plans with \$0.9 trillion in mutual fund assets. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options, more than 100 investment options, or less than \$1 million in plan assets are excluded from audited 401(k) filings for this analysis. See the box on page 54 for a description of the fee analysis.

Sources: MarketPro Retirement powered by BrightScope and Lipper

Variation in Mutual Fund Expenses

In addition to the average expense ratio, it is important to examine different points in the distribution of expenses to understand the range of mutual fund expenses paid in 401(k) plans. For example, though the asset-weighted average expense ratio on equity mutual funds, including both index and actively managed funds, held in 401(k) plans was 0.33% in 2023 (Exhibit 4.4), 10% of assets were invested in funds with expense ratios of 0.02% or less and 10% of assets were invested in funds with expense ratios of 0.78% or more (Exhibit 4.7). Similar patterns were observed for both domestic and international equity mutual funds.

Although 401(k) mutual fund expenses tend to decrease as total assets in a 401(k) plan increase, mutual fund expenses vary in plans of all sizes. For example, expenses for equity mutual funds, including both index and actively managed funds, ranged from 0.04% at the asset-weighted 10th percentile to 1.05% at the asset-weighted 90th percentile in 401(k) plans with less than \$1 million in plan assets (Exhibit 4.7). Similarly, equity mutual fund expenses in 401(k) plans with more than \$1 billion in plan assets ranged between 0.02% of assets at the asset-weighted 10th percentile to 0.75% at the asset-weighted 90th percentile. The range in expenses is at least partly attributable to differences in fee arrangements. For example, though some or all costs associated with plan recordkeeping can be paid by fees associated with the mutual fund investment, other costs may be paid as a per-participant charge by participants or the employer.

Expenses may also be paid through a combination of these methods.⁵⁶ In addition, the expense ratios applicable to funds vary within a given investment category.⁵⁷ For example, actively managed mutual funds can offer investors the chance to earn superior returns, access specialized sectors, or take advantage of alternative investment strategies, all of which can make a fund more expensive to manage. Similarly, equity mutual funds have different expense ratios depending on the extent to which they invest in small-cap, mid-cap, or emerging market stocks, all of which tend to be more expensive to manage, instead of large-cap or developed market stocks, which tend to be less expensive to manage.

EXHIBIT 4.7

Detailed Distribution of Mutual Fund Expense Ratios Paid by 401(k) Plan Participants

10th percentile, median, and 90th percentile asset-weighted mutual fund expense ratios as a percentage of plan assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by mutual fund investment objective and plan assets, 2023

10th percentile	Equity mutual funds			Balanced mutual funds			Bond mutual funds			Money market mutual funds	Other	Memo: index mutual funds
	All	Domestic	International	All	Target date mutual funds*	Non-target date balanced mutual funds	All	Domestic	International			
Less than \$1M	0.04	0.02	0.07	0.08	0.08	0.07	0.05	0.05	0.11	0.11	0.12	0.04
\$1M to \$10M	0.02	0.02	0.05	0.08	0.08	0.09	0.05	0.05	0.11	0.10	0.12	0.02
>\$10M to \$50M	0.02	0.02	0.05	0.08	0.08	0.12	0.05	0.05	0.11	0.10	0.12	0.02
>\$50M to \$100M	0.02	0.02	0.06	0.08	0.08	0.12	0.04	0.04	0.11	0.10	0.12	0.02
>\$100M to \$250M	0.02	0.02	0.05	0.08	0.08	0.11	0.02	0.02	0.11	0.09	0.12	0.02
>\$250M to \$500M	0.02	0.02	0.06	0.08	0.08	0.13	0.02	0.02	0.07	0.09	0.10	0.02
>\$500M to \$1B	0.02	0.02	0.05	0.08	0.08	0.06	0.02	0.02	0.07	0.09	0.10	0.02
More than \$1B	0.02	0.02	0.06	0.08	0.08	0.16	0.02	0.02	0.07	0.10	0.07	0.02
All plans	0.02	0.02	0.06	0.08	0.08	0.13	0.02	0.02	0.07	0.10	0.10	0.02

Median	Equity mutual funds			Balanced mutual funds			Bond mutual funds			Money market mutual funds	Other	Memo: index mutual funds
	All	Domestic	International	All	Target date mutual funds*	Non-target date balanced mutual funds	All	Domestic	International			
Less than \$1M	0.14	0.14	0.14	0.16	0.12	0.57	0.15	0.15	0.13	0.32	0.12	0.10
\$1M to \$10M	0.26	0.18	0.42	0.22	0.16	0.39	0.37	0.37	0.47	0.20	0.26	0.08
>\$10M to \$50M	0.30	0.26	0.46	0.25	0.19	0.31	0.39	0.39	0.54	0.25	0.75	0.08
>\$50M to \$100M	0.30	0.20	0.46	0.19	0.12	0.26	0.37	0.37	0.54	0.19	0.72	0.08
>\$100M to \$250M	0.26	0.18	0.46	0.12	0.12	0.25	0.36	0.36	0.54	0.14	0.75	0.07
>\$250M to \$500M	0.26	0.18	0.46	0.20	0.12	0.26	0.33	0.33	0.52	0.11	0.65	0.04
>\$500M to \$1B	0.18	0.05	0.46	0.26	0.29	0.25	0.30	0.30	0.48	0.11	0.62	0.04
More than \$1B	0.28	0.22	0.41	0.18	0.19	0.18	0.19	0.19	0.54	0.11	0.10	0.04
All plans	0.26	0.18	0.46	0.19	0.14	0.25	0.33	0.32	0.54	0.12	0.32	0.05

Continued on the next page

EXHIBIT 4.7 CONTINUED

Detailed Distribution of Mutual Fund Expense Ratios Paid by 401(k) Plan Participants

10th percentile, median, and 90th percentile asset-weighted mutual fund expense ratios as a percentage of plan assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope by mutual fund investment objective and plan assets, 2023

90th percentile	Equity mutual funds			Balanced mutual funds			Bond mutual funds			Money market mutual funds	Other	Memo: index mutual funds
	All	Domestic	International	All	Target date mutual funds*	Non-target date balanced mutual funds	All	Domestic	International			
Less than \$1M	1.05	1.05	1.06	1.12	1.11	1.37	0.80	0.80	0.70	0.50	0.89	0.18
\$1M to \$10M	0.95	0.93	1.08	0.75	0.74	0.99	0.83	0.82	0.99	0.48	1.15	0.13
>\$10M to \$50M	0.87	0.83	1.03	0.70	0.68	0.85	0.75	0.75	0.96	0.42	1.15	0.12
>\$50M to \$100M	0.81	0.78	0.92	0.65	0.65	0.75	0.67	0.67	0.88	0.42	1.10	0.12
>\$100M to \$250M	0.79	0.76	0.91	0.64	0.64	0.70	0.62	0.62	0.82	0.42	0.97	0.12
>\$250M to \$500M	0.78	0.76	0.91	0.64	0.64	0.62	0.61	0.57	0.74	0.42	0.97	0.12
>\$500M to \$1B	0.77	0.76	0.89	0.65	0.65	0.60	0.59	0.57	0.63	0.42	0.97	0.10
More than \$1B	0.75	0.74	0.79	0.63	0.64	0.52	0.57	0.50	0.74	0.42	0.88	0.10
All plans	0.78	0.76	0.88	0.65	0.65	0.70	0.62	0.62	0.76	0.42	1.01	0.12

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

Note: The sample is 46,043 plans with \$2.2 trillion in mutual fund assets. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis. See the box on page 54 for a description of the fee analysis.

Sources: MarketPro Retirement powered by BrightScope and Morningstar

Changes in Mutual Fund Expenses in Consistent 401(k) Plans, 2009–2023

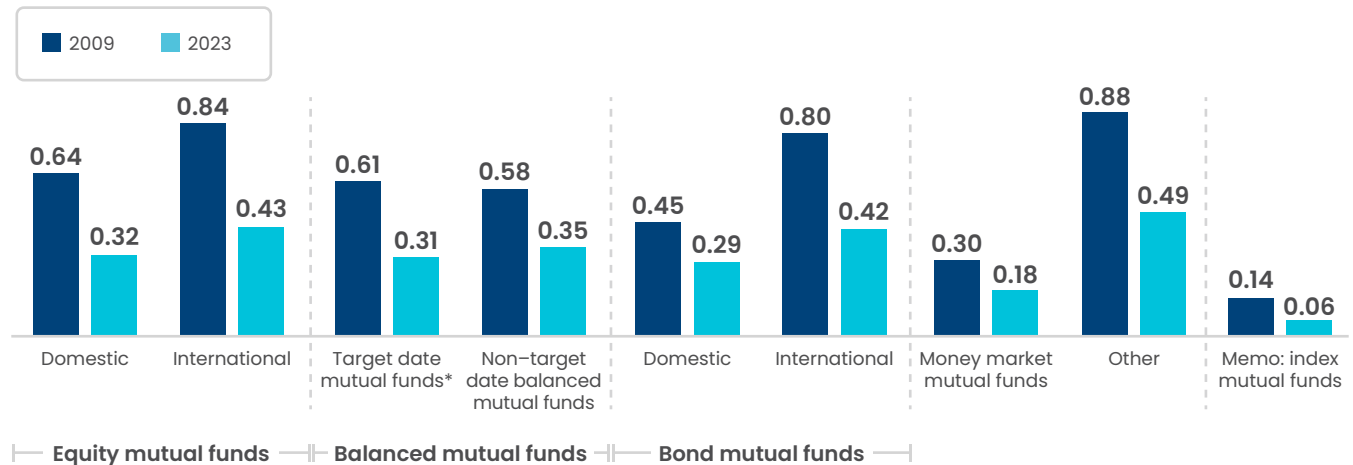
MarketPro Retirement powered by BrightScope permits the tracking of the same plans over time; for this analysis, a sample of 15,000 401(k) plans with mutual fund assets were followed from 2009 through 2023. Asset-weighted average mutual fund expenses decreased for the consistent 401(k) plans as a group and across all plan size asset and mutual fund investment categories. This is similar to the analysis of snapshots of 401(k) plans over time. For example, the asset-weighted average expense ratio for domestic equity mutual funds, including both index and actively managed funds, among 401(k) plans in the database every year between 2009 and 2023 decreased from 0.64% of assets in 2009 to 0.32% of assets in 2023, a decline of 32 basis points (Exhibit 4.8). The asset-weighted average expense ratio for international equity mutual funds fell 41 basis points, from 0.84% in 2009 to 0.43% in 2023, and money market mutual fund expenses fell by 12 basis points, from 0.30% in 2009 to 0.18% in 2023. The asset-weighted average expense ratio for target date mutual funds decreased from 0.61% in 2009 to 0.31% in 2023 in these consistent 401(k) plans. Even index mutual fund fees fell for these consistent 401(k) plans, from 0.14% in 2009 to 0.06% in 2023.

The asset-weighted average mutual fund expenses decreased across all plan sizes and mutual fund investment categories. For example, among plans with \$1 million to \$10 million in plan assets in 2009 and consistently in the database through 2023, the asset-weighted average expense ratio of domestic equity mutual funds, including both index and actively managed funds, fell from 0.93% in 2009 to 0.42% in 2023, a decline of 51 basis points (Exhibit 4.9). Among plans with more than \$1 billion in plan assets in 2009 that were consistently in the database through 2023, the asset-weighted average expense ratio of domestic equity mutual funds fell from 0.54% in 2009 to 0.31% in 2023, a decline of 23 basis points.

EXHIBIT 4.8

401(k) Plan Mutual Fund Fees in Consistent Plans Tended To Decrease Between 2009 and 2023

Asset-weighted average expense ratio as a percentage of plan assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope in every year by mutual fund investment objective



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

Note: The sample is 15,068 plans in MarketPro Retirement powered by BrightScope in each year between 2009 and 2023 with \$0.6 trillion in mutual fund assets in 2009 and \$1.4 trillion in mutual fund assets in 2023. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options, more than 100 investment options, or less than \$1 million in plan assets are excluded from audited 401(k) filings for this analysis. See the box on page 54 for a description of the fee analysis.

Sources: MarketPro Retirement powered by BrightScope, Morningstar, and Lipper

EXHIBIT 4.9

Average Expense Ratios of Mutual Funds in Consistent 401(k) Plans by Plan Assets, 2009 and 2023

Asset-weighted average expense ratio as a percentage of plan assets among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope in every year by mutual fund investment objective

2009									
Plan assets	Equity mutual funds		Balanced mutual funds		Bond mutual funds		Money market mutual funds	Other	Memo: index mutual funds
	Domestic	International	Target date mutual funds*	Non-target date balanced mutual funds	Domestic	International			
\$1M to \$10M	0.93	1.07	0.85	0.89	0.73	0.85	0.48	1.12	0.33
>\$10M to \$50M	0.81	0.96	0.75	0.73	0.59	0.82	0.42	1.04	0.23
>\$50M to \$100M	0.72	0.89	0.66	0.62	0.48	0.81	0.37	0.94	0.18
>\$100M to \$250M	0.67	0.85	0.62	0.61	0.45	0.83	0.34	0.87	0.15
>\$250M to \$500M	0.65	0.85	0.62	0.50	0.44	0.76	0.33	0.77	0.14
>\$500M to \$1B	0.63	0.82	0.64	0.55	0.42	0.80	0.28	0.87	0.13
More than \$1B	0.54	0.77	0.48	0.50	0.38	0.79	0.22	0.80	0.12
All plans	0.64	0.84	0.61	0.58	0.45	0.80	0.30	0.88	0.14
2023									
Plan assets	Equity mutual funds		Balanced mutual funds		Bond mutual funds		Money market mutual funds	Other	Memo: index mutual funds
	Domestic	International	Target date mutual funds*	Non-target date balanced mutual funds	Domestic	International			
\$1M to \$10M	0.42	0.59	0.36	0.47	0.42	0.56	0.31	0.60	0.09
>\$10M to \$50M	0.39	0.55	0.34	0.43	0.39	0.55	0.29	0.64	0.08
>\$50M to \$100M	0.35	0.51	0.31	0.40	0.35	0.53	0.26	0.59	0.07
>\$100M to \$250M	0.33	0.46	0.29	0.36	0.31	0.49	0.22	0.57	0.06
>\$250M to \$500M	0.31	0.47	0.30	0.35	0.29	0.42	0.21	0.53	0.06
>\$500M to \$1B	0.30	0.43	0.32	0.34	0.27	0.44	0.18	0.54	0.05
More than \$1B	0.31	0.38	0.30	0.31	0.26	0.37	0.16	0.33	0.05
All plans	0.32	0.43	0.31	0.35	0.29	0.42	0.18	0.49	0.06

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

Note: The sample is 15,068 plans in MarketPro Retirement powered by BrightScope in each year between 2009 and 2023 with \$0.6 trillion in mutual fund assets in 2009 and \$1.4 trillion in mutual fund assets in 2023. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options, more than 100 investment options, or less than \$1 million in plan assets are excluded from audited 401(k) plans for this analysis. See the box on page 54 for a description of the fee analysis. The *plan assets* category represents plan assets in 2009.

Sources: MarketPro Retirement powered by BrightScope, Morningstar, and Lipper

Appendix

EXHIBIT A.1

401(k) Plan Activity Combinations

Percentage of plans with selected plan activity combinations by plan assets or number of plan participants, 2023

Plan assets	No features	Employer contributions only	Outstanding loans only	Automatic enrollment only	Employer contributions and outstanding loans	Employer contributions and automatic enrollment	Outstanding loans and automatic enrollment	Employer contributions, outstanding loans, and automatic enrollment
Less than \$1M	19.6	26.5	3.1	15.3	4.6	19.4	5.4	6.1
\$1M to \$10M	1.7	15.8	5.3	1.0	42.1	6.0	4.7	23.3
>\$10M to \$50M	0.4	9.3	2.5	0.2	45.7	4.6	2.2	35.1
>\$50M to \$100M	0.2	5.3	1.5	0.2	41.8	4.0	1.3	45.7
>\$100M to \$250M	0.2	3.4	0.9	0.1	38.9	2.8	1.0	52.7
>\$250M to \$500M	0.1	2.0	0.7	0.1	38.3	1.3	0.8	56.7
>\$500M to \$1B	0.1	2.4	1.2	0.0	37.8	1.5	0.5	56.6
More than \$1B	0.0	1.0	0.5	0.1	34.4	0.9	0.7	62.4
All plans	1.6	11.0	3.1	1.1	41.5	5.3	2.9	33.4

Number of plan participants	No features	Employer contributions only	Outstanding loans only	Automatic enrollment only	Employer contributions and outstanding loans	Employer contributions and automatic enrollment	Outstanding loans and automatic enrollment	Employer contributions, outstanding loans, and automatic enrollment
Fewer than 100	7.5	17.3	3.5	5.4	30.3	10.0	4.1	22.0
100 to 499	0.8	11.6	3.1	0.6	43.6	5.3	3.0	31.9
500 to 999	0.8	8.1	3.1	0.5	42.5	4.0	2.6	38.4
1,000 to 4,999	0.8	6.3	3.1	0.4	39.9	2.8	1.9	44.9
5,000 to 9,999	0.5	3.3	2.4	0.0	43.0	1.6	1.1	48.1
10,000 or more	0.7	4.1	1.1	0.1	47.5	1.0	0.7	44.7
All plans	1.6	11.0	3.1	1.1	41.5	5.3	2.9	33.4

Note: The sample is 57,721 plans with \$6.9 trillion in assets. The results include plans that filed Form 5500 Schedule H (typically plans with 100 participants or more) and exclude 403(b) plans with a 401(k) feature. A plan was determined to allow participant loans if any participant had a loan outstanding at the end of plan year 2023. See the box on page 12 for a description of the activities.

Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 Research File

EXHIBIT A.2

Distribution of Participants by 401(k) Plan Activity Combinations

Percentage of participants in plans with selected plan activity combinations by plan assets and number of plan participants, 2023

Plan assets	No features	Employer contributions only	Outstanding loans only	Automatic enrollment only	Employer contributions and outstanding loans	Employer contributions and automatic enrollment	Outstanding loans and automatic enrollment	Employer contributions, outstanding loans, and automatic enrollment
Less than \$1M	23.4	15.2	11.3	10.0	11.0	10.7	9.8	8.7
\$1M to \$10M	13.1	15.6	8.3	0.8	40.0	4.0	3.7	14.5
>\$10M to \$50M	0.7	10.2	3.3	0.4	48.8	3.9	2.9	29.9
>\$50M to \$100M	0.2	5.5	2.9	0.2	46.9	3.2	1.6	39.4
>\$100M to \$250M	1.0	5.5	1.4	0.3	45.3	2.4	1.1	43.1
>\$250M to \$500M	0.2	2.7	1.1	0.1	48.8	0.8	1.0	45.3
>\$500M to \$1B	0.4	3.4	0.3	0.0	53.4	1.7	0.4	40.3
More than \$1B	0.0	1.3	1.1	0.0	44.5	0.5	2.0	50.6
All plans	1.5	5.0	2.2	0.2	46.1	1.9	1.9	41.2

Number of plan participants	No features	Employer contributions only	Outstanding loans only	Automatic enrollment only	Employer contributions and outstanding loans	Employer contributions and automatic enrollment	Outstanding loans and automatic enrollment	Employer contributions, outstanding loans, and automatic enrollment
Fewer than 100	1.4	12.1	4.0	1.5	40.6	6.4	5.0	29.1
100 to 499	0.9	10.9	3.2	0.6	43.4	5.2	2.9	33.0
500 to 999	0.8	7.9	3.1	0.5	42.4	3.9	2.6	38.7
1,000 to 4,999	0.7	6.1	3.2	0.4	40.0	2.5	1.8	45.4
5,000 to 9,999	0.5	3.1	2.3	0.0	43.0	1.6	1.1	48.4
10,000 or more	2.2	3.1	1.3	0.1	50.5	0.6	1.8	40.4
All plans	1.5	5.0	2.2	0.2	46.1	1.9	1.9	41.2

Note: The sample is 57,721 plans with \$6.9 trillion in assets. The results include plans that filed Form 5500 Schedule H (typically plans with 100 participants or more) and exclude 403(b) plans with a 401(k) feature. A plan was determined to allow participant loans if any participant had a loan outstanding at the end of plan year 2023. See the box on page 12 for a description of the activities.

Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 Research File

EXHIBIT A.3

Employer Contribution Activity in 401(k) Plans

Percentage of 401(k) plans with employer contributions by plan assets

	Plan assets								All plans
	Less than \$1M	\$1M to \$10M	>\$10M to \$50M	>\$50M to \$100M	>\$100M to \$250M	>\$250M to \$500M	>\$500M to \$1B	More than \$1B	
2006	72	88	94	95	97	97	97	95	78
2007	72	89	94	95	97	97	98	96	78
2008	73	88	94	95	97	98	97	96	78
2009	71	85	91	93	95	97	96	96	76
2010	67	81	88	92	94	96	96	96	72
2011	68	82	90	95	96	96	97	97	73
2012	68	83	91	95	97	97	97	97	74
2013	68	84	92	95	97	98	98	98	76
2014	69	85	93	95	97	98	98	98	77
2015	71	87	94	96	98	98	98	98	78
2016	71	87	94	96	98	98	98	99	79
2017	72	88	94	96	97	98	98	98	79
2018	73	89	94	97	97	98	98	98	80
2019	72	89	94	96	97	98	98	99	80
2020	72	89	94	96	97	98	98	99	80
2021	73	89	94	96	97	98	97	99	81
2022	74	90	95	96	98	98	98	99	80
2023	73	90	95	97	98	98	98	99	81

Continued on the next page

EXHIBIT A.3 CONTINUED

Employer Contribution Activity in 401(k) Plans

Percentage of participants in 401(k) plans with employer contributions by plan assets

	Plan assets								All plans
	Less than \$1M	\$1M to \$10M	>\$10M to \$50M	>\$50M to \$100M	>\$100M to \$250M	>\$250M to \$500M	>\$500M to \$1B	More than \$1B	
2006	66	84	91	93	97	98	98	91	88
2007	67	84	91	93	96	98	98	91	89
2008	67	86	93	96	97	98	97	92	89
2009	66	81	90	93	94	97	95	92	87
2010	62	76	85	88	92	96	97	91	85
2011	62	78	88	91	95	98	96	95	87
2012	63	78	88	93	95	98	98	94	88
2013	63	76	89	93	97	98	99	95	88
2014	63	78	90	93	97	98	97	95	89
2015	64	79	91	94	98	98	97	94	89
2016	66	80	91	94	96	98	99	95	90
2017	66	80	91	94	97	98	99	95	90
2018	68	82	92	95	95	98	98	95	91
2019	69	82	92	91	94	98	99	96	91
2020	68	81	92	92	94	96	98	96	91
2021	68	77	91	93	94	97	97	97	90
2022	69	81	93	94	96	98	98	97	91
2023	68	82	93	95	96	98	99	97	92

Note: The results exclude 403(b) plans with a 401(k) feature.

Source: Investment Company Institute tabulations of US Department of Labor Form 5500 Research File

EXHIBIT A.4**401(k) Contributions in the 401(k) Universe**

Billions of dollars

	401(k) contributions			Employer and employee contributions
	Employer contributions	Employee contributions in plans with employer contributions	Employee contributions in plans without employer contributions	
2006	78	142	13	233
2007	86	155	12	253
2008	97	158	12	268
2009	84	147	13	244
2010	88	147	15	250
2011	95	158	13	266
2012	101	168	13	282
2013	108	180	12	300
2014	114	191	12	317
2015	122	208	12	341
2016	129	219	12	359
2017	137	233	12	383
2018	147	253	13	414
2019	157	275	13	445
2020	160	289	14	464
2021	174	318	16	508
2022	195	354	16	565
2023	213	381	15	609

Note: Employer and employee contributions exclude contributions from others (which includes rollovers into 401(k) plans) and noncash contributions. The results exclude 403(b) plans with a 401(k) feature.

Source: Investment Company Institute tabulations of US Department of Labor Form 5500 Research File

EXHIBIT A.5**Employer Contributions as a Share of Total Contributions in the 401(k) Universe**

Percentage of total 401(k) plan contributions by plan assets, 2023

Plan assets	Percent
Less than \$1M	31
\$1M to \$10M	34
>\$10M to \$50M	33
>\$50M to \$100M	33
>\$100M to \$250M	34
>\$250M to \$500M	34
>\$500M to \$1B	36
More than \$1B	37
All plans	35

Note: The sample is 724,612 plans with \$7.9 trillion in assets. Employer and employee contributions exclude contributions from others (which includes rollovers into 401(k) plans) and noncash contributions. The results exclude 403(b) plans with a 401(k) feature.

Source: Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 Research File

EXHIBIT A.6

Conditional Average Number of Investment Options in 401(k) Plans by Type of Investment

Average number of investment options among plans with audited 401(k) filings in MarketPro Retirement powered by BrightScope offering a given investment option by plan assets, 2023

Plan assets	Equity funds		Balanced funds		Bond funds			Money funds	GICs	Other ²	Memo: index funds
	Domestic	International	Target date funds ¹	Non-target date balanced funds	Domestic	International					
Less than \$1M	6.0	2.3	9.4	1.6	2.5	1.0	1.0	1.0	1.5	9.6	
\$1M to \$10M	9.3	3.1	10.2	2.4	3.1	1.0	1.1	1.0	1.5	10.3	
>\$10M to \$50M	9.9	3.3	10.8	2.1	3.2	1.0	1.1	1.1	1.6	10.2	
>\$50M to \$100M	9.3	3.1	11.5	1.8	3.1	1.2	1.1	1.0	1.6	10.2	
>\$100M to \$250M	8.8	3.1	11.6	1.6	3.0	1.1	1.2	1.1	1.8	10.3	
>\$250M to \$500M	8.3	2.9	11.9	1.5	2.9	1.1	1.1	1.2	2.0	10.3	
>\$500M to \$1B	7.9	2.8	12.0	1.4	2.9	1.1	1.2	1.2	2.0	11.1	
More than \$1B	7.1	2.8	11.8	1.5	3.0	1.2	1.3	1.6	2.8	12.0	
All plans	9.4	3.1	10.8	2.1	3.2	1.1	1.0	1.1	1.7	10.3	

¹ 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.

² Other includes commodity funds, real estate funds, and individual stocks (including company stock) and bonds, but each separate option is counted as a unique investment option.

Note: The sample is 53,258 plans with \$6.6 trillion in assets. Participant loans are excluded. Funds include mutual funds, collective investment trusts, separate accounts, and other pooled investment products. Audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.

Source: MarketPro Retirement powered by BrightScope

EXHIBIT A.7
Sample Sizes
2023

	Plans Number	Participants Millions	Assets Trillions of dollars	Exhibits
US Department of Labor universe	721,950	83.5	7.8	1.2–1.5
Schedule H	57,721	67.3	6.9	1.1–1.5, 1.10–1.12, A.1–A.2
Employer contribution information	2,099	17.2	3.0	1.6–1.7
With simple match	1,052	40.1	1.5	1.8
ISS MI audited 401(k) filings¹	53,258	65.0	6.6	1.3–1.5, 2.1–2.2, 2.4–2.6, 2.8–2.13, A.6
With vesting information	19,624	22.2	2.0	1.9
2006–2023 consistent plans, \$1 million or more in assets	1,628	11.7	2.0	2.3, 2.7
Top 40 recordkeepers	43,118	56.9	5.7	3.1–3.2
With proprietary fund information	52,091	60.8	5.9	3.3
With total plan cost	49,234	61.0	6.3	4.1–4.2
<i>ISS MI audited 401(k) filings¹ with mutual funds²</i>	46,043	59.3	2.2	4.4–4.5, 4.7
2009–2023 consistent plans, ² \$1 million or more in assets	15,068	37.4	1.4	4.8–4.9

¹ Plans with fewer than four investment options or more than 100 investment options are excluded from ISS MI audited 401(k) filings for this analysis.

² Assets reported are assets held in mutual funds.

Sources: MarketPro Retirement powered by ISS MI, Investment Company Institute, and US Department of Labor 2023 Form 5500 Research File

Notes

- 1 Though the Form 5500 is a joint form with the Pension Benefit Guaranty Corporation (PBGC) and Internal Revenue Service (IRS), the Department of Labor (DOL) gathers and processes the information from the regulatory reports. See US Department of Labor, Employee Benefits Security Administration, “Forms and Filing Instructions.”
- 2 The US Department of Labor Form 5500 Research Files are available at www.dol.gov/agencies/ebsa/researchers/data/private-pension-plan-data.
- 3 The figures presented in Exhibit I.2 (and Exhibits I.3 and I.5) are slightly lower than the 401(k)-type plan figures published in US Department of Labor, Employee Benefits Security Administration 2025b because 403(b) plans that also reported 401(k) features have been excluded from this analysis.
- 4 As used in this report, participants are workers eligible to participate in their employer’s 401(k) plan, whether or not they have enrolled in the plan. Before 2005, DOL private pension plan bulletins reported a count of active 401(k) plan participants that had been adjusted from the number of active participants actually reported in the Form 5500 filings to exclude (1) individuals eligible to participate in a 401(k) plan who had not elected to have their employers make contributions; and (2) nonvested former employees who had not (at the time the Form 5500 filings were submitted) incurred the break in service period established by their plan (see US Department of Labor, Employee Benefits Security Administration 2012 for further detail). This change in methodology results in a dramatic increase in the number of individuals reported as active participants in 401(k) plans; in 2004, the number of active participants increased to 53.1 million (new method) from 44.4 million (old method; see US Department of Labor, Employee Benefits Security Administration 2025c). As the DOL notes: “In a purely economic sense, and for research purposes, individuals in these groups should not be included in the count of active participants.” However, the form schedule needed to make the adjustment is no longer required.
- 5 For more information on filing requirements, see US Department of Labor, Employee Benefits Security Administration 2025a.
- 6 See US Department of Labor, Employee Benefits Security Administration 2025b.
- 7 Plans with fewer than four investment options or more than 100 investment options are excluded from audited 401(k) filings for this analysis.
- 8 Additionally, the requirement to file an audited report changed from 100 or more total participants for 2022 to 100 or more participants with an account balance for 2023. In addition to participants with an account balance, total participants include participants eligible to participate in the plan, but who had not elected to participate. This changed both the size and composition of the smaller plans in MarketPro Retirement powered by BrightScope, and so the results are not directly comparable to prior years.
- 9 ICI conducts the Annual Mutual Fund Shareholder Tracking Survey each year to gather information on the demographic and financial characteristics of mutual fund-owning households in the United States. The most recent survey was conducted from May to June 2025 and was fielded on the KnowledgePanel®, a probability based online panel designed to be representative of the US population. The KnowledgePanel® is designed and administered by Ipsos. Ipsos is one of the largest market research and polling companies globally, operating in 90 markets and employing over 18,000 people. The Annual Mutual Fund Shareholder Tracking Survey sample for 2025 included 9,021 US households drawn from the KnowledgePanel®. The overall margin of sampling error for the 2025 sample of US households is ± 1.0 percentage points at the 95% confidence level. For the 2025 survey results, see Holden, Schrass, and Bogdan 2025. In addition, ICI conducts an annual survey to gather information about respondents’ views on DC account saving and their confidence in 401(k) and other DC plan accounts. The most recent survey consists of answers to questions included in a national survey that NORC fielded using the AmeriSpeak® panel from November to December 2025, covering a total sample of 2,175 American adults. For the 2025 survey results, see Holden, Schrass, Bogdan, and Seligman 2026.

10 One of the frequently analyzed household surveys is the Survey of Consumer Finances (SCF), which is administered by the Federal Reserve Board. The SCF is a triennial interview survey of US families sponsored by the Board of Governors of the Federal Reserve System and the US Department of Treasury. The sample design of the survey aims to measure a broad range of financial characteristics. The sample has two parts: a standard geographically based random sample and a specially constructed oversampling of wealthy families. Weights are used to combine the two samples to represent the full population of US families. The 2022 SCF interviewed 4,602 families, representing 131.3 million families. Data available on the Federal Reserve Board's website are altered to protect the privacy of individual respondents and include weights. For an overview of the 2023 SCF results, see Aladangady et al. 2023. For a full description of the SCF and recent SCF data, see US Federal Reserve Board 2023.

Researchers interested in the behavior of older households use another publicly available household survey, the Health and Retirement Study (HRS), which is administered by the University of Michigan. For an extensive bibliography of papers using HRS data, see <https://hrs.isr.umich.edu/publications>.

The Survey of Income and Program Participation (SIPP), which is administered by the US Census Bureau, is another commonly used household survey. For a complete description, see www.census.gov/sipp.

11 Deloitte Consulting LLP and ICI have conducted surveys of DC plan sponsors, focusing on fees paid to provide the plan. The most recent survey, conducted in 2013, found that DC plan "all-in" fees tended to be lower for larger plans and higher for plans with larger allocation to diversified equity holdings. For more information, see Deloitte Consulting LLP and Investment Company Institute 2014. Deloitte Consulting LLP has conducted surveys of DC plan sponsors. For results from the most recent survey, see Deloitte Consulting LLP 2019. Plan Sponsor Council of America also conducts an annual survey of profit sharing and 401(k) plans. For results covering plan year 2023, see Plan Sponsor Council of America 2024.

12 See Holden, Libanati, and Chism 2025.

13 The Employee Benefit Research Institute (EBRI) and ICI keep a database of active 401(k) participants, including information on asset allocation, account balances, and loan activity. The EBRI/ICI 401(k) database has data on 401(k) participants from 1996 to 2022. The year-end 2022 database covered 12.3 million participants in 83,630 plans with \$0.9 trillion in assets; see Holden, Bass, and Copeland 2024a. For prior results, exploring consistent participants who were in the database every year between 2016 and 2022, see Holden, Bass, and Copeland 2024b.

14 For information on employer contribution structures, see Exhibits 1.6 and 1.7 and the discussion on page 14.

15 401(k) plan participants may also have access to account assets through withdrawals. The Form 5500 filings do not have information on the plan design features surrounding withdrawal activity. There are two possible types of in-service withdrawals from DC plans: nonhardship and hardship. Generally, participants withdrawing after age 59½ are categorized as nonhardship withdrawals. A participant seeking a hardship withdrawal must demonstrate financial hardship and generally faces a 10% penalty on the taxable portion of the withdrawal. Prior to 2019, if a plan allowed loans, participants were generally required to take a loan before they were permitted to take a hardship withdrawal.

16 The plan sponsor also generally selects the default investment option. Plan Sponsor Council of America 2024 reports the different default investment options selected among its member plans with automatic enrollment.

17 For example, see Plan Sponsor Council of America 2024; Deloitte Consulting LLP 2019; and Holden, Bass, and Copeland 2024a. The Vanguard Group also releases an annual report focusing on defined contribution plans in its recordkeeping system. For the most recent report, focusing on 2024 plan data, see Clark 2025.

- 18 The Form 5500 is an annual disclosure submitted to the DOL by ERISA-covered employer-sponsored retirement plans, including 401(k) plans. The filings include information on plan assets, covered employees, contributions, withdrawals, loans, and automatic enrollment. For tabulations from the most recent release of Form 5500 data, see US Department of Labor, Employee Benefits Security Administration 2025b.
- 19 For data covering plan year 2022, see BrightScope and Investment Company Institute 2025.
- 20 A plan was determined to have automatic enrollment if it was specified on the 2023 Form 5500; this may undercount the number of plans with automatic enrollment. At year-end 2024, 61% of plans in Vanguard's recordkeeping system had an automatic enrollment feature (see Clark 2025). Plan Sponsor Council of America 2024 reports that 63.8% of plans in its survey automatically enrolled workers in 2023. The lower incidence of automatic enrollment in the Form 5500 data partly results from the higher share of small plans (which have lower adoption of automatic enrollment) in the DOL data, but even among larger plans, the DOL data report lower incidence compared to these other data sources.
- 21 In 2024, 96% of DC plans in Vanguard's recordkeeping system had employer contributions (see Clark 2025). Plan Sponsor Council of America 2024 reports that 94.8% of plans in its survey offered employer contributions in 2025.
- 22 Exhibit A.3 in the appendix presents the analysis for the full universe of 401(k) plans and finds similar results.
- 23 Plans with employer matches but missing descriptions of the employer match may be included in this category.
- 24 Plans may also allow withdrawals (see note 15).
- 25 Participant loans generally must be paid back within five years; however, loans for the purchase of a principal residence may qualify for a longer repayment period. Participants who separate from employment with an outstanding loan generally must repay the loan shortly after separation. Otherwise, the outstanding balance is deemed distributed and potentially subject to taxation and penalties. For more information, see US Department of the Treasury, Internal Revenue Service 2015.
- 26 Although the Form 5500 data do not allow quantification of the amount of loans defaulted in any given year, in plan year 2023, outstanding participant loans made up only 1.0% (\$75.2 billion) of the \$7.9 trillion in 401(k) plan assets. See Table D6 in US Department of Labor, Employee Benefits Security Administration 2025b. Additionally, Lu et al. 2015 estimates that \$6 billion on average annually flows out of 401(k) plans as a result of loan defaults, which is small compared with the asset base and other distribution activity at job change or retirement.
- 27 Research on the impact of the availability of a loan feature on 401(k) plan participation and contributions has found either positive effects or no discernible impact, depending on the study. For example, Beshears et al. 2010 finds that adding a loan option increases 401(k) plan participation but does not find a conclusive impact on contributions. Mitchell, Utkus, and Yang 2007 finds no impact of loans on participation rates but concludes that the loan option increases the contribution rate by 10% among non-highly paid participants. Regression analysis in US Government Accountability Office 1997 finds that, controlling for firm size, the employer match rate, and the presence of another pension plan, a loan provision was associated with a participation rate that was about 6 percentage points higher and a 36.8% higher average employee deferral rate. Holden and VanDerhei 2001 and Munnell, Sundén, and Taylor 2000 find that the presence of a loan provision increases 401(k) participant contribution rates. More recently, Beshears et al. 2024 find that 401(k) participants' contribution activity is "remarkably stable during and after loan origination."

- 28 Plans are classified as having a loan provision if any participant in the plan has an outstanding loan balance. This may understate the number of plans offering loans because some plans may have offered a loan option, but no participant had taken out a loan. It is likely that this omission is small, as US Government Accountability Office 1997 found that more than 95% of 401(k) plans that offer loans had at least one plan participant with an outstanding loan.
- 29 Holden, Bass, and Copeland 2024a finds that 52% of 401(k) plans had a loan provision, and 84% of participants were in plans offering loans at year-end 2022. Clark 2025 finds that “in 2024, 80% of Vanguard DC plans permitted participants to borrow from their plan, and 91% of active participants had access to a loan option.” Plan Sponsor Council of America 2024 reports that 84.4% of 401(k) plans in their survey allowed loans in 2023.
- 30 US Department of Labor, Employee Benefits Security Administration 2025b reports \$75.2 billion of participant loan balances outstanding from 401(k) plans in plan year 2023, which is 1.0% of the \$7.9 trillion in 401(k) plan assets.
- 31 For example, see Holden, Bass, and Copeland 2024a.
- 32 See Holden, Libanati, and Chism 2025 for a discussion of the services and expenses associated with offering 401(k) plans.
- 33 Data for 2008 were not provided to ISS MI; therefore, consistent plans are those in the database in 2006, 2007, and every year from 2009–2023.
- 34 In cross sections of all 401(k) plans in MarketPro Retirement powered by BrightScope, the average number of investment options offered rose from 21 in 2006 to 29 in 2023. Adjusted to count target date fund suites as one investment option, the average number of investment options for all plans rose from 20 to 21 from 2006 to 2023. This represents the net change in the number of investment options offered and does not represent all changes to fund lineups.
- 35 Plans may offer multiple target date fund suites; however, the vast majority of plans that offered a target date fund suite offered one suite. In 2023, 93% of 401(k) plans in MarketPro Retirement powered by BrightScope that offered a target date fund suite offered one suite, while 4% offered two suites, and 2% offered more than two suites.
- 36 Other investments include company stock, which cannot consistently be identified in MarketPro Retirement powered by BrightScope. Research from the EBRI/ICI 401(k) database finds that at year-end 2022, company stock was 3.6% of 401(k) plan assets. See Holden, Bass, and Copeland 2024a. Tabulations of US Department of Labor 2023 Form 5500 Research File data show that employer securities (including company stock) were held in 1.5% of 401(k) plans with fewer than 100 participants, compared with 17.2% of plans with 5,000 participants or more.
- 37 Other investments include company stock, which cannot consistently be identified in MarketPro Retirement powered by BrightScope. The EBRI/ICI 401(k) database finds that at year-end 2022, company stock was 3.6% of 401(k) plan assets. See Holden, Bass, and Copeland 2024a. Tabulations of US Department of Labor 2023 Form 5500 Research File data show that employer securities (including company stock) rose from 0.7% of plan assets for 401(k) plans with fewer than 100 participants to 3.9% of assets for plans with 5,000 participants or more.
- 38 Participants in 93% of 401(k) plans direct all of their 401(k) investments. See Table D5(b) in US Department of Labor, Employee Benefits Security Administration 2025b.
- 39 Asset allocation in MarketPro Retirement powered by BrightScope is broadly similar to the EBRI/ICI 401(k) database. At year-end 2022, the EBRI/ICI 401(k) database shows that equity funds held 37.9% of assets; balanced funds held 41.0%; bond funds held 7.4%; money funds held 0.7%; GICs and other stable value funds held 8.0%; and company stock, other, and unknown assets accounted for the remaining 4.9% of assets. See Holden, Bass, and Copeland 2024a.

- 40 See note 36.
- 41 Investment Company Institute 2026 reports target date mutual fund assets from 1996 through the third quarter of 2025. Target date mutual fund assets have grown from \$1 billion at year-end 1996 to \$114 billion at year-end 2006 to \$1,971 billion at year-end 2024. At year-end 2024, DC plans held 68% of target date mutual fund assets, individual retirement accounts (IRAs) held 16%, and other investors held 16%.
- 42 The EBRI/ICI 401(k) database reports 85% of 401(k) plans in 2022 offered target date funds, compared with 57% in 2006. See Holden, Bass, and Copeland 2024a.
- 43 Similarly, research from the EBRI/ICI 401(k) database finds that target date fund assets accounted for 38% of total assets at year-end 2022, compared with 5% at year-end 2006. See Holden, Bass, and Copeland 2024a.
- 44 Investment Company Institute 2026 reports index mutual fund assets from 1996 through the third quarter of 2025. Index mutual fund assets have grown from \$98 billion at year-end 1996 to \$748 billion at year-end 2006 to \$6,894 billion at year-end 2024.
- 45 Because recordkeepers can be engaged in one or more of these business categories, they were classified according to their primary business line.
- 46 The top 40 recordkeepers among audited 401(k) plans in MarketPro Retirement powered by BrightScope were classified according to their primary business, and only plans recordkept by those recordkeepers are included in this analysis.
- 47 See Holden, Libanati, and Chism 2025.
- 48 According to Investment Company Institute tabulations of US Department of Labor 2023 Form 5500 Research File.
- 49 The 2013 Deloitte/ICI 401(k) Fee Study found that investment fees accounted for 82% of total fees (on a participant-weighted basis). See Deloitte Consulting LLP and Investment Company Institute 2014.
- 50 See Li and Atamanchuk 2025 and chapter 6 in Investment Company Institute 2025.
- 51 See Holden, Libanati, and Chism 2025.
- 52 For industrywide mutual fund fee data for 2024, see Li and Atamanchuk 2025. Use of Morningstar data requires the following disclaimer:
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- 53 Funds for which fee data were not available have been excluded. In addition, the 2024 audited Form 5500 reports contain share class data for more than 85% of mutual funds in MarketPro Retirement powered by BrightScope. For the remainder, if a plan's investment in a fund was less than \$1 million in assets, it was assumed that the plan was invested in retail-type shares (A-shares or their equivalents), while a plan's investment of \$1 million or more in a fund was assumed to be invested in institutional-type shares (institutional shares or their equivalents). The impact of this assumption was tested by assigning to each fund the simple average expense ratio of all of its share classes. This tends to increase the average expense ratios presented but does not significantly alter the remaining analysis (whether the comparison is across asset categories or across number of plan participants).
- 54 At year-end 2024, 73% of index mutual fund assets were invested in domestic equity indexes, 11% were in world equity indexes, and the remaining 16% were in bond (15%) and hybrid (1%) indexes. See Investment Company Institute 2025.
- 55 See Holden, Libanati, and Chism 2025.
- 56 For more information about the services offered in 401(k) plans and fees charged for these services, see Holden, Libanati, and Chism 2025 and Deloitte Consulting LLP and Investment Company Institute 2014.
- 57 For a discussion of the range of services offered in S&P 500 index funds, see Collins 2005.

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