

No. 25-498

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**In the Supreme Court of the United States**

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WINSTON R. ANDERSON, et al.,  
*Petitioners,*

v.

INTEL CORPORATION INVESTMENT POLICY COMMITTEE,  
et al.,  
*Respondents.*

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On Writ of Certiorari to the  
United States Court of Appeals for the Ninth Circuit

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**JOINT APPENDIX VOLUME III OF III**

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PETITION FOR CERTIORARI FILED OCTOBER 20, 2025.  
CERTIORARI GRANTED JANUARY 16, 2026.

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United States Government Accountability Office  
**GAO** Report to Congressional Requesters

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August 2008 **DEFINED BENEFIT  
PENSION PLANS**

**Guidance Needed to  
Better Inform Plans of  
The Challenges and  
Risks of Investing in  
Hedge Funds and  
Private Equity**



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GAO-08-692



### **Why GAO Did This Study**

Millions of retired Americans rely on defined benefit pension plans for their financial well-being. Recent reports have noted that some plans are investing in 'alternative' investments such as hedge funds and private equity funds. This has raised concerns, given that these two types of investments have qualified for exemptions from federal regulations, and could present more risk to retirement assets than traditional investments.

To better understand this trend and its implications, GAO was asked to examine (1) the extent to which plans invest in hedge funds and private equity; (2) the potential benefits and challenges of hedge fund investments; (3) the potential benefits and challenges of private equity investments; and (4) what mechanisms regulate and monitor pension plan investments in hedge funds and private equity.

To answer these questions GAO interviewed relevant federal agencies, public and private pension plans, industry groups and investment professionals, and analyzed available survey data.

### **What GAO Recommends**

GAO recommends that the Secretary of Labor provide guidance on investing in hedge funds and private equity that describes steps plans should take to

address the challenges and risks of these investments. Labor generally agreed with our findings and recommendation.

To view the full product, including the scope and methodology, click on GAO-08-692. For more information, contact Barbara Bovbjerg at (202) 512-7215 or [bovbjergb@gao.gov](mailto:bovbjergb@gao.gov), or Orice Williams at (202) 512-8678 or [williamso@gao.gov](mailto:williamso@gao.gov).

August 2008

## DEFINED BENEFIT PENSION PLANS

### **Guidance Needed to Better Inform Plans of the Challenges and Risks of Investing in Hedge Funds and Private Equity**

#### **What GAO Found**

According to several recent surveys of private and public sector plans, investments in hedge funds and private equity generally comprise a small share of total plan assets, but a considerable and growing number of plans have such investments. Available survey data of mid to large-size plans indicate that between 21 and 27 percent invest in hedge funds while over 40 percent invest in private equity; such investments are more prevalent among larger plans, as shown below. The extent of investment in hedge funds and private equity by plans with less than \$200 million in total assets is unknown.

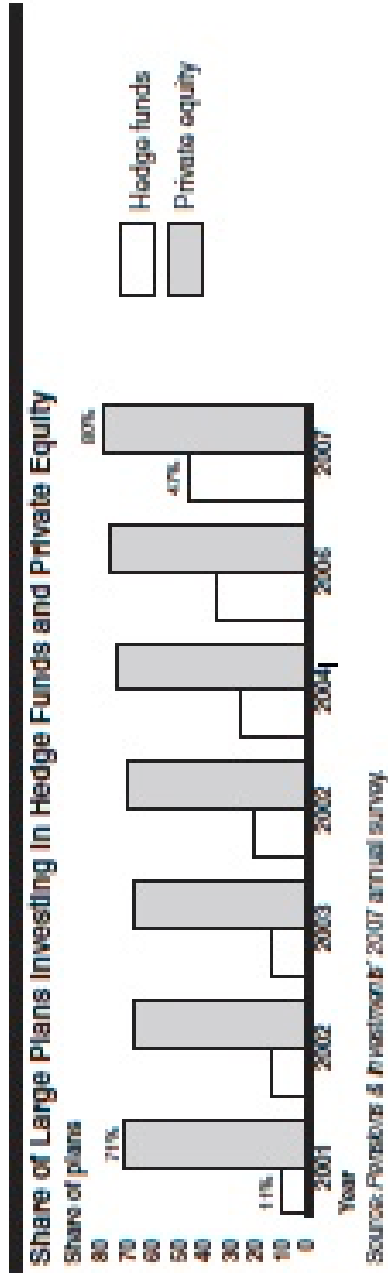
Pension plans invest in hedge funds to obtain a number of potential benefits, such as returns greater than the stock market and stable returns on investment.

However, hedge funds also pose challenges and risks beyond those posed by traditional investments. For example, some investors may have little information on funds' underlying assets and their values, which limits the opportunity for oversight. Plan representatives said they take steps to mitigate these and other challenges, but doing so requires resources beyond the means of some plans.

Pension plans primarily invest in private equity funds to attain returns superior to the stock market. Pension plan officials GAO spoke with generally had a long history of investing in private equity and said such investments have met expectations for returns. However, these investments present several challenges, such as wide variation in performance among funds, and the resources required to mitigate these challenges may be too substantial for some plans.

The federal government does not specifically limit or monitor private sector plan investment in hedge funds or private equity, and state approaches to public plans vary. Under federal law, fiduciaries must comply with a standard of prudence, but no explicit restrictions on hedge funds or private equity exist. Although a federal advisory council recommended that the Department of Labor (Labor) develop guidance for plans to use in investing in hedge funds,

Labor has not yet done so. While most states also rely on a standard of investor prudence, some also have legislation that restricts or prohibits plan investment in hedge funds or private equity. For example, one state prohibits plans below a certain size from investing directly in hedge funds.



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**Abbreviations**

|       |   |
|-------|---|
| DB    | defined benefit                                 |
| DC    | defined contribution                            |
| EBSA  | Employee Benefits Security Administration       |
| ERISA | Employee Retirement Income Security Act of 1974 |

|       |   |
|-------|---|
| NASRA | National Association of<br>State Retirement<br>Administrators |
| PBGC  | Pension Benefit Guaranty<br>Corporation                       |
| PERAC | Public Employee<br>Retirement<br>Administration<br>Commission |
| SEC   | U.S. Securities and<br>Exchange Commission                    |
| SFAS  | Statement of Financial<br>Accounting Standards                |
| S&P   | Standard and Poor's   |
| TRS   | Teacher Retirement<br>System of Texas                         |

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**United States Government Accountability Office  
Washington, DC 20548**

August 14, 2008

Congressional Requesters

Millions of Americans rely on defined benefit pension plans for their financial well-being after their working years.<sup>1</sup> In order to pay promised retirement benefits when due at an acceptable cost, employers must make adequate contributions to these funds and plan fiduciaries must invest the fund balance in assets that yield an adequate rate of return over time. Historically, public and private sector pension plans have primarily invested in traditional investments such as stocks and bonds; however, recent press reports indicate that plans are increasingly investing in “alternative” investments such as hedge funds and private equity funds.

While there is no statutory definition of hedge funds, the phrase “hedge fund” is commonly used to refer to a pooled investment vehicle that is privately organized and administered by professional managers, and that often engages in active trading of various types of securities and commodity futures and options contracts.<sup>2</sup> Similarly,

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<sup>1</sup> A defined benefit (DB) pension plan generally provides benefits in the form of a guaranteed retirement benefit, the value of which is typically determined by a formula based on salary and years of service.

<sup>2</sup> A futures contract is an agreement to buy or sell a specific amount of a commodity or financial instrument at a particular price

private equity funds are not statutorily defined, but are generally considered privately managed investment pools administered by professional managers, who typically make long-term investments in private companies, taking a controlling interest with the aim of increasing the value of these companies through such strategies as improved operations or developing new products. Both hedge funds and private equity funds may be managed so as to be exempt from certain aspects of federal securities law and regulation that apply to other investment pools such as mutual funds.

Pension plan investments in hedge funds and private equity have been controversial for a number of reasons. While hedge funds investments are made mainly by relatively wealthy individuals and institutional investors, the recent increase in pension plan investments in hedge funds indirectly exposes people of modest incomes to the risks of hedge fund investing. This has been cited as a concern because a pension plan that experiences substantial losses as a result of a hedge fund investment may be unable to meet its obligations to pensioners. The perceived riskiness of hedge funds and the collapse of some of these funds in recent years have led some industry experts and union officials to express concern about plan investments in such vehicles, including the appropriate steps plan officials should take in conducting proper due diligence. A further cause for their concern is the ability of hedge funds and private equity funds to qualify for exemptions from certain aspects of federal securities law and regulations that apply to other investment pools.

In order to better understand the extent to which defined benefit pension plans invest in hedge funds and

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on a stipulated future date. An option is a securities transaction agreement tied to stocks, commodities, or stock indexes.

private equity and the implications of such investments for the security of pension plan assets, you asked us to examine the extent and nature of defined benefit pension plans' investments in these alternative investments. Specifically, you asked us to address the following questions:

1. To what extent do public and private sector pension plans invest in hedge funds and private equity funds?
2. What are the potential benefits, risks, and challenges pension plans face in making hedge fund investments, and how do plans address the risks and challenges?
3. What are the potential benefits, risks, and challenges pension plans face in making private equity fund investments, and how do plans address the risks and challenges?
4. What mechanisms regulate and monitor pension plan investments in hedge funds and private equity funds?

To answer these questions, we reviewed relevant literature and survey data and conducted in-depth interviews with pension plan representatives and industry experts. We obtained and analyzed data on the extent of pension plan investments in hedge funds and private equity from private organizations such as Greenwich Associates, *Pensions & Investments*, and Pyramis Global Advisors. Although these surveys had several limitations—for example, the survey data generally represent the holdings of larger pension plans—we determined they were sufficiently reliable for purposes of our study. To answer the second and third questions, we conducted in-depth interviews with representatives of 26 public and private sector DB pension plans and, where possible, obtained and reviewed supporting documentation. These plans were selected based on

several criteria, including the range of investment in hedge funds and private equity and the amount of total plan assets. We also interviewed officials of regulatory agencies, relevant industry organizations, investment consulting firms, and other national experts. To identify state and federal regulatory and monitoring policies, we interviewed officials at the Department of Labor (Labor) and representatives of relevant agencies in selected states, and reviewed relevant policy documents. We contacted regulators in 11 states, including the 10 states with the largest amount of public pension assets according to the National Association of State Retirement Administrators (NASRA) Public Funds Survey data.<sup>3</sup>

We conducted this performance audit from June 2007 to July 2008, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## **Results in Brief**

While hedge fund and private equity fund investments generally comprise a limited share of total plan assets, a considerable and growing number of private and public DB plans make such investments. According to available survey data, which generally reflect the holdings of larger

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<sup>3</sup> We contacted the following states: California, Florida, Illinois, Massachusetts, New Jersey, New York, North Carolina, Pennsylvania, Ohio, Texas, and Wisconsin.

DB plans, average allocations to hedge funds and private equity in 2007 were around 4 percent and 5 percent of total plan assets, respectively. However, according to one survey, a few pension plans had relatively large allocations of about 30 percent to hedge funds, while one public plan had an allocation of about 20 percent to private equity. Available survey data indicate that from about 21 to 27 percent of mid- to large-size pension plans invested in hedge funds in 2006, while just over 40 percent invested in private equity. Although investments in private equity remain more prevalent than hedge fund investments among both private and public pension plans surveyed, the number of plans investing in hedge funds has increased in recent years more than for private equity funds. Investments in hedge funds and private equity are more common among large pension plans, measured by assets under management, compared to mid-size plans. For example, about 16 percent of plans with \$250 to \$500 million were invested in hedge funds, while 29 percent of plans with \$1 billion or more had such investments, according to a 2006 survey. Similarly, for private equity, 16 percent of plans with \$250 - \$500 million had such investments compared to 77 percent of plans with \$1 billion or more in 2006. Survey data on plans with less than \$200 million in assets are unavailable and, in their absence, the extent to which these plans invest in hedge funds or private equity is unknown.

Pension plans invest in hedge funds to obtain various benefits, but some characteristics of hedge funds also pose challenges that demand greater expertise and effort than more traditional investments, which some plans may not be able to fully address. Pension plans told us that they invest in hedge funds in order to achieve one or more of several goals, including steadier, less volatile returns,

obtaining returns greater than those expected in the stock market, or diversification of portfolio investments. Pension plan officials we spoke with about hedge fund investments all said these investments had generally met or exceeded expectations. However, at the time of our contact in 2007, several plan officials noted that their hedge fund investments had not yet been tested under stressful economic conditions, such as a significant stock market decline. Further, some indicated mixed experiences with hedge fund investments. At the time of our discussions, however, officials of each plan interviewed indicated that they expected to maintain or increase the share of assets invested in hedge funds. Nonetheless, hedge fund investments pose investment challenges beyond those posed by traditional investments in stocks and bonds. These additional challenges include: (1) the inherent risks of relying on the skill and techniques of the hedge fund manager; (2) limited information on a hedge fund's underlying assets and valuation (limited transparency); (3) contract provisions which limit an investor's ability to redeem an investment in a hedge fund for a defined period of time (limited liquidity); and 4) the possibility that a hedge fund's active or risky trading activity will result in losses due to operational failure such as trading errors or outright fraud (operational risk). Although there are challenges of hedge fund investing, plan officials and others described steps to address these and other challenges. For example, plan officials and others told us that it is important to negotiate key investment terms and conduct a thorough "due diligence" review of prospective hedge funds, including review of a hedge fund's operational structure. Further, pension plans can invest in funds of hedge funds, which charge additional fees but provide diversification and the

additional skill of the fund of funds manager. According to plan officials and others, some of these steps require considerably greater effort and expertise from fiduciaries than is required for more traditional investments, and such steps may be beyond the capabilities of some pension plans, particularly smaller ones.

Pension plans invest in private equity primarily in expectation of higher rates of return than traditional investments, but these investments too pose challenges that require substantial effort and expertise to address. The major benefits pension plans seek from private equity investments are long-term returns in excess of stocks and, to a lesser degree, to further diversify the plan's portfolio. Pension plan officials we spoke with generally had longer experience investing in private equity than in hedge funds—in some cases over 20 years—and each plan's representatives indicated these investments have met expectations and most expressed plans to maintain or increase their allocations. Nevertheless, investments in private equity present distinct challenges and risks beyond those faced with traditional investments. These include: (1) the variation of performance among private equity funds, which is greater than for other asset classes, and the difficulty of gaining access to recognized top-performing funds; (2) longer-term commitments of 10 years or more, during which the pension plan may not be able to redeem its investment; and (3) valuation of the investment, which is difficult to assess prior to the sale of underlying holdings. As with hedge funds, taking steps to mitigate the challenges of investing in private equity funds requires greater expertise and effort than making traditional investments. Plans told us that, as a part of their due diligence and ongoing monitoring efforts, they regularly reviewed reports on the performance of the

underlying investments of the private equity fund and held periodic meetings with fund managers. As with hedge funds, the extensive amount of monitoring required for private equity investments may be impractical for pension plans that have more limited resources, such as smaller plans.

The federal government does not specifically limit or monitor private sector pension investment in hedge funds or private equity and, while some states do so for public plans, their approaches vary. Under the Employee Retirement and Income Security Act (ERISA), plan fiduciaries are expected to meet general standards of prudent investing and no specific restrictions on investments in hedge funds or private equity have been established. Labor is tasked with helping to ensure plan sponsors meet their fiduciary duties; however, it does not currently provide any guidance specific to pension plan investments in hedge funds or private equity. Conversely, some states do specifically regulate and monitor public sector pension investment in hedge funds and private equity, but these approaches vary from state to state. While states generally have adopted a “prudent man” standard similar to that in ERISA, some states also explicitly restrict or prohibit pension plan investment in hedge funds or private equity. For instance, in Massachusetts, the agency overseeing public plans will not permit plans with less than \$250 million in total assets to invest directly in hedge funds. Some states have detailed lists of authorized investments that exclude hedge funds and/or private equity. Other states may limit investment in certain investment vehicles or trading strategies employed by hedge fund or private equity fund managers. While some guidance exists for hedge fund investors, specific guidance aimed at pension plans could

serve as an additional tool for plan fiduciaries when assessing whether and to what degree hedge funds would be a prudent investment.

To ensure that all plan fiduciaries can better assess their ability to invest in hedge funds and private equity, and to ensure that those that choose to make such investments are better prepared to meet these challenges, we recommend that the Secretary of Labor provide guidance on investing in hedge funds and private equity specifically designed for qualified plans under ERISA. In responding to a draft of this report, Labor generally agreed with our findings and recommendation.

Labor and other federal agencies also provided technical comments on the draft report, which we have incorporated where appropriate.

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## **Background**

Millions of current and future retirees rely on private or public DB pension plans, which promise to pay retirement benefits that are generally based on an employee's salary and years of service. The financial condition of these plans—and hence their ability to pay promised retirement benefits when such benefits are due—depends on adequate contributions from employers and, in some cases, employees, as well as prudent investments that preserve principal and yield an adequate rate of return over time. The plan sponsor must make required contributions to the plan that are intended to ensure it is adequately funded to pay promised benefits. To maintain and increase plan assets, fiduciaries of public and private sector pension plans invest in assets that are expected to grow in value or yield income. In making investments, DB plan managers consider a plan's benefit payment requirements and balance the desire to maximize

return on investment and the desire to limit the overall risk to the investment portfolio to an acceptable level. In doing so, plan fiduciaries invest in various categories of assets classes, which traditionally have consisted mainly of stocks and bonds. Stocks offer relatively high expected long-term returns at the risk of considerable volatility, that is, the likelihood of significant short-term losses or gains. On the other hand, bonds and other fixed income investments offer a steady income stream and relatively low volatility, but lower expected long-term returns. Different proportions of these two asset classes will, therefore, provide different degrees of risk and expected return on investment. Pension fiduciaries may also invest in other asset classes or trading strategies, such as hedge funds and private equity, which are generally considered to be riskier investments, so long as such investments are prudent.

Private sector pension plan investment decisions must comply with the provisions of ERISA, which stipulates fiduciary standards based on the principle of a prudent man standard. Under ERISA, plan sponsors and other fiduciaries must (1) act solely in the interest of the plan participants and beneficiaries and in accordance with plan documents; (2) invest with the care, skill, and diligence of a prudent person with knowledge of such matters; and (3) diversify plan investments to minimize the risk of large losses. Under ERISA, the prudence of any individual investment is considered in the context of the total plan portfolio, rather than in isolation.<sup>4</sup> Hence, a relatively

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<sup>4</sup> ERISA's prudent man standard is satisfied if the fiduciary has given appropriate consideration to the following factors (1) the composition of the plan portfolio with regard to diversification of risk; (2) the volatility of the plan investment portfolio with regard to

risky investment may be considered prudent, if it is part of a broader strategy to balance the risk and expected return to the portfolio. In addition to plan sponsors, under the ERISA definition of a fiduciary, any other person that has discretionary authority or control over a plan asset is subject to ERISA's fiduciary standards.<sup>5</sup> The Employee Benefit Security Administration (EBSA) at Labor is responsible for enforcing these provisions of ERISA, as well as educating and assisting retired workers and plan sponsors. Another federal agency, the Pension Benefit Guaranty Corporation (PBGC), collects premiums from federally insured plans in order to insure the benefits of retirees if a plan terminates without sufficient assets to pay promised benefits.

In the public sector, governments have established pension plans at state, county, and municipal levels, as well as for particular categories of employees, such as police officers, fire fighters, and teachers. The structure of public pension plan systems can differ considerably from state to state. In some states, most or all public employees are covered by a single consolidated DB retirement plan, while in other states many retirement plans exist for various units of government and employee groups. Public

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general movements of investment prices; (3) the liquidity of the plan investment portfolio relative to the funding objectives of the plan; (4) the projected return of the plan investment portfolio relative to the funding objectives of the plan; and (5) the prevailing and projected economic conditions of the entities in which the plan has invested and proposes to invest. 29 C.F.R. § 2550.404a-1(b) (2007).

<sup>5</sup> Under ERISA, a fiduciary is a person who (1) exercises discretionary authority or control over plan management or any authority or control over plan assets; (2) renders investment advice regarding plan moneys or property for direct or indirect compensation; or (3) has discretionary authority or responsibility for plan administration. 29 U.S.C. §1002(21).

sector DB plans are not subject to funding, vesting and most other requirements applicable to private sector DB plans under ERISA, but must follow requirements established for them under applicable state law. While states generally have adopted standards essentially identical to the ERISA prudent man standard, specific provisions of law and regulation vary from state to state. Public plans are also not insured by the PBGC, but could call upon state or local taxpayers in the event of a funding shortfall.

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### **Hedge Funds Use Broad Range of Investment Strategies to Achieve Desired Return**

Although there is no statutory or universally accepted definition of hedge funds, the term is commonly used to describe pooled investment vehicles that are privately organized and administered by professional managers and that often engage in active trading of various types of securities, commodity futures, options contracts, and other investment vehicles. In recent years, hedge funds have grown rapidly. As we reported in January 2008, according to industry estimates, from 1998 to early 2007, the number of funds grew from more than 3,000 to more than 9,000 and assets under management from more than \$200 billion to more than \$2 trillion globally.<sup>6</sup>

Hedge funds also have received considerable media attention as a result of the high-profile collapse of several hedge funds, and consequent losses suffered by investors in these funds. Although hedge funds have the reputation

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<sup>6</sup> For additional information about hedge funds, see *GAO, Hedge Funds: Regulators and Market Participants Are Taking Steps to Strengthen Market Discipline, but Continued Attention Is Needed*, GAO-08-200 (Washington, D.C.: Jan. 24, 2008).

of being risky investment vehicles that seek exceptional returns on investment, this was not their original purpose, and is not true of all hedge funds today. Founded in the 1940s, one of the first hedge funds invested in equities and used leverage and short selling to protect or “hedge” the portfolio from its exposure to movements in the stock market.<sup>7</sup> Over time, hedge funds diversified their investment portfolios and engaged in a wider variety of investment strategies. Because hedge funds are typically exempt from registration under the Investment Company Act of 1940, they are generally not subject to the same federal securities regulations as mutual funds. They may invest in a wide variety of financial instruments, including stocks and bonds, currencies, futures contracts, and other assets. Hedge funds tend to be opportunistic in seeking positive returns while avoiding loss of principal, and retaining considerable strategic flexibility. Unlike a mutual fund, which must strictly abide by the detailed investment policy and other limitations specified in its prospectus, most hedge funds specify broad objectives and authorize multiple strategies. As a result, most hedge fund trading strategies are dynamic, often changing rapidly to adjust to market conditions.

Hedge funds are typically structured and operated as limited partnerships or limited liability companies exempt from certain registration, disclosure and other requirements under the Securities Act of 1933,<sup>8</sup> Securities

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<sup>7</sup> Leverage involves the use of borrowed money or other techniques to potentially increase an investment’s value or return without increasing the amount invested. A short sale is the sale of a security that the seller does not own or a sale that is consummated by the delivery of a security borrowed by, or for, the account of the seller. Short selling is used to profit by a decline in the price of the security.

<sup>8</sup> Ch. 38, tit. I, 48 Stat. 74 (codified at 15 U.S.C. § 77a et seq.).

Exchange Act of 1934,<sup>9</sup> Investment Company Act of 1940,<sup>10</sup> and Investment Advisers Act of 1940<sup>11</sup> that apply in connection to other investment pools, such as mutual funds. For example, to allow them to qualify for various exemptions under such laws, hedge funds usually limit the number of investors, refrain from advertising to the general public, and solicit fund participation only from large institutions and wealthy individuals. The presumption is that investors in hedge funds have the sophistication to understand the risks involved in investing in them and the resources to absorb any losses they may suffer. Although many workers may be impacted by any losses resulting from pension fund investment in hedge funds, a pension plan counts as a single investor that does not prevent a hedge fund from qualifying for the various statutory exemptions.

Individuals and institutions may also invest in hedge funds through funds of hedge funds, which are investment funds that buy shares of multiple underlying hedge funds. Fund of funds managers invest in other hedge funds rather than trade directly in the financial markets, and thus offer investors broader exposure to different hedge fund managers and strategies. Like hedge funds, funds of funds may be exempt from various aspects of federal securities and investment law and regulation.

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<sup>9</sup> Ch. 404, 48 Stat. 881 (codified at 15 U.S.C. § 78a et seq.).

<sup>10</sup> Ch. 686, tit. I, 54 Stat. 797 (codified as amended at 15 U.S.C. § 80a-1 et seq.).

<sup>11</sup> Ch. 686, tit. II, 54 Stat. 847 (codified as amended at 15 U.S.C. § 80b-1 et seq.).

### **Private Equity Funds Obtain Returns from Manager Skill and Investing Capital in a Limited Number of Private Firms**

Like hedge funds, there is no legal or commonly accepted definition of private equity funds, but the term generally includes privately managed pools of capital that invest in companies, many of which are not listed on a stock exchange. Although there are some similarities in the structure of hedge funds and private equity funds, the investment strategies employed are different. Unlike many hedge funds, private equity funds typically make longer-term investments in private companies and seek to obtain financial returns not through particular trading strategies and techniques, but through long-term appreciation based on corporate stewardship, improved operating processes and financial restructuring of those companies, which may involve a merger or acquisition of companies. Private equity is generally considered to involve a substantially higher degree of risk than traditional investments, such as stocks and bonds, for a higher return.<sup>12</sup>

While strategies of private equity funds vary, most funds target either venture capital or buy-out opportunities. Venture capital funds invest in young companies often developing a new product or technology. Private equity fund managers may provide expertise to a fledgling company to help it advance toward a position suitable for an initial public offering. Buyout funds generally invest in larger established companies in order to add value, in part, by increasing efficiencies and, in some cases, consolidating resources by merging

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<sup>12</sup> GAO is issuing a forthcoming report on leveraged buyouts by private equity funds.

complementary businesses or technologies. For both venture capital and buy-out strategies, investors hope to profit when the company is eventually sold, either when offered to the public or when sold to another investor or company. Each private equity fund generally focuses on only one type of investment opportunity, usually specializing in either venture capital or buyout and often specializing further in terms of industry or geographical area.<sup>13</sup> Investment in private equity has grown considerably over recent decades. According to a venture capital industry organization, the amount of capital raised by private equity funds grew from just over \$2 billion in 1980 to about \$207 billion in 2007; while the number of private equity funds grew from 56 to 432 funds over the same time period.

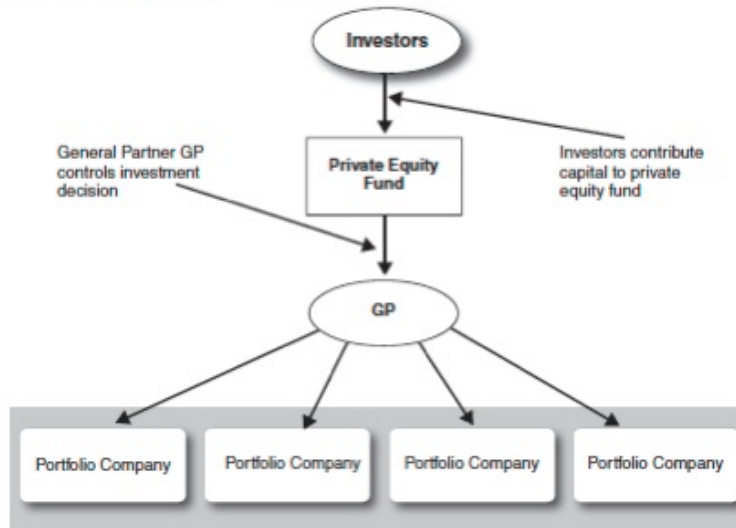
As with hedge funds, private equity funds operate as privately managed investment pools and have generally not been subject to Securities and Exchange Commission (SEC) examinations. Pension plans typically invest in private equity through limited partnerships in which the general partner develops an investment strategy and limited partners provide the large majority of the capital. After creating a new fund and raising capital from the limited partners, the general partner begins to invest in companies that will make up the fund portfolio (see fig. 1). Limited partners have both limited control over the underlying investments and also limited liability for potential debts incurred by the general partners through the fund.

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<sup>13</sup> Other less common types of private equity include mezzanine financing, in which investors provide a final round of financing to help carry the company through its initial public offering, and distressed debt investments, in which firms buy companies that have filed for bankruptcy or may do so and then typically liquidate the company.

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**Figure 1: Structure of Private Equity Investing**



*Source: New York State Common Retirement Fund Division of Pension Investment and Case Management.*

Similar to hedge funds, private equity funds may be structured to qualify for exemptions from certain registration and disclosure requirements of federal securities laws; for example, by refraining from advertising to the general public. The majority of investments in private equity funds come from wealthy individuals and institutional investors, such as endowments, banks, corporations, and pension plans.

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### **A Growing Number of Pension Plans Are Investing in Hedge Funds or Private Equity, but Such Investments Are Generally a Small Portion of Plan Assets**

According to several recent surveys, investments in hedge funds and private equity are typically a small

portion of total plan assets—about 4 to 5 percent on average—but a considerable and growing number of plans invest in them. While investment in hedge funds is less common than private equity, the number of plans with investments in hedge funds has experienced greater growth in recent years. Furthermore, survey data show that larger plans, measured by total plan assets, are more likely to invest in hedge funds and private equity compared to mid-size plans. Survey data on plans with less than \$200 million in assets are unavailable and, thus, the extent to which small plans invest in hedge funds and private equity is unknown.

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### **Investments in Hedge Funds and Private Equity Typically Comprise a Small Share of Total Plan Assets**

Individual plans' hedge fund or private equity investments typically comprise a small share of total plan assets. According to a *Pensions & Investments* survey of large plans (as measured by total plan assets), the average allocation to hedge funds among plans with such investments was about 4 percent in 2007.<sup>14</sup> Similarly, among plans with investments in private equity, the

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<sup>14</sup> We reviewed data from surveys of DB pension plans conducted by three organizations—Greenwich Associates (covering mid- to large-size pension plans, with \$250 million or more in total assets), Pyramis Global Advisors (covering mid- to large-size pension plans, with \$200 million or more in total assets), and *Pensions & Investments* (limited to large plans, which generally had \$1 billion or more in total assets). Greenwich Associates is an institutional financial services consulting and research firm; Pyramis Global Advisors, a division of Fidelity Investments, is an institutional asset management firm; and *Pensions & Investments* is a money management industry publication. These data cannot be generalized to all plans. See appendix I for more information on these surveys.

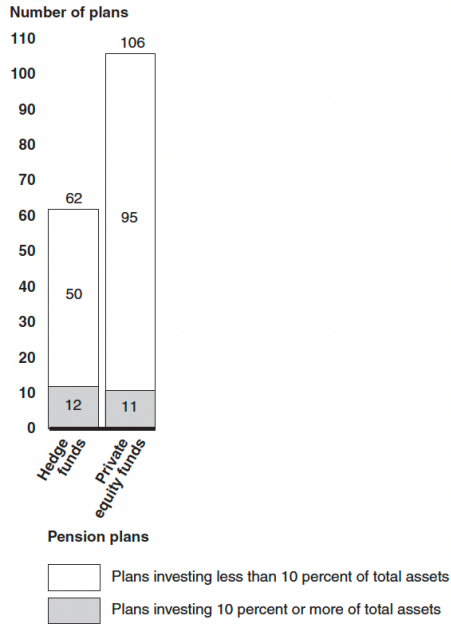
average allocation was about 5 percent. An earlier survey by Pyramis Global Advisors, which included mid- to large-size plans, found an average allocation of 7 percent for hedge funds and 5 percent for private equity in 2006.

Although the majority of plans with investments in hedge funds or private equity have small allocations to these assets, a few plans have relatively large allocations, according to the *Pensions & Investments* survey (see fig. 2).<sup>15</sup> Of the 62 plans that reported investments in hedge funds in 2007, 12 plans had allocations of 10 percent or more and, of those, 3 plans had allocations of 20 percent or more. The highest reported hedge fund allocation was 30 percent of total assets. Large allocations to private equity were even less common. A total of 106 surveyed plans reported investments in private equity in 2007, of which 11 plans had allocations of 10 percent or more and, of those, 1 plan had an allocation of about 20 percent.

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<sup>15</sup> *Pensions & Investments* was the only survey we reviewed that reported the allocations of individual plans to hedge funds and private equity. Among the top 200 pension plans, ranked by combined assets in DB and defined contribution plans, 133 were DB plans that completed the survey and provided asset allocation information in 2007.

**Figure 2: The Number of Plans with Investments in Hedge Funds or Private Equity by Size of Investment as a Share of Total Plan Assets**



Source: GAO analysis of Pensions & Investments 2007 annual survey data.

### **While More Pension Plans Invest in Private Equity, the Number of Plans with Investments in Hedge Funds Has Experienced Greater Growth in Recent Years**

Two recent surveys of pension plans indicate that a considerable number of plans invest in hedge funds or private equity. As seen in table 1, from about 21 to 27 percent of all plans surveyed, which included mid- to large-size plans, held investments in hedge funds as of 2006, according to data from Greenwich Associates and Pyramis.<sup>16</sup> Both surveys reveal that a greater share of

<sup>16</sup>The figures reported by these surveys differ somewhat because,

private sector plans invested in hedge funds compared to public sector plans. The Greenwich survey also found that hedge fund investment was most common among collectively bargained plans, although the number of these plans surveyed was substantially smaller as there are relatively few of these plans in operation.<sup>17</sup> Nearly half—8 out of 17—of collectively bargained plans surveyed invested in hedge funds.

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as described in table 1, they are based on different samples. Comprehensive data on plan investments in hedge funds and private equity are not available. The federal government collects information on investment allocations but does not require plan sponsors to report information on hedge funds or private equity as separate asset classes. Existing data may not include plans that engage in hedge fund-like activities outside of a formal hedge fund partnership structure.

<sup>17</sup> Collectively bargained plans are arrangements between a labor union and an employer. These plans may cover workers at a single employer or multiple employers and are jointly governed by management and labor representatives.

| <b>Table 1: Extent of DB Plan Investments in Hedge Funds and Private Equity</b> |   |  |
|---|---|--|
|   | <b>Greenwich Associates<br/>(2006)</b>  | <b>Pyramis Global Advisors<br/>(2006)</b>  |
| Sample  | 164 public sector plans;<br>420 private sector plans,<br>including 17 collectively<br>bargained plans<br>(all plans had \$250 million or<br>more in total assets) | 90 public sector plans;<br>124 private sector plans<br>(all plans had greater than<br>\$200 million in total assets) |
| <b>Share of plans that invest in hedge funds:</b>                               |   |  |
| All plans   | 27%   | 21%  |
| Public sector   | 24%   | 17%  |
| Private sector  | 28%   | 25%  |
| Private sector: collectively<br>bargained                                       | 47%   | n/a  |
| <b>Share of plans that invest in private equity:</b>                            |   |  |
| All plans   | 43%   | 41%  |
| Public sector   | 51%   | 44%  |
| Private sector  | 40%   | 38%  |
| Private sector: collectively<br>bargained                                       | 71%   | n/a  |

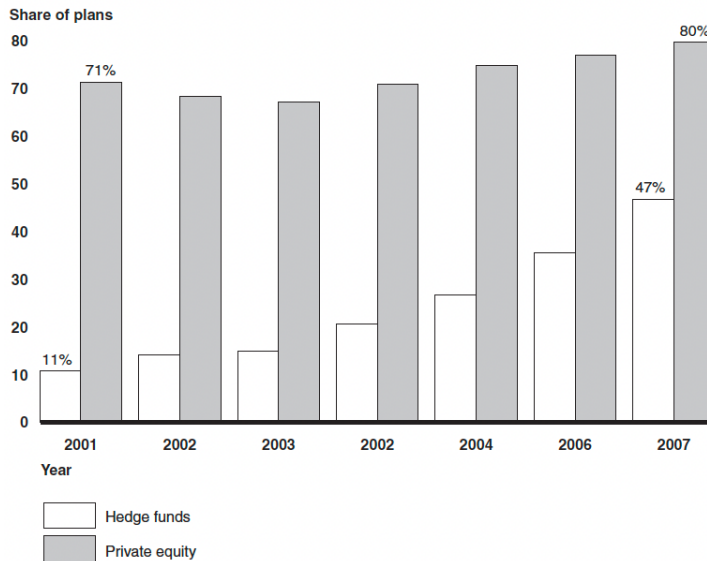
Source: Greenwich Associates and Pyramis Global Advisors, 2006.

Note: The total assets of plans surveyed by Greenwich Associates was \$3.6 trillion.

Investment in private equity is much more prevalent than investment in hedge funds, among plans surveyed. The Greenwich survey found that about 43 percent of plans held investments in private equity in 2006, while the Pyramis survey found that 41 percent of plans had such investments. Both surveys also show that a larger percentage of public sector plans are invested in private equity compared to private sector plans. As with hedge funds, the Greenwich survey found that investment in private equity was most common among collectively bargained plans. More than two-thirds—12 out of 17—of collectively bargained plans surveyed invested in private equity.

While pension plan investment in hedge funds is less prevalent than investment in private equity, hedge fund investment has increased much more in recent years. According to Greenwich Associates, from 2004 to 2006, the percent of plans with investments in hedge funds grew from just under 20 percent to almost 27 percent. Meanwhile, the percent of plans with investments in private equity increased at a lesser rate, from about 39 percent in 2004 to 43 percent in 2006. A survey by *Pensions & Investments* found that this comparison was more pronounced over a 6-year period (see fig. 3). Among larger plans surveyed by *Pensions & Investments*, the percent of plans with investments in hedge funds grew from about 11 percent in 2001 to nearly 47 percent in 2007.

Figure 3: Share of Large DB Plans Investing in Hedge Funds and Private Equity



Source: *Pensions & Investments*' 2007 annual survey.

Over the same time period, investments in private equity remained more prevalent, but grew much more slowly.

While pension plan investment in hedge funds has experienced greater growth in recent years, pension plan investment in private equity increased markedly following a 1979 Labor clarification that plans may make some investments in riskier assets, such as venture capital and buyout funds.<sup>18</sup> Prior to 1979, such investments were generally viewed as a potential violation of ERISA. Labor clarified that ERISA's prudent man standard applies to investment decisions in the context of the entire portfolio rather than in isolation. Following the Labor guidance, pension plan investments in venture capital and buy-out funds experienced rapid growth. One study reported that pension plans' share of venture capital investments grew from 15 percent in 1978 to 50 percent in 1986, during which time overall investment in venture capital increased more than 10-fold from \$427 million to \$4.4 billion.<sup>19</sup> More recently, the National Venture Capital Association estimates that pension plans held 42 percent of the approximately \$20 billion invested in domestic venture capital funds in 2004.

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### **Investments in Hedge Funds and Private Equity Are More Commonplace among Larger Pension Plans**

Survey data show that larger plans, measured by total plan assets, are more likely to invest in hedge funds and private equity compared to mid-size plans. Greenwich found that only 16 percent of mid-size plans—those with \$250 to \$500 million in total assets—were invested in hedge funds, compared to about 31 percent of the largest plans—those with \$5 billion or more in assets (see fig. 4).

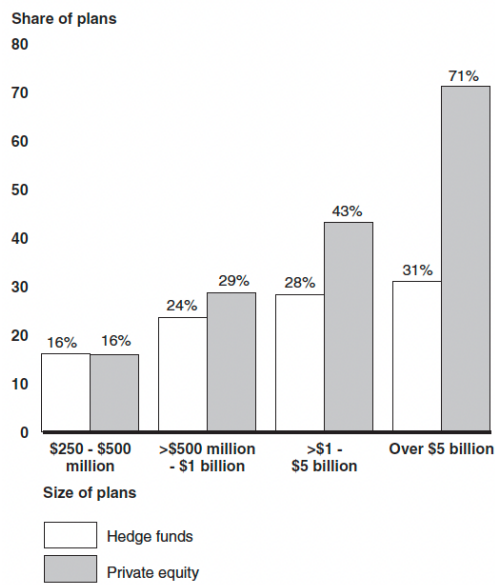
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<sup>18</sup> 44 Fed. Reg. 37, 221.

<sup>19</sup> Paul Gompers, J. Lerner, M. M. Blair, and T. Hellmann, "What Drives Venture Capital Fundraising," *Brookings Papers: Microeconomics*, pp. 149–204 (1998).

Similarly, only about 16 percent of mid-size plans held investments in private equity, whereas slightly over 71 percent of the largest plans held such investments. *Pensions & Investments* survey of large plans corroborates this pattern—about 47 percent of plans held

**Figure 4: Pension Plans with Investments in Hedge Funds and Private Equity by Size of Total Plan Assets**



Source: Greenwich Associates, 2006.

Note: The figures above include public and private sector plans (excluding collectively bargained plans). Information on the investments of collectively bargained plans by size of total assets was not available. Data reported in figures 3 and 4 differ because these data are based on different surveys.

investments in hedge funds and nearly 80 percent held investments in private equity in 2007 (see fig. 3).

Survey data on plans with less than \$200 million in assets are unavailable and, in the absence of this information, it is unclear to what extent these plans invest

in hedge funds and private equity.<sup>20</sup> Representatives of investment consulting firms and industry experts told us that they suspect few small plans have such investments, but they could not provide data to confirm this. A representative of a large investment consulting firm explained that smaller plans face inherent restrictions on investing in hedge funds and private equity funds because the required minimum investments for these funds are often too high to allow small plans to make such investments while remaining sufficiently diversified.

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**Pension Plans Seek Various Investment Objectives through Hedge Funds, and Such Investments Pose Challenges That Require Considerable Effort and Expertise to Address**

While pension plans seek important benefits through investments in hedge funds, hedge funds also pose challenges that demand greater expertise and effort than investments in more traditional assets. Pension plans told us that they invest in hedge funds to achieve one or more of several goals, including lessening the volatility of returns, obtaining returns greater than those expected in the stock market, and/or diversifying the portfolio by investing in a vehicle that will not be correlated with other asset classes in the portfolio. While all the pension plans we contacted that had invested in hedge funds expressed general satisfaction with these investments, hedge fund investments nonetheless pose significant challenges to pension plan fiduciaries, beyond the inherent challenges of investing in more familiar asset classes such as stocks and bonds. Plan officials and others outlined steps to limit

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<sup>20</sup> According to the PBGC, individual DB plans with less than \$200 million in total assets comprised about 15 percent of the total assets of all DB plans in 2005.

these and other challenges, such as conducting in-depth due diligence reviews or investing through funds of funds, which can mitigate some of the main difficulties of hedge funds. Such steps entail greater expense, effort, or expertise than is required for more traditional investments, and some pension plans may not be equipped to meet these demands.

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### **Broad Market Events and a Desire for Specific Benefits Have Driven Pension Plans' Allocations to Hedge Funds**

Pension plans' investments in hedge funds resulted in part from stock market declines and disenchantment with traditional investment management in recent years. Most pension plan officials we contacted cited the steep declines in the public equity market early in this decade as a reason for initiating or expanding hedge fund investments. From August 2000 to February 2003, the stock market, as measured by the Standard and Poor's 500 index, declined in value by about 45 percent, and according to plan sponsors and others, this massive market decline severely affected pension plans that were deeply invested in the U.S. stock market. For example, representatives of one public pension plan told us that this market decline led to largest annual loss in its history and resulted in the plan's first hedge fund investments 2003. A representative of another large public pension plan told us that the main motive for initially investing in hedge funds was the weak equity markets early in this decade, and the perceived need for greater exposure to alternative assets that relied less on the stock market for returns. At the same time, some plan officials also cited disenchantment with traditional "long-only" investment managers, and

questioned whether such managers delivered returns that justified the fees the managers' charge.<sup>21</sup>

Officials with most of the plans we contacted indicated that they invested in hedge funds, at least in part, to reduce the volatility of returns.<sup>22</sup> According to a representative of an investment consulting firm, this is a common objective of pension plans that invest in hedge funds. One plan official explained the importance of reducing volatility by noting that even in periods of relatively good stock returns, volatility can eat away at the compounding effect of returns over time, and substantially reduce long-term growth. Another plan official said that in trying to reduce volatility through hedge funds, the plan expected that certain hedge fund returns may lag behind stock market indices during bull (rising) markets, but also expected that it would not suffer nearly the same declines during bear (falling) markets.

Officials of several pension plans told us that they sought to obtain returns greater than the returns of the overall stock market through at least some of their hedge fund investments. For example, officials of one pension plan explained that one of the overall goals of its hedge fund portfolio strategy was to obtain an annual return of 2.5 percentage points greater than returns in the stock market, as measured by the S&P 500 stock index.

Officials of pension plans that we contacted also stated that hedge funds are used to help diversify their overall

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<sup>21</sup> "Long only" investment managers can generally be defined as those whose strategies are limited to buying assets whose value is expected to increase. That is, they cannot "short" or sell borrowed securities.

<sup>22</sup> Volatility refers to the propensity of a security to move up or down over time; if a security moves up or down rapidly over a short period of time, it is considered to have high volatility.

portfolio and provide a vehicle that will, to some degree, be uncorrelated with the other investments in their portfolio. This reduced correlation has a number of benefits, including reduction in overall portfolio volatility and risk. For example, officials of one pension plan told us that hedge funds are attractive because they are not solely dependent on equity and fixed income markets for their returns, thus reduce the overall risk of the investment portfolio.

At the time of our contacts with pension plans in 2007, the 15 pension plans with hedge fund investments indicated mixed but generally positive results.<sup>23</sup> Among officials of these plans, all said that their hedge fund investments had generally met or exceeded expectations, although some noted mixed experiences. For example, one plan explained that it had dropped some hedge fund investments because they had not performed at or above the S&P 500 benchmark. Also, this plan redeemed its investment from other funds because they began to deviate from their initial trading strategy. Further, officials of several plans noted that their venture into hedge funds was only a few years old, and, at the time of our contact, their investment had not yet been tested by trying economic conditions or financial events, such as a significant stock market decline. Nonetheless, representatives of all of the plans with hedge fund investments indicated that they planned to maintain or increase their portfolio allocation to hedge funds in the foreseeable future.

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<sup>23</sup> Our discussions with pension plan officials about their hedge fund investments occurred in 2007. Consequently, we have no information about how their investments might have been affected by the financial market turbulence that occurred since that time.

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### **Hedge Funds Pose Significant Challenges and Risks, Beyond Those Posed by Traditional Investments**

Pension plans face a number of challenges in hedge fund investing beyond those of more traditional investing, including specific investment risks, limited transparency and liquidity, and risks related to the operations of the hedge fund.

#### *Investment Risks*

While any plan investment may fail to deliver expected returns over time, hedge fund investments pose investment challenges beyond those posed by traditional investments. These include (1) reliance on the skill of hedge fund managers, who often have broad latitude to engage in complex investment techniques that can involve various financial instruments in various financial markets; (2) use of leverage, which amplifies both potential gains and losses; and (3) higher fees, which require a plan to earn a higher gross return to achieve a higher net return.

Hedge funds are among the most actively managed investments, and thus returns are often dependent not on broad market movements, but on smaller moves in the markets they invest in and the skills and abilities of the hedge fund manager.<sup>24</sup> For example, hedge fund managers may seek to profit through complex and simultaneous positions in stocks, bonds, options contracts, futures contracts, currencies, and other vehicles, and can abruptly change their positions and trading tactics in order to achieve desired return as changing market

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<sup>24</sup> In contrast, mutual fund managers must comply with various aspects of federal securities law, and operate in a much more constrained manner.

conditions warrant. Representatives of some pension plans that had not invested in hedge funds, cited concerns about the ability of hedge fund managers to accomplish this over the long-term. One plan official said the plan had avoided hedge funds in part because of doubt that the managers' skills could generate an acceptable return over time. Instead, this plan seeks to capture the increase in the overall stock market. Regulatory officials and plan sponsors also said that, given the growth of the hedge fund industry in recent years, the market inefficiencies from which hedge funds profit may diminish. For example, SEC noted in a 2004 regulatory proposal that the capacity of hedge fund advisers to generate large returns is limited because the use of similar financial strategies by other hedge funds narrows spreads and decreases profitability.<sup>25</sup>

Hedge fund managers may use leverage—that is, use borrowed money or other techniques—to potentially increase an investments value or return without increasing the amount invested.<sup>26</sup> While registered investment companies are subject to leverage limits, hedge funds can make relatively unrestricted use of leverage to magnify the expected returns of an investment.<sup>27</sup> At the same time that leverage can magnify

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<sup>25</sup> 69 Fed. Reg. 45,172, 45,178.

<sup>26</sup> Historically, leverage is the use of various financial instruments or borrowed capital to increase the potential return of an investment. As we reported in January 2008 (GAO-08-200), since the near collapse of the Long Term Capital Management fund in 1998, investors, creditors, and counterparties have increased efforts to impose market discipline on hedge funds, including tightening credit standards for hedge funds. However, we also noted that no one entity may have all the necessary data to assess the total leverage used by a hedge fund.

<sup>27</sup> According to the SEC, a hedge fund's use of leverage is limited

profits, it can also magnify losses to the hedge fund if the market goes against the fund's expectations.<sup>28</sup> Concerns about leverage were cited by several pension plans either as an important consideration in selecting a hedge fund, or as a reason for avoiding them altogether. For example, one public pension plan told us that it has avoided hedge funds because when hedge funds hit "potholes," the potholes are deep because of high amounts of leverage used.

The challenge of relying on manager skill for a desired rate of return is compounded by the costly fee structure that is typical of the hedge fund industry. Whereas mutual fund managers reportedly charge a fee of about 1 percent of assets under management, hedge fund managers often charge a flat fee of 2 percent of total assets under management, plus a performance fee, of about 20 percent of the fund's annual profits.<sup>29</sup>

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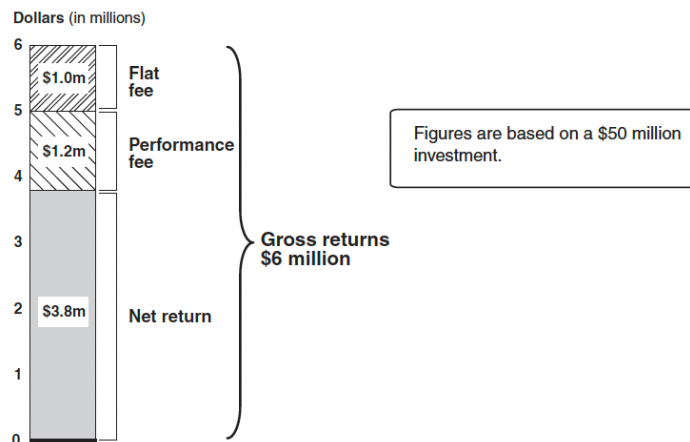
by margin or collateral requirements imposed by lenders and others. In contrast, registered investment companies are subject to specific statutory limitations.

<sup>28</sup> For example, a 15 percent decline in an investment of \$50 with no leverage is exactly a 15 percent loss—a loss of \$7.50—and the investor still has \$42.50 and can hope for a rebound. On the other hand, an investment of \$50 leveraged 10 times exposes the investor to an investment of \$500, and a 15 percent decline in value will result in a loss of \$75. The added risk of leverage can be seen in the fact that this 15 percent decline in such a leveraged position leads to not only a total loss of the original \$50 investment, but a remaining debt of \$25—half of the initial investment.

<sup>29</sup> Fees can vary somewhat among hedge funds.

The impact of such fees can be considerable. As figure 5 illustrates, an annual return of 12 percent falls to about 7.6 percent after fees are deducted. Several pension plans cited the costly fee structure fees as a major drawback to hedge fund investing. For example, representatives of one plan that had not invested in hedge funds said that they are focused on minimizing transaction costs of their investment program, and the hedge fund fee structure would likely not be worth the expense. On the other hand, an official of another plan noted that, as long as hedge funds add value net of fees, they found the higher fees acceptable.

**Figure 5: Effect of Hedge Fund Fee Structure on the Returns of an Investment of \$50 Million**



Gross return = 12%  
Net return = 7.6%

Source: GAO analysis.

Note: This example assumes a fee structure of 2 percent of assets under management and 20 percent of profits.

### *Lack of Transparency*

Because many hedge funds may own thinly traded securities and derivatives whose valuation can be complex,

and in some cases subjective, a plan may not be able to obtain timely information on the value of assets owned by a hedge fund.<sup>30</sup> Further, hedge fund managers may decline to disclose information on asset holdings and the net value of individual assets largely because release of such information could compromise their trading advantage. In addition, even if hedge fund managers were to provide detailed positions, plan sponsors might be unable to fully analyze and assess the prospective return and risk of a hedge fund. As a consequence, a plan may not be able to independently ascertain the value of its hedge fund investment or fully assess the degree of investment risk posed by its hedge fund investment. Although we noted in January 2008 that hedge funds have improved disclosure and transparency about their operations due to the demands of institutional investors, several pension plans cited limited transparency as a prime reason they had chosen not to invest in hedge funds.<sup>31</sup> For example, representatives of one plan told us that they had considered investing in hedge funds several years ago, but that most of the hedge funds it contacted would not provide position-level information, and that they were reluctant to make such an investment without this information.

#### *Liquidity Limitations*

Hedge funds offer investors relatively limited liquidity, that is, investors may not be able to redeem a hedge fund investment on demand because of a hedge fund's redemption policy. Hedge funds often require an initial "lockup" of a year or more, during which an investor

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<sup>30</sup> A security is described as thinly traded when traded infrequently and/or in low volumes.

<sup>31</sup> See [GAO-08-200](#).

cannot cash out of the hedge fund. After the initial lockup period, hedge funds offer only occasional liquidity, sometimes with a pre-notification requirement.<sup>32</sup>

While some pension plans told us that liquidity limitations are not a significant concern because the plan has other liquid assets to pay benefits, they nonetheless can pose certain disadvantages. For example, liquidity limitations can inhibit a plan's ability to minimize a hedge fund investment loss. As one state official noted after a state fund had suffered losses in the wake of the 2006 collapse of Amaranth, even when a plan learns that a hedge fund is losing value, various lockup provisions often make it difficult to promptly withdraw from the investment.<sup>33</sup> Further, an investor's rights with regard to cashing out may not be entirely clear from the written contract. According to an investigative study by a Grand Jury of one pension plan's experience with a failed hedge fund, the contracts can be dense with legal language, which may make understanding of basic terms and conditions difficult, especially with regard to withdrawal provisions.<sup>34</sup> Further, the study noted that contracts can delegate immense discretionary authority to the hedge fund manager to change conditions and rules.

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<sup>32</sup> Lock-ups can be important to hedge funds because sudden liquidations could disrupt a carefully calibrated investment strategy and because some of the hedge fund's underlying assets may themselves be illiquid.

<sup>33</sup> The \$9 billion fund operated by Amaranth Advisors, LLC, collapsed in the fall of 2006 as a result of natural gas derivatives trading.

<sup>34</sup> "San Diego County Employees Retirement Association - The Quest for 'Alpha,'" San Diego County Grand Jury 2006-2007, Online: [http://www.co.san-diego.ca.us/grandjury/report06\\_07.html](http://www.co.san-diego.ca.us/grandjury/report06_07.html), accessed June 18, 2008.

*Operational Risk*

Pension plans investing in hedge funds are also exposed to operational risk—that is, the risk of investment loss due not to a faulty investment strategy, but from inadequate or failed internal processes, people, and systems, or problems with external service providers. Operational problems can arise from a number of sources, including inexperienced operations personnel, inadequate internal controls, lack of compliance standards and enforcement, errors in analyzing, trading, or recording positions, or outright fraud. According to a report by an investment consulting firm, because many hedge funds engage in active, complex, and sometimes heavily leveraged trading, a failure of operational functions such as processing or clearing one or more trades may have grave consequences for the overall position of the hedge fund. Concerns about some operational issues were noted by SEC in a 2003 report on the implications of the growth of hedge funds. For example, the 2003 report noted that SEC had instituted a significant and growing number of enforcement actions involving hedge fund fraud in the preceding 5 years.<sup>35</sup> Further, SEC noted that while some hedge funds had adopted sound internal controls and compliance practices, in many other cases, controls may be very informal, and may not be adequate for the amount of assets under management. Similarly, a recent Bank of New York paper noted that the type and quality of operational environments can vary widely among hedge funds, and investors cannot simply assume that a hedge

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<sup>35</sup> *Implication of the Growth of Hedge Funds*, Staff Report to the United States Securities and Exchange Commission, September 2003. Although hedge funds are substantially unregulated, they are nonetheless subject to anti-fraud, and some other provisions of federal securities law.

fund has an operational infrastructure sufficient to protect shareholder assets.<sup>36</sup>

Several pension plans we contacted also expressed concerns about operational risk. For example, one plan official noted that the consequences of operational failure are larger in hedge fund investing than in conventional investing. For example, the official said a failed long trade in conventional investing has relatively limited consequences, but a failed trade that is leveraged five times is much more consequential. Representatives of another plan noted that back office and operational issues became deal breakers in some cases. For example, they said one fund of funds looked like a very good investment, but concerns were raised during the due diligence process. These officials noted, for example, the importance of a clear separation of the investment functions and the operations and compliance functions of the fund. One official added that some hedge funds and funds of funds are focused on investment ideas at the expense of important operations components of the fund.

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### **Addressing the Challenges and Risks of Hedge Fund Investing Requires Considerable Effort and Expertise**

Pension plans that invest in hedge funds take various steps to mitigate the risks and challenges posed by hedge fund investing, including developing a specific investment purpose and strategy, negotiating important investment terms, conducting due diligence, and investing through funds of funds. Such steps require greater effort,

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<sup>36</sup> *Hedge Fund Operational Risk: Meeting the Demand for Higher Transparency and Best Practice*, Bank of New York/Amber Partners White Paper, June 2006.

expertise and expense than required for more traditional investments. As a result, some plans, especially smaller plans, may not have the resources to take the steps necessary to address these challenges.

*Clear Investment Purpose and Strategy*

Discussions with pension plan officials revealed the importance of defining a clear purpose and strategy for their hedge fund investments. As one pension fiduciary noted, plan managers should define exactly why they want to invest in hedge funds. He added that there are many different possible hedge fund strategies, and wanting to invest in hedge funds to obtain the large returns that other investors have reportedly obtained is not a sufficient reason. Most of the 15 pension plans with hedge fund investments that we contacted described one or more strategies for their hedge funds investments. For example, an official of one state plan told us that the plan invested only in long-short hedge fund strategies while other plans use multiple strategies.<sup>37</sup>

Our contacts with plan officials and others also highlighted the importance of diversification. All of the plans having hedge fund investments that we contacted invested in either multiple individual hedge funds, or through funds of funds, which are designed to provide diversification across many underlying funds. Some plans described specific diversification requirements, and spread their hedge fund investment across many funds to limit exposure to one or a small number of hedge funds. For example, one plan determined that no more than 15

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<sup>37</sup> A long-short strategy exploits perceived anomalies in the price of securities. For example, a hedge fund may buy bonds that it believes to be under-priced, and sell short bonds that it believes to be overpriced.

percent of its hedge fund portfolio would be with a single hedge fund manager and that no more than 40 percent in a particular hedge fund investment strategy.

*Identification and Negotiation of Important Investment Terms*

Our contacts with plan officials and others also highlighted the importance of identifying specific investment terms to guide hedge fund investing and ensuring that the hedge fund investment contract complies with these criteria. These can include fee structure and conditions, degree of transparency, valuation procedures, redemption provisions, and degree of leverage employed. For example, pension plans may want to ensure that they will not pay a performance fee unless the value of the investment passes a previous peak value of the fund shares—known as a high water mark. Some plans we contacted also specified leverage limits for their hedge funds. For example, one public plan that we contacted has established specific leverage limits for each of 10 hedge fund strategies employed by its funds of funds—ranging from an upper limit of 2 times invested capital for one strategy, to 20 times invested capital for another. Once decided upon, these and other terms of the investment can be used as criteria in the hedge fund search, and if necessary, negotiated with the hedge fund or fund of funds manager.

*Due Diligence and Monitoring*

Pension plans take steps to mitigate the challenges of hedge fund investing through an in-depth due diligence and ongoing monitoring process. While plans conduct due diligence reviews of other investments as well, such reviews are especially important when making hedge fund investments, because of hedge funds' complex investment strategies, the often small size of hedge funds, and their

more lightly regulated nature, among other reasons. Due diligence can be a wide-ranging process that includes a review and study of the hedge fund's investment process, valuation, and risk management. The due diligence process can also include a review of back office operations, including a review of key staff roles and responsibilities, the background of operations staff, the adequacy of computer and telecommunications systems, and a review of compliance policies and procedures.

*Investing Via Funds of Hedge Funds*

Representatives of several plans told us they mitigate several of the major hedge fund challenges by investing through funds of funds, which are investment funds that buy shares of multiple underlying hedge funds. Funds of hedge funds provide plan investors diversification across multiple hedge funds, thereby having the potential to mitigate investment risk. For example, one plan fiduciary told us the plan reduces investment risk by investing in a fund of funds that diversifies their hedge fund investments into at least 40 underlying hedge funds. Further, by investing in a fund of funds, a pension plan relies on the fund of funds' manager to conduct negotiations, due diligence, and monitoring of the underlying hedge funds. According to pension plan officials, funds of funds can be appropriate if a plan does not have the necessary skills to manage its own portfolio of hedge funds. According to a hedge fund industry organization, investing through a fund of funds may provide a plan better access to hedge funds than a plan would be able to obtain directly.<sup>38</sup> Nonetheless, investing through funds of funds has some drawbacks. Funds of funds' managers also charge fees—

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<sup>38</sup> "Funds of Hedge Funds FAQs: MFA's Concise Guide to Hedge Funds," Managed Funds Association.

for example, they may charge a 1 percent flat fee and a performance fee of between 5 and 10 percent of profits—on top of the substantial fees that the fund of funds manager pays to the underlying hedge funds. Funds of funds also pose some of the same challenges as hedge funds, such as limited transparency and liquidity, and the need for a due diligence review of the fund of funds firm.

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### **Some Pension Plans May Not Be Able to Meet the Demands of Hedge Fund Investing**

According to plan officials, state and federal regulators, and others, some pension plans, especially smaller plans, may not be equipped to address the various demands of hedge fund investing. For example, an official of a national organization representing state securities regulators told us that medium- and small-size plans are probably not equipped with the expertise to oversee the trading and investment practices of hedge funds. This official said that smaller plans may have only one or two person staff, or may lack the resources to hire outside consulting expertise. A labor union official made similar comments, noting that smaller pension plans lack the internal capacity to assess hedge fund investments, and noted that such plans may be locked out of top-performing hedge funds.

Some plans may also lack the ability to conduct the necessary due diligence and monitoring of hedge fund investments. One hedge fund consultant told us that certain types of plans, such as plans that are not actively overseen by an investment committee and plans that do not have a sufficient in-house dedicated staff, should not invest in hedge funds.

Similarly, a representative of a firm specializing in fiduciary education and support noted the special

relationship of trust and legal responsibility that plan fiduciaries carry and concluded that the challenges of hedge fund investing are too high for most pension plans. While such plans might often be smaller plans, larger plans may also lack sufficient expertise. A representative of one pension plan with more than \$32 billion in total assets noted that before investing in hedge funds, the plan would have to build up its staff in order to conduct the necessary due diligence during the fund selection process.

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**Private Equity Investments May Provide Important Benefits, but Pension Plans Face Limited Access to Top-Performing Funds and Other Challenges**

According to plan representatives, investment consultants, and other experts we interviewed, pension plans invest in private equity primarily to attain returns superior to those attained in the stock market in exchange for greater risk, but such investments pose several distinct challenges. Generally, these plan representatives based their comments on significant experience investing in private equity—in some cases over 20 years—and said they had experienced returns in excess of the stock market. Nonetheless, private equity funds can require longer-term commitments of 10 years or more, and during that time, a plan may not be able to redeem its investments. In addition, plan representatives described extensive and ongoing management of private equity investments beyond that required for traditional investments and that, like hedge fund investments, may be difficult for plans with relatively limited resources.

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**Plans Have Long Investment History in Private Equity and Primarily Seek Returns Superior to Those Attained in the Stock Market**

Unlike hedge funds, pension plan investment in private equity is not a recent phenomenon. The majority of plans included in our review began investing in private equity more than 5 years before the economic downturn of 2000 to 2001, and some of these plans have been investing in private equity for 20 years or more.<sup>39</sup> According to a pension investment consultant we interviewed, due to the longer history of pensions' investment in private equity, it is generally regarded as a more well-established and proven asset class compared to other alternative investments, such as hedge funds.

Pension plans invest in private equity primarily to attain returns in excess of returns from the stock market over time in exchange for the greater risk associated with these investments. Officials of each plan we interviewed said these investments had provided the expected returns. Plan representatives and investment consultants said that attaining returns superior to stocks was a primary reason for investing in private equity.<sup>40</sup>

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<sup>39</sup> As described in the first section, pension investment in private equity increased markedly following publication of guidance by Labor in 1979 clarifying that private sector plans may make some investments in riskier assets, such as venture capital and buy-out funds.

<sup>40</sup> Several plans cited research which shows that the average performance of top-quartile private equity funds exceeds the stock market. See, for example: Steven Kaplan and Antoinette Schoar, "PE Performance: Returns, Persistence, and Capital Flows," *Journal of Finance*, VOL. LX, No.4, (August 2005); Alexander Ljungquist and Matthew Richardson, "The Cash Flow, Return and Risk Characteristics of Private Equity." *National Bureau Economic Research, Working Paper, #9454*, (January 2003); and David Swensen, *Pioneering Portfolio Management: An Unconventional Approach to Institutional Investment*. The Free Press: New York (2000).

Among the plan representatives we interviewed the most commonly reported benchmark for private equity funds ranged from 3 to 5 percentage points above the S&P 500 stock index, net of fees. At the time of our interviews with plans about private equity investments, between October 2007 and January 2008, plan representatives indicated their private equity investments had met their expectations for relatively high returns and many said they planned to maintain or increase their allocation in the future.<sup>41</sup> Further, representatives of some plans told us that private equity has been their best performing asset class over time despite some individual investments that resulted in considerable losses. For example, according to documentation provided by one private sector plan, the plan had earned a net return of slightly more than 16 percent on its private equity investments over the 10-year period ending September 30, 2007, which was their highest return for any asset class over that time period.<sup>42</sup>

To a lesser degree, pension plans also invest in private equity to further diversify their portfolios. To the extent that private equity is not closely correlated with the stock market, these investments can reduce the volatility of the overall portfolio. However, some plan representatives

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<sup>41</sup> We conducted our interviews on plans' private equity investments from October 2007 to January 2008; therefore, their comments may not reflect more recent changes to market conditions.

<sup>42</sup> Some public plans also invest in private equity, in part, to promote local economic development in accordance with state policy. According to plan representatives and an industry organization, venture capital investments have, in some cases, been viewed as a way to promote local economic growth, while at the same time, providing returns that bolster retirement income for plan beneficiaries. Most public plan officials we interviewed, however, did not cite promoting local economic development as an explicit goal for their private equity investments.

cautioned that the diversification benefits are limited because the performance of private equity funds is still strongly, although not perfectly, linked to the stock market.<sup>43</sup>

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### **Pension Plans Face Several Challenges and Risks When Investing in Private Equity**

Pension plans investing in private equity face several challenges and risks, which include the concentration of underlying holdings, use of leverage, and wide variation in performance among funds. In addition, the value of the underlying holdings is difficult to estimate prior to their sale and private equity investments entail long-term commitments, often of 10 years or more.

#### *Investment Risk*

Pension plans that invest in private equity funds face a number of investment risks, beyond the risks of traditional investments. Unlike a traditional fund manager who diversifies by investing in many stocks or bonds, a private equity fund manager's strategy typically involves holding a limited number of underlying companies in their portfolio. A single private equity fund generally invests in only about 10 to 15 companies, often in the same sector.<sup>44</sup> The risks associated with such

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<sup>43</sup> Several studies show a range of correlation between private equity and the stock market. Correlations cited range from the low, 30 percent, to the very high, 95 percent.

<sup>44</sup> One study shows that, on average, funds in the study invested close to 40 percent of capital in a single industry. Alexander Ljungquist and Matthew Richardson, "The Cash Flow, Return and Risk Characteristics of Private Equity," *National Bureau Economic Research, Working Paper*, No. 9454 (January 2003).

concentrated, undiversified funds may be compounded by particular aspects of the buyout and venture capital sectors. Fund managers in the buyout sector generally invest using leverage to seek greater returns but such investments also increase investment risks. In the venture capital sector, fund managers typically make smaller investments in companies that may have a limited track record and rely on technological development and growing the company's commercial capacity for success. In light of this, some plan officials noted that some of these companies will fail, but the success of one or more of the portfolio firms is often large enough to more than compensate for the losses of other investments.

Like other investments, the returns to private equity funds are susceptible to market conditions when investments are bought or sold. When competition among private equity fund managers is intense, research has shown that a fund manager may pay more for an investment opportunity that leads to lower net returns.<sup>45</sup> In addition, the returns of a private equity fund are also affected by the condition of the market when the underlying investments are sold. For example, a private equity fund may have lower returns if its underlying holdings are sold through an initial public offering made during a period of low stock values. An official from one plan told us that private equity funds that sold

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<sup>45</sup> See, for example: Paul Gompers and Josh Lerner, "Money chasing deals? The impact of fund inflows on private equity valuations," *Journal of Financial Economics*, vol 55. (2000); and Alexander Ljungquist and Matthew Richardson, "The Cash Flow, Return and Risk Characteristics of Private Equity." *National Bureau Economic Research, Working Paper, #9454*, Jan. 2003; and David Swensen, *Pioneering Portfolio Management: An Unconventional Approach to Institutional Investment*, The Free Press: New York (2000).

investments around 2000 had lower returns because of the overall decline in the stock market. However, a representative of another plan noted that, while market conditions have some effect on the performance of a private equity fund, the effect may be mitigated by the ability of the fund managers to enact sound business plans and thereby add value to the underlying companies.

Further, the challenge of meeting the high performance goals for private equity investments is compounded by the relatively high fees that private equity funds charge. Similar to hedge funds, private equity funds typically charge an annual fee of 2 percent of invested capital and 20 percent of returns, whereas mutual fund managers typically charge a fee of about 1 percent or less of assets under management. If the gross returns from a private equity fund are not sufficiently high, net returns to investors will not meet the commonly cited goal of exceeding the return of the stock market.

#### *Variation of Performance among Private Equity Funds*

Another risk from investing in private equity is the variation of performance among private equity funds. Officials of an investment consulting firm, a state regulatory agency, and several pension plans noted that, compared to other asset classes, private equity has greater variation in performance among funds and cited research to support this view. For example, one study found that the difference in returns between the median and top quartile funds is much greater for private equity, particularly among venture capital investments, than it is for domestic stocks.<sup>46</sup> Another study found that returns of private equity funds at the 75th percentile were more than

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<sup>46</sup> David Swensen, *Pioneering Portfolio Management: An Unconventional Approach to Institutional Investment*, The Free Press: New York (2000).

seven times greater than the returns of funds at the 25th percentile.<sup>47</sup>

*Long-Term Commitment of Private Equity Funds*

A further challenge of investing with private equity funds—regardless of how they perform—is that they often require commitments of 10 years or more during which a plan may not be able to redeem its investment. The longer-term commitment of private equity funds contrasts with stock and bond investments, which can be bought and sold daily, and hedge fund investments, which can be redeemed episodically. Plans must provide committed capital when called upon by the fund manager, and may not redeem invested capital or typically see any return on the investment, for at least several years.<sup>48</sup> However, several plan representatives and other experts we interviewed stated that the nature of private equity funds necessitates long commitments as returns are generated through longer-term growth strategies, rather than short-term gains. A private equity fund cycle typically follows a pattern known as the “J-curve,” which reflects an initial period of negative returns during which investors provide the fund with capital and then obtain returns over time as investments mature (see fig. 6). Representatives of several plans noted that they expect

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<sup>47</sup> Steven Kaplan and Antoinette Schoar, “Private Equity Performance: Returns, Persistence, and Capital Flows.” *Journal of Finance*, vol. LX, No. 4 (August 2005).

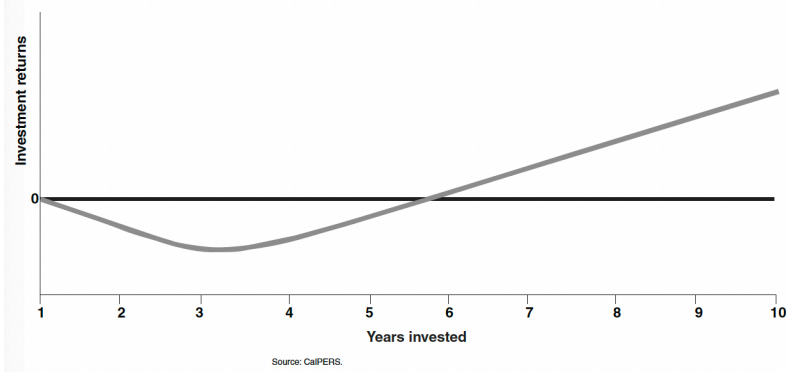
<sup>48</sup> Officials with some plans explained that an investor might sell its stake in a private equity fund on a secondary market; however, interests in a private equity fund are typically sold at a discount. One plan also noted that selling a stake on the secondary market would also jeopardize their reputation as an investor with private equity funds since the fund managers look unfavorably on such transactions.

higher returns from private equity in exchange for the long-term commitment.

### *Valuation of Private Equity Fund Investments*

An additional challenge of private equity investments is the uncertain valuation during the fund cycle. Unlike stocks and bonds, which are traded and priced in public markets, plans have limited information on the value of private equity investments until the underlying holdings are sold. Some plan representatives we interviewed explained that fund managers often value underlying holdings at their initial cost until they are sold through an initial public offering or other type of sale.<sup>49</sup> In some cases

Figure 6: Returns from a Private Equity Fund Generally Follow a J-Curve Trend over the 10-Year Fund Cycle



<sup>49</sup> Plan officials we interviewed also noted that they expect private equity valuation to become more frequent and market-based following recent changes to accounting standards. In September 2006, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards (SFAS) No.157, “Fair Value Measurements.” This standard defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As discussed in SFAS No. 157, the changes to current practice resulting from the application of this standard relate to the definition of fair value, the methods used to measure fair value, and the expanded disclosures

private equity funds estimate the value of the fund by comparing companies in their portfolio to the value of comparable publicly-traded assets. However, an investment consultant explained that such periodic valuations have limited utility. Prior to the sale of underlying investments, it is difficult to assess the value a private equity fund manager has generated. While plan officials we interviewed acknowledged the difficulty of valuing private equity investments, they generally accepted it as a trade-off for the potential benefits of the investment.

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### **Taking Steps to Address the Challenges and Risks of Investing in Private Equity May Be Too Costly and Complex for Some Plans**

Plan representatives said that they take several key steps to address the challenges of investing in private equity funds. Plan representatives and industry experts emphasized the importance of investing with top-performing funds to mitigate the wide variation in fund performance; however, they noted that access to these top-performing funds is very limited, particularly for new investors.<sup>50</sup> Furthermore, due diligence and ongoing

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about fair value measurements. The new definition of fair value may change the manner in which some entities, such as private equity funds, determine fair value.

<sup>50</sup> Plan officials noted that top-performing private equity fund managers tend to consistently perform well over time and some plans cited research in support of this view. See, for example, Steven Kaplan and Antoinette Schoar, "Private Equity Performance: Returns, Persistence, and Capital Flows." *Journal of Finance*, vol. LX, No. 4 (August 2005).

monitoring of private equity investments requires substantial effort and expertise, which may be too complex or costly for plans with more limited resources.

*Selection of Private Equity Fund Investments*

The majority of plan representatives we interviewed told us that, because of the wide variation in performance among private equity funds, they must invest with top-performing funds in order to achieve long-term returns in excess of the stock market. In addition to identifying the top-performing fund managers, plan officials explained that the selection process involves a thorough assessment of the fund manager's investment strategy. For example, an official from one state plan told us that their assessment includes a review of a fund manager's strategy for improving the operations and efficiency of its proposed investments and they invest with managers that have a persuasive business model. Plan officials stressed the importance of these steps, and some noted that investing in private equity is only worthwhile if they can invest with funds in the top quartile of performance. For example, one plan official said that if a plan does not invest with a top quartile fund, it may not obtain returns in excess of stock market returns and, thus, will not have earned a premium for assuming the risks and fees inherent in private equity fund investments.

While many plans we interviewed noted the importance of investing with top-performing funds, the competition to gain access to these funds may make it difficult or impossible for some plans, especially smaller plans, to do so. Several of the plan representatives we interviewed noted that investment opportunities with top-performing funds are limited, and the demand for such opportunities is high. According to representatives of a venture capital trade association, there is greater demand

to invest in venture capital funds than can be absorbed, because the venture capital sector is relatively small in size.<sup>51</sup> Plan officials also noted that access to private equity funds can be limited, because fund managers prefer to deal with larger, more sophisticated investors or investors who have invested in the fund manager's previous private equity funds. For example, one state official told us that the largest public plan in the state has the clout to gain access to top-performing funds, but smaller public funds in the state do not. He added that top-performing funds are very selective, and generally will not respond to solicitation by smaller public funds.

#### *Diversification*

Plan representatives told us they further mitigate the challenges of investing in private equity funds by diversifying their investments. Plan representatives we interviewed said they invest with multiple fund managers to mitigate the risk that some managers may have mediocre or poor performance. For example, a representative of one plan said they would be comfortable investing about 5 percent of their private equity allocation with one carefully vetted fund manager, but investing 20 percent with one manager would be overly risky. The director of another plan told us the plan aims to ensure diversification by investing with over 130 different private equity funds, encompassing more than 80 fund managers. Plans also stagger investments over several years to ensure their private equity fund investments are ready to sell their underlying investments at different times. Staggering investments over time helps mitigate the risk

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<sup>51</sup> According to the National Venture Capital Association, more than half of venture capital funds manage \$100 million or less in capital.

of fund managers selling funds' underlying holdings during a time of poor market conditions, which may reduce the funds' returns to investors. For example, one plan official noted they have investments in funds that were established in many different years, dating back to 1994. In addition, some plan officials told us they further diversify their private equity investments among funds concentrated in different industries and regions.

*Planning for Liquidity Needs*

Plan representatives said that they mitigate the long-term commitments of private equity investments by limiting the size their allocation. Officials we interviewed at several plans noted that their allocation to private equity is only about 5 percent of the portfolio and benefit obligations can be paid from more liquid assets. They said it is important to estimate a plan's benefit obligations and determine the need for liquid investments to ensure the plan can pay benefits when they are due. They also noted that once liquidity needs are determined, a plan can more safely invest in an illiquid asset that cannot be used to pay benefits in the near term.

*Negotiation of Key Terms of the Investment Contract*

Plans attempt to negotiate key terms of the investment contract to further manage the risks of investing in private equity, but, as one large public plan noted, their ability to negotiate favorable contract provisions is limited when investing with top-performing funds because investing in these funds is highly competitive. Like hedge fund investments, these contract terms may include the fee structure and valuation procedures of the fund. In addition, many plan representatives we interviewed said they can redeem their investments before the end of the originally agreed

investment period if staff that are considered key to the success of the fund leave prematurely.

*Due Diligence and Ongoing Monitoring*

Similar to hedge fund investments, plans take additional steps to mitigate challenges of investing in private equity through extensive and ongoing management, beyond those required for traditional investments. Plan representatives we interviewed said these steps include regularly reviewing reports on the performance of the underlying investments of the private equity fund and having periodic meetings with fund managers. In some cases, plans participate on the advisory board of a private equity fund, which provides a greater opportunity for oversight of the fund's operations and new investments; however this involves a significant time commitment and may not be feasible for every private equity fund investment.<sup>52</sup> Plan representatives and investment consultants noted that, as with hedge funds, private equity investments entail considerably greater due diligence and ongoing monitoring than traditional investments and some plan representatives said they needed to hire an external investment consultant because the plan lacked sufficient internal resources.

*Funds of Private Equity Funds*

Funds of private equity funds, like funds of hedge funds, enable plans to address several challenges of investing in private equity, for an additional cost. Benefits of investing in funds of funds can include diversification across fund managers, industry, geographic region, and year of initial investment. Through funds of funds, plans

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<sup>52</sup> While the advisory board of a private equity fund may allow investors some degree of oversight, it does not provide investors with an active role in the management of the fund.

can also gain access to top-performing fund managers that may otherwise be unavailable to them. One plan representative stated that, due to the competition among investors, funds of funds are their best option for accessing top-performing funds. In addition, several plan representatives said that they invest in funds of funds to benefit from the expertise of the fund manager. For example, officials of two large plans said they generally limit their use of funds of funds to private equity investments in emerging markets and small funds because the plan prefers not to devote resources to maintaining expertise in these areas. Nonetheless, fund of funds' managers charge their own fees in addition to the fees the fund of funds pays the underlying private equity fund managers. According to a plan official and an investment consulting firm, a fund of funds manager typically charges a fee of 1 percent of invested capital over the fees it pays to the underlying funds.

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**The Federal Government Does Not Specifically Limit or Monitor Private Sector Plans' Investments in Hedge Funds and Private Equity, but Some States Do So for Public Sector Plans through Various Approaches**

The federal government does not specifically limit or monitor private sector pension investments in hedge funds or private equity, and state approaches for public plans vary. ERISA requires that plan fiduciaries meet general standards of prudent investing but does not impose specific limits on investments in hedge funds or private equity. Further, while Labor has conducted enforcement actions that have involved hedge fund or private equity funds, it does not specifically monitor these investments. While states generally impose a prudent

man standard, similar to ERISA's, on plan fiduciaries, some states still have policies that restrict or prohibit pension plan investment in hedge funds or private equity.

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**The Federal Government Does Not Specifically Limit or Monitor Pension Plans' Investments in Hedge Funds or Private Equity nor Has It Provided Recommended Guidance**

Although ERISA governs the investment practices of private sector pension plans, neither federal law nor regulation specifically limit pension investment in hedge funds or private equity. Instead, ERISA requires that plan fiduciaries apply a prudent man standard, including diversifying assets and minimizing the risk of large losses. The prudent man standard does not explicitly prohibit investment in any specific category of investment.<sup>53</sup>

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<sup>53</sup> However, ERISA may indirectly limit a pension plan's ability to invest in specific hedge funds or private equity funds. Under Labor's plan asset regulation, if the aggregate investment by benefit plan investors in the equity interest of a particular entity is "significant," and that equity interest is not (i) a publicly-offered security, (ii) issued by a registered investment company, such as a mutual fund, nor (iii) issued by an operating company, then the assets of that entity are deemed assets of each benefit plan investor (i.e., plan assets). See 29 C.F.R. § 2510.3-101 (2007). As a result, any person who exercises management authority over the entity now deemed to hold plan assets will become subject to ERISA's fiduciary standards. The equity investments by benefit plan investors are considered "significant" if at any time the aggregate investment of the benefit plan investors represents 25 percent or more of the value of any class of equity in the entity. According to one industry expert, in order to avoid being deemed a plan fiduciary (and assuming all of the liabilities that accompany that status), many managers of hedge funds, which generally are not publicly-traded, not registered investment companies, nor operating companies, carefully monitor the level of

Further, an unsuccessful individual investment is not considered a per se violation of the prudent man standard, as it is the plan fiduciary's overall management of the plan's portfolio that is evaluated under the standard.<sup>54</sup> In addition, the standard focuses on the process for making investment decisions, requiring documentation of the investment decisions, due diligence, and ongoing monitoring of any managers hired to invest plan assets.

Although there are no specific federal limitations on pension plan investments in hedge funds, two federal advisory committees have, in recent years, highlighted the importance of developing best practices in hedge fund investing. In November 2006, the ERISA Advisory Council recommended that Labor publish guidance describing the unique features of hedge funds, and matters for consideration in their adoption for use by qualified pension plans.<sup>55</sup> To date, Labor has not acted on

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investments in the hedge fund by benefit plan investors to ensure that their aggregate investment remains below the 25 percent threshold. Prior to the Pension Protection Act of 2006 (PPA), the calculation of the 25 percent threshold pertained to investments by ERISA plans and certain non-ERISA covered plans, such as public sector and foreign retirement plans. However, in accordance with section 611(f) of the PPA, investments by certain plans, including public sector and foreign retirement plans, are now excluded from the calculation. Pub. L. No.109-280, § 611(f), 120 Stat. 780, 972 (codified at 29 U.S.C. § 1002(42)). This modification may facilitate an increase in the level of investments by pension plans in hedge funds and private equity funds.

<sup>54</sup> With some exceptions, ERISA does prohibit plans from investing more than 10 percent of plan assets in the sponsoring company's stock. See 29 U.S.C. § 1107. In addition to requiring plan fiduciaries to adhere to certain standards of conduct, ERISA also prohibits plan fiduciaries from engaging in specified transactions. See 29 U.S.C. § 1106.

<sup>55</sup> The ERISA Advisory Council was created by ERISA to provide advice to the Secretary of Labor. 29 U.S.C. § 1142.

this recommendation. According to Labor officials, an effort to address these recommendations was postponed while Labor focused on implementing various aspects of the Pension Protection Act of 2006.<sup>56</sup> However, in April 2008, the Investors' Committee established by the President's Working Group on Financial Markets, composed of representatives of public and private pension plans, endowments and foundations, organized labor, non-U.S. institutions, funds of hedge funds, and the consulting community, released draft best practices for investors in hedge funds.<sup>57</sup> These best practices discuss the major challenges of hedge fund investing, and provide an in-depth discussion of specific considerations and practices that investors in hedge funds should take. While this guidance should serve as an additional tool for pension plan fiduciaries and investors to use when assessing whether and to what degree hedge funds would be a wise investment, it may not fully address the investing challenges unique to pension plans leaving some vulnerable to inappropriate investments in hedge funds. Although many private sector plans are insured by the PBGC, which guarantees most benefits when an underfunded plan terminates, public sector plans are not

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<sup>56</sup> The PPA is the most recent comprehensive reform of federal pension laws since the enactment of ERISA. It establishes new funding requirements for DB pensions and includes reforms that will affect cash balance pension plans, defined contribution plans, and deferred compensation plans for executives and highly compensated employees.

<sup>57</sup> *Principles and Best Practices for Hedge Fund Investors: Report of the Investors' Committee to the President's Working Group on Financial Markets*, April 15, 2008. The President's Working Group on Financial Markets includes the heads of the U.S. Treasury Department, the Federal Reserve, the SEC, and the Commodity Futures Trading Commission.

insured and may call upon state or local taxpayers to overcome funding shortfalls.<sup>58</sup>

Labor does not specifically monitor pension investment in hedge funds or private equity. Labor annually collects information on private sector pension plan investments via the Form 5500, on which plan sponsors report information such as the plan's operation, funding, assets, and investments. However, the Form 5500 includes no category for hedge funds or private equity funds, and plan sponsors may record these investments in various categories on the form's Schedule H. In addition, because there is no universal definition of hedge funds or private equity and their strategies vary, their holdings can fall within many asset classes. While EBSA officials analyze Form 5500 data for reporting compliance issues—including looking for assets that are “hard to value”—they have not focused on hedge fund or private equity investments specifically.<sup>59</sup> According to EBSA officials, there have been several investigations and enforcement actions in recent years that involved investments in hedge funds and private equity, but these investments have not raised significant concerns.

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<sup>58</sup> Plan underfunding can occur for several reasons, including poor investment performance and insufficient contributions.

<sup>59</sup> “Hard to value” assets are those that are not traded on an exchange. “Hard to value” assets may include hedge funds, private equity funds, and real estate. It is difficult to distinguish the type of investment with the information provided. Federal agency officials use the Form 5500 report data to enforce ERISA pension requirements, monitor plan compliance, develop aggregate pension statistics, and conduct policy and economic research.

### **Some Selected States Regulate and Monitor Investments of Public Sector Plans Using Varying Approaches**

Our state pension plan contacts indicated that, in recent years, state regulation of public pension plan investments has become generally more flexible. According to a NASRA official, state regulation of public pension plan investments has gradually become less restrictive and more reliant on fiduciary prudence standards.<sup>60</sup> This official noted that, for example, blanket prohibitions on investments such as international stocks or real estate have given way to permission for a wider range of investments. Some of our state contacts described this shift over time from a prescriptive list of authorized investments (“legal lists”) and asset allocation limits to a more flexible approach, such as adoption of the prudent man standard.

Of the state pension plan officials we contacted in 11 states, officials in 7 states indicated that applicable state law imposes restrictions on the ability of public pension plans to invest in hedge funds and/or private equity, as seen in table 2.<sup>61</sup> Among these seven states, the restriction may be in the form of (i) a provision applicable to investments in hedge funds or private equity funds specifically, (ii) an exclusive list of permissible of investments that is not likely to capture hedge funds or private equity investments, or (iii) a provision that

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<sup>60</sup> NASRA is a non-profit association whose members are the directors of the nation’s state and territorial public retirement systems.

<sup>61</sup> We contacted the 10 states with the largest amount of public pension assets under management, as well as Massachusetts, because that state provided valuable information during our initial work. Our methodology is discussed in greater detail in appendix I.

**Table 2: Restrictions on Pension Investments in Hedge Funds and Private Equity Identified by Plan Officials in 11 Selected States**

| State                      | Hedge funds | Private equity |
|----------------------------|-------------|----------------|
| California                 |             |                |
| Florida                    | X           | X              |
| Illinois                   | X           | X              |
| Massachusetts <sup>a</sup> | X           | X              |
| New Jersey                 | X           | X              |
| New York                   | X           | X              |
| North Carolina             | X           | X              |
| Ohio                       |             |                |
| Pennsylvania               |             |                |
| Texas                      | X           |                |
| Wisconsin                  |             |                |

Source: GAO analysis based on information provided by state officials.

<sup>a</sup>Restrictions identified in Massachusetts are based on administrative policy adopted by its Public Employees Retirement Administration Commission, which is generally responsible for oversight of public pension systems in the state, rather than on statute or regulation.

restricts investments in certain categories of assets that, because of the typical structure or investment strategy of hedge funds or private equity funds, are likely to apply to investments in such funds.<sup>62</sup>

Some of the selected states have, through statute or regulation, established explicit limitations on the amount that pension plans can invest in hedge funds or private equity. For example, under Texas law, the Teacher Retirement System of Texas (TRS)—the largest public

<sup>62</sup> Restrictions applicable across various plans were identified through conversations with relevant officials in each state, except North Carolina. In addition, individual plans may have their own restrictions adopted by plan boards or staff. In some states, state restrictions apply quite broadly, and in others, the restrictions apply to a more narrow range of plans or public plan assets, therefore the existence of a restriction in a state does not necessarily indicate that the restriction exists for every public plan in the state.

pension plan in Texas—is statutorily limited to investing no more than 5 percent of the plan’s total assets in hedge funds.<sup>63</sup> According to a Texas Pension Review Board official, the statute codified TRS’s ability to invest in hedge funds while at the same time limiting the amount TRS can invest in hedge funds. According to a TRS official, this law was a compromise between TRS’s desire to invest more broadly in hedge funds and some state legislators who were concerned about the possible risks of hedge funds.<sup>64</sup> Other states we reviewed have comparable limitations for public plans.

The Commonwealth of Massachusetts’ Public Employee Retirement Administration Commission (PERAC) has established a detailed set of limitations and guidance, with particular limitations on smaller public plans. In Massachusetts, public plans with less than \$250 million in assets may not invest in hedge funds directly, but they may invest through a state-managed hedge fund investment pool (see table 3). According to a PERAC official, this limitation exists because hedge funds are relatively new investments for pension plans and because they require high levels of due diligence and expertise that may be excessive for smaller plans. PERAC also limits and offers guidance to larger public plans, emphasizing diversification, to help limit a plan’s exposure to potential

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<sup>63</sup> See Tex. Gov. Code Ann. § 825.3012. For purposes of this Texas state law restriction, “hedge fund” is defined as a private investment vehicle that (i) is not registered under an investment company act, (ii) issues securities only to accredited investors or qualified purchasers under an exemption from registration, and (iii) engages primarily in the strategic trading of securities and other financial instruments.

<sup>64</sup> According to TRS officials, no other public funds in Texas are, by state law, under explicit restrictions regarding hedge fund or private equity investment

losses from hedge fund failures. According to a PERAC official, the group is less strict about private equity investments because private equity is a more familiar asset class among the state’s public plans. Public plans with less than \$25 million in assets may invest up to three percent of assets in private equity and plans with more than \$25 million may invest up to 5 percent of assets in private equity. PERAC requires plans of either size to obtain PERAC permission before investing in private equity above those levels.

**Table 3: Massachusetts Policies on Public Plan Investments in Hedge Funds**

| Plans with less than \$250 million   | Plans with greater than \$250 million  |
|--|--|
| <ul style="list-style-type: none"> <li>• May invest in hedge funds only through the state’s common hedge fund vehicle</li> <li>• May not invest more than 10 percent of assets in hedge funds</li> </ul> | <ul style="list-style-type: none"> <li>• May not invest more than 10 percent of assets in hedge funds</li> <li>• May only invest in hedge funds through funds of funds</li> <li>• May only invest in hedge fund products whose performance is not influenced by market movements</li> <li>• No single fund of funds may account for more than 2 percent of assets</li> <li>• Hedge fund investments should be invested through a minimum of 75 separate underlying hedge funds</li> <li>• The market value of any single underlying hedge fund investment should not exceed 2.5 percent of the total hedge fund investment</li> <li>• A fund of hedge funds’ volatility should not be greater than 7.5 percent</li> <li>• Funds of hedge funds must provide reasonable transparency and disclosure</li> <li>• Funds registered with SEC are to be preferred</li> </ul> |

Source: Commonwealth of Massachusetts Public Employee Retirement Administration Commission Guidelines for Hedge Fund Investment.

Some of the selected states have instituted “legal lists” of authorized investments for pension plans that do not specifically include investments in hedge funds or private equity funds as authorized assets. According to a NASRA official, this was the dominant regulatory approach of state pension investment 40 years ago, and while some states have moved away from this approach, others have

continued to maintain legal lists. Illinois has established a legal list of assets that does not include interests in hedge funds or private equity funds, in which certain smaller plans that cover police officers and fire fighters are authorized to invest.<sup>65</sup> Large statewide plans, such those managed by the Illinois State Board of Investment, are governed by a prudent man standard, which does not explicitly restrict investment of pension assets in any particular investment. In some instances, states allow a certain percentage of plan assets to be invested in assets that do not qualify under one of the authorized categories on the legal list. For example, the New York State Common Retirement Fund is governed by a legal list, but the state allows the plan to invest up to 25 percent of its assets in investments not otherwise permitted by the legal list.<sup>66</sup>

Finally, public pension plan investments in hedge funds are prohibited or limited in some states by laws restricting pension plan investment in certain investment vehicles or trading strategies. For example, the North Carolina Retirement system can not invest more than 10 percent of plan assets in limited partnerships or limited liability corporations. Similarly, before new legislation broadening investment authority went into effect in April 2008, the Wisconsin Retirement System could not invest assets in vehicles that trade options or engage in short selling, two techniques commonly used by hedge funds.<sup>67</sup>

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<sup>65</sup> See Ill. Comp. Stat. Ann. 5/1-113.1.

<sup>66</sup> Assets invested under the basket provision are still subject to the prudent investor standard.

<sup>67</sup> The Wisconsin Retirement System is a consolidated system that covers all state, local, and school district employees, with the exception of the city and county of Milwaukee. Short selling is the selling of a security that the seller does not own, or any sale that is

However, with the new statutory authority, the Wisconsin Retirement System may use any investment strategy that meets its prudent investor standard.<sup>68</sup>

States we contacted take a variety of approaches to overseeing and monitoring public pension plan investment. In Massachusetts, before conducting a hedge fund manager search, public plans must first obtain PERAC approval and provide the agency with a summary of the plan's objectives, strategies, and goals in hedge fund investing. PERAC requires pension plans to document the major due diligence steps taken in the hedge fund manager selection process. In addition, prospective hedge fund managers must submit detailed information to PERAC regarding their key personnel, assets under management, investment strategy and process, risk controls, past performance, and organizational structure. Finally, hedge fund managers must also submit quarterly performance and strategy review reports directly to PERAC. Officials in other states we contacted may review hedge fund and private equity investments as part of a broader oversight approach. For example, the Ohio Retirement Study Council reviews the five large statewide public retirement funds semiannually to evaluate a plan's investment policies and objectives, asset allocations decisions, and risk and return assumptions. In California, individual pension boards have sole and exclusive authority over investment decisions; however, they ensure public information on investment decisions and fund

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completed by the delivery of a security borrowed by the seller. Short sellers assume that they will be able to buy the stock at a lower amount than the price at which they sold short. Selling short is the opposite of going long. That is, short sellers make money if the stock goes down in price.

<sup>68</sup> 2008 Wis. Sess. Laws. 212.

performance, including detailed reports of alternative investments, are publicly available.

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### **Conclusion**

Available data indicate that pension plans have increasingly invested in hedge funds and have continued to invest in private equity to complement their traditional investments in stocks and bonds. Further, these data indicate that individual plans' hedge fund or private equity investments typically comprise a small share of total plan assets. However, data are generally not available on the extent to which smaller pension plans have made such investments. Because such investments require a degree of fiduciary effort well beyond that required by more traditional investments, this can be a difficult challenge for plans, especially smaller plans. Smaller plans may not have the expertise or financial resources to be fully aware of these challenges, or have the ability to address them through negotiations, due diligence, and monitoring. In light of this, such investments may not be appropriate for some pension plans.

Although plans are responsible for making prudent choices when investing in any asset, EBSA also has a role in helping to ensure that pension plan sponsors fulfill their fiduciary duties in managing pension plans that are subject to ERISA. This can include educating employers and service providers about their fiduciary responsibilities under ERISA. Many private sector plans are insured by the PBGC, which guarantees most benefits when an underfunded plan terminates; however, public sector plans are not insured and may call upon state or local taxpayers to overcome funding shortfalls.

The importance of educating investors about the special challenges presented by hedge funds has been recognized by a number of organizations. For example, in 2006, the ERISA Advisory Council recommended that Labor publish guidance about the unique features of hedge funds and matters for consideration in their use by qualified plans. To date, EBSA has not acted on this recommendation. More recently, in April 2008, the Investors' Committee formed by the President's Working Group on Financial Markets published draft best practices for investors in hedge funds. This guidance will be applicable to a broad range of investors, such as public and private pension plans, endowments, foundations, and wealthy individuals. EBSA can further enhance the usefulness of this document by ensuring that the guidance is interpreted in light of the fiduciary responsibilities that ERISA places on private sector plans. For example, EBSA could outline the implications of a hedge fund's or fund of funds' limited transparency on the fiduciary duty of prudent oversight. EBSA can also reflect on the implications of these best practices for some plans—especially smaller plans—that might not have the resources to take actions consistent with the best practices, and thus would be at risk of making imprudent investments in hedge funds. While EBSA is not tasked with offering guidance to public sector plans, such plans may nonetheless benefit from such guidance.

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### **Recommendation for Executive Action**

To ensure that all plan fiduciaries can better assess their ability to invest in hedge funds and private equity, and to ensure that those that choose to make such investments are better prepared to meet these challenges, we recommend that the Secretary of Labor provide

guidance specifically designed for qualified plans under ERISA. This guidance should include such things as (1) an outline of the unique challenges of investing in hedge funds and private equity; (2) a description of steps that plans should take to address these challenges and help meet ERISA requirements; and (3) an explanation of the implications of these challenges and steps for smaller plans. In doing so, the Secretary may be able to draw extensively from existing sources, such as the finalized best practices document that will be published in 2008 by the Investors' Committee formed by the President's Working Group on Financial Markets.<sup>69</sup>

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### **Agency Comment and Our Evaluation**

We provided a draft copy of this report to the Department of Labor, PBGC, the Department of the Treasury, the SEC, and the Federal Reserve Bank for their review and comment. Labor generally agreed with our findings and recommendation. With regard to our recommendation, Labor stated that providing more specific guidance on investments in hedge funds and private equity may present challenges. Specifically, Labor noted that given the lack of uniformity among hedge funds, private equity funds, and their underlying investments, it may prove difficult to develop comprehensive and useful guidance for plan fiduciaries. Nonetheless, Labor agreed to consider the feasibility of developing such guidance. Labor's formal comments are reproduced in appendix III.

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<sup>69</sup> A draft version of this report, *Principles and Best Practices for Hedge Fund Investors: Report of the Investors' Committee to the President's Working Group on Financial Markets*, was published on April 15, 2008.

We agree that the lack of uniformity among hedge funds or private equity funds may pose challenges to Labor. However, we do not believe it will be an insurmountable obstacle to developing guidance for plan sponsors. Indeed, the lack of uniformity among hedge funds and private equity funds is itself an important issue to convey to fiduciaries, and highlights the need for an extensive due diligence process preceding any investment. Additionally, as we state in the recommendation, Labor's efforts can be facilitated through use of existing best practices documents, such as the best practices for investors in hedge funds document that will be published in the summer of 2008 by the Investors' Committee formed by the President's Working Group on Financial Markets.

The PBGC also provided formal comments, which are reproduced in appendix IV. PBGC generally concurred with our findings. Labor, PBGC, the Department of the Treasury, and the Federal Reserve Bank also provided technical comments and corrections, which we have incorporated where appropriate.

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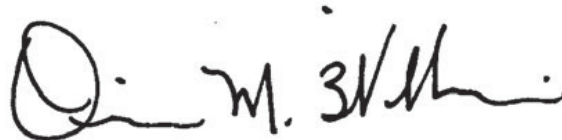
As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies of this report to interested congressional committees and members, federal agencies, and other interested parties. We will also make copies available to others upon request.

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If you or your staff has any questions concerning this report, please contact Barbara Bovbjerg on (202) 512-7215 or Orice Williams on (202) 512-8678. Contact points for our Office of Congressional Relations and Office of Public Affairs can be found on the last page of this report. Key contributors are listed in appendix V.

A handwritten signature in black ink that reads "Barbara D. Bovbjerg". The signature is written in a cursive style with a large, looped initial 'B'.

Barbara D. Bovbjerg  
Director, Education, Workforce and  
Income Security

A handwritten signature in black ink that reads "Orice M. Williams". The signature is written in a cursive style with a large, looped initial 'O'.

Orice M. Williams  
Director, Financial Markets and  
Community Investment

*List of Congressional Requesters*

The Honorable Max Baucus  
Chairman  
The Honorable Charles E. Grassley  
Ranking Member  
Committee on Finance  
United States Senate

The Honorable Charles B. Rangel  
Chairman  
The Honorable Jim McCrery  
Ranking Member  
Committee on Ways and Means  
House of Representatives

The Honorable Barney Frank  
Chairman  
Committee on Financial Services  
House of Representatives

The Honorable Michael E. Capuano  
House of Representatives

The Honorable Paul E. Kanjorski  
House of Representatives

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## Appendix I: Objectives, Scope, and Methodology

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Our objectives were to address the following questions:

- ó To what extent do public and private sector pension plans invest in hedge funds and private equity funds?
- ó What are the potential benefits, risks, and challenges pension plans face in making hedge fund investments, and how do plans address the risks and challenges?
- ó What are the potential benefits, risks, and challenges pension plans face in making private equity fund investments, and how do plans address the risks and challenges?
- ó What mechanisms regulate and monitor pension plan investments in hedge funds and private equity funds?

To answer the first question, we obtained and analyzed survey data of private and public sector defined benefit (DB) plans on the extent of plan investments in hedge funds and private equity from three private organizations: Greenwich Associates, *Pensions & Investments*, and Pyramis Global Advisors.<sup>1</sup> We identified the three surveys through our literature review and interviews with plan representatives and industry experts. As seen in table 4, the surveys varied in the number and size of plans

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<sup>1</sup> Greenwich Associates is an institutional financial services consulting and research firm; Pyramis Global Advisors, a division of Fidelity Investments, is an institutional asset management firm; and *Pensions & Investments* is a money management industry publication.

surveyed. Using the available survey data, we determined the percentage of plans surveyed that reported investments in hedge funds or private equity. Using data from Greenwich Associates, we also determined the percentage of plans surveyed that invested in hedge funds or private equity by category of plan size, measured by total plan assets. We further examined data from each survey on the size of allocations to hedge funds or private equity as a share of total plan assets. Using the Pensions & Investments data, we analyzed allocations to these investments for individual plans and calculated the average allocation for hedge funds and private equity, separately, among all plans surveyed that reported these investments. The Greenwich Associates and Pyramis data reported the size of allocations to hedge funds or private equity as an average for all plans surveyed. Through our research and interviews, we were not able to identify any relevant surveys that included plans with less than \$200 million in total assets.

While the information collected by each of the surveys is limited in some ways, we conducted a data reliability assessment of each survey and determined that the data were sufficiently reliable for purposes of this study. These surveys did not specifically define the terms hedge fund and private equity; rather, respondents reported allocations based on their own classifications. Pensions & Investments reported private equity in three mutually-exclusive categories—buyout, venture capital, and an “other” private equity category, which includes investments such as mezzanine financing and private equity investments traded on the secondary market. Data from all three surveys are reflective only of the plans surveyed and cannot be generalized to all plans.

**Table 4: Number and Size of DB Plans Observed in Recent Surveys**

|                                 | <b>Greenwich Associates (2006)</b> | <b>Pensions &amp; Investments (2007)</b> | <b>Pyramis Global Advisors (2006)</b> |
|---------------------------------|------------------------------------|--|---------------------------------------|
| Sample size                     | 584 DB plans                       | 133 DB plans                             | 214 DB plans                          |
| Total assets of plans in survey | \$3.649 trillion                   | \$4.4 trillion                           | n/a                                   |
| Range of total plan assets      | \$250 million or more              | >\$1 billion or more                     | >\$200 million                        |

Source: GAO analysis.

Note: Pensions & Investments surveyed the largest 200 plans, ranked by combined DB and defined contribution (DC) plan assets. With one exception, all DB plans ranked in the top 200 plans had more than \$1 billion in total assets. Of the top 200 plans, 133 were DB plans that completed the survey and provided asset allocation information.

To answer the second and third questions, we conducted in-depth interviews with representatives of 26 private and public sector DB plans, listed in table 5, from June 2007 to January 2008 and, where possible, obtained and reviewed supporting documentation. Interviews related to hedge fund investments were conducted from June 2007 to December 2007. Interviews related to private equity investments were conducted from October 2007 to January 2008. The interviews with plan representatives were conducted using a semi-structured interview format, which included open-ended questions on the following topics, asked separately about hedge funds or private equity: the plan’s history of investment in hedge funds or private equity; the plan’s experiences with these investments to date; the plan’s expected benefits from these investments; challenges the plan has faced with these investments; and steps the plan has taken to mitigate these challenges, including due diligence and ongoing monitoring. We interviewed five plans that did not invest in hedge funds to discuss the reasons the plan decided not have such investments. We also interviewed officials of government agencies, relevant industry organizations, investment consulting firms, and other national experts listed in appendix II. In addition, we

interviewed officials from the Arizona State Retirement System and Missouri Local Government Employees' Retirement System to discuss the recent decision of these plans to invest in private equity.

**Table 5: List of DB Plans for In-Depth Interviews**

|   | Hedge fund interview | Private equity interview |
|---|----------------------|--------------------------|
| <b>Private sector plans:</b>                                  |                      |                          |
| American Airlines   | √                    |                          |
| Boeing  | √                    |                          |
| Exxon Mobil   | √                    |                          |
| GE Asset Management   | √                    |                          |
| International Association of Machinists National Pension Fund | √                    |                          |
| John Deere  |                      | √                        |
| Macy's  | √                    |                          |
| Northrop Grumman  |                      | √                        |
| Prudential  | √                    |                          |
| Target  |                      | √                        |
| United Mine Workers of America Health and Retirement Funds    | √                    | √                        |
| United Technologies   | √                    |                          |
| Walt Disney   | √                    | √                        |
| <b>Public sector plans:</b>                                   |                      |                          |
| California Public Employees' Retirement System                | √                    | √                        |
| California State Teachers' Retirement System                  | √                    | √                        |
| Illinois State Board of Investments                           | √                    |                          |
| Los Angeles County Employee Retirement Administration         | √                    |                          |
| Massachusetts Pension Reserves Investment Management Board    | √                    |                          |
| Missouri State Employees' Retirement System                   | √                    |                          |

|   | Hedge fund interview | Private equity interview |
|---|----------------------|--------------------------|
| National Railroad Retirement Trust Fund                 |                      | √                        |
| New York State Common Retirement Fund                   | √                    | √                        |
| Pennsylvania Public School Employees' Retirement System | √                    | √                        |
| Pennsylvania State Employees' Retirement System         | √                    | √                        |
| San Diego County Employees' Retirement System           | √                    |                          |
| South Dakota Retirement System                          |                      | √                        |
| Washington State Investment Board                       |                      | √                        |

Source: GAO.

Note: Five of the plans interviewed about hedge funds did not invest in hedge funds.

The plans we interviewed were selected based on several criteria. We attempted to select plans that varied in the size of allocations to hedge funds and private equity as a share of total plan assets. We also attempted to select plans with a range of total plan assets, as outlined in table 6. We identified these plans using data from the *Pensions & Investments 2006* survey and through our interviews with industry experts.

**Table 6: Criteria Used in Selection of Plans for In-Depth Interviews**

|  | Number of plans interviewed – hedge funds | Number of plans interviewed – private equity |
|--|---|--|
| Size of allocation to hedge funds or private equity: |   |  |
| None   | 5   |  |
| 5% or less   | 10  | 5  |
| >5 to 10%  | 3   | 6  |
| >10%   | 2   | 2  |
| Total plan assets:                                   |   |  |
| \$10 billion or less                                 | 8   | 5  |
| >\$10 to \$100 billion                               | 9   | 5  |
| >\$100 billion                                       | 3   | 3  |

Source: GAO analysis of Pension & Investments 2006 survey.

To identify and analyze the regulation of public DB pension investments by states we consulted officials at the Department of Labor and representatives of relevant agencies in selected states, and reviewed relevant policy documents. The states we selected included the 10 states with the largest public pension assets according to our review of the National Association of State Retirement Administrators (NASRA) Public Funds Survey data listed in table 7. We also included Massachusetts because our previous contact with that state produced valuable information for this objective.<sup>2</sup> Those states chosen based on the size of plan assets were: California, New York, Texas, Ohio, Florida, Illinois, Pennsylvania, New Jersey, Wisconsin, and North Carolina. In 9 of 10 states we spoke with the offices of the State Auditor, the State Treasurer, and the State Comptroller or equivalent offices. North Carolina's Chief Investment Officer of the State Treasurer's Office affirmed our analysis through e-mail. Finally we informed each of these states of our analysis and gave them the opportunity to comment on our description of regulations in their state.

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<sup>2</sup> Massachusetts ranks 20th with \$32.4 billion in public pension plan assets, according to the 2007 Public Funds Survey.

**Table 7: Ten States with the Largest Total Public DB Pension Plan Assets**  
(Dollars in billions)

| <b>Rank</b> | <b>State</b>   | <b>Sum of market value for state's public plan assets</b> |
|-------------|----------------|---|
| 1           | California     | \$417.4   |
| 2           | New York       | 301.9   |
| 3           | Texas          | 156.3   |
| 4           | Ohio           | 147.3   |
| 5           | Florida        | 116.3   |
| 6           | Illinois       | 96.0  |
| 7           | Pennsylvania   | 90.1  |
| 8           | New Jersey     | 79.3  |
| 9           | Wisconsin      | 67.9  |
| 10          | North Carolina | 66.7  |

Source: GAO analysis of NASRA Public Funds Survey 2007 data.

We conducted this performance audit from June 2007 to July 2008, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Appendix II: Government Agencies, Industry Organizations, Investment Consulting Firms, and Other Organizations Interviewed

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### **Government agencies**

Department of Treasury

Department of Labor, Employee Benefit Security  
Administration

Board of Governors of the Federal Reserve System

Pension Benefit Guaranty Corporation

Securities and Exchange Commission

### **Hedge fund and private equity industry organizations**

Managed Funds Association

National Venture Capital Association (NVCA)

Private Equity Council (PEC)

### **Investment consulting firms**

Cambridge Associates

Cliffwater, LLC

Fiduciary Counselors

McCarter & English, LLP

Mercer Associates

Offices of Wilkie, Farr, and Gallagher, LLP

Pension Governance, LLC

**Other industry organizations**

American Benefits Council (ABC)

American Federation of Labor and Congress of Industrial Organizations (AFL-CIO)

American Federation of State, County, and Municipal Employees (AFSCME)

Committee on the Investment of Employee Benefit Assets (CIEBA) Financial Policy Forum

National Association of State Retirement Administrators (NASRA) North American Securities Administrators Association (NASAA)

National Conference of State Legislatures (NCSL) roundtable:

National Association of Police Organizations (NAPO)

National Conference on Public Employee Retirement Systems (NCPERS)

National Association of State Treasurers National Association of Counties (NACo)

Grand Lodge Fraternal Order of Police

National Association of State Auditors, Comptrollers, and Treasurers (NASACT)

National Education Association (NEA)

National Council on Teacher Retirement (NCTR) and California Public Employees' Retirement System

National Conference of State Legislatures (NCSL)

National Association of State Retirement Administrators (NASRA)

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## Appendix III: Comments from the Department of Labor

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**U.S. Department of Labor**

Assistant Secretary for  
Employee Benefits Security Administration  
Washington, D.C. 20210



July 16, 2008

Ms. Barbara D. Bovbjerg  
Director, Education, Workforce, and  
Income Security Issues  
United States Government Accountability Office  
Washington, DC 20548

Dear Ms. Bovbjerg:

We have reviewed the Government Accountability Office's (GAO) draft report entitled "DEFINED BENEFIT PENSION PLANS: Guidance Needed to Better Inform Plans of the Challenges and Risks of Investing in Hedge Funds and Private Equity" (GAO-08-692). Based upon our review of the report, below are the comments and observations.

As recognized in the draft report, ERISA requires, among other things, that in making plan investment decisions, an ERISA fiduciary must act prudently, solely in the interest of the plan and its participants and beneficiaries, and to diversify plan investments so as to minimize the risk of large losses. Under the framework set out in the Department of Labor's regulations,<sup>1</sup> a fiduciary's investment decision is considered prudent, if the fiduciary gives appropriate consideration to all those facts and circumstances that the fiduciary knows or should know are relevant to the particular investment decision involved, including the role the investment plays in the plan's investment portfolio and acts accordingly. With respect to any plan investment, including an investment in a hedge fund or private equity fund, a plan fiduciary must gather sufficient information to understand the nature of the investment, make a determination as to its prudence, and periodically monitor the investment to evaluate whether it remains a prudent plan investment.

We appreciate GAO's interest in helping plan fiduciaries understand the challenges of investing in hedge funds and private equity and their attendant obligations under ERISA. The Department shares this interest and carries out an extensive outreach program to assist plan fiduciaries, service providers, and others in understanding their responsibilities under ERISA. The program addresses investment decisions and the importance of selecting and monitoring plan service providers. However, providing more specific guidance on investments in hedge funds and private equity funds, as recommended by the draft report, may present challenges. In this regard, we note that

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<sup>1</sup> 29 CFR § 2550.404a-1.

the draft report indicates there is no statutory definition of hedge fund or private equity fund, and investment objectives and strategies may vary greatly among these funds. Given this apparent lack of uniformity in describing hedge funds, private equity funds, and their investments and operations, it may prove difficult to develop comprehensive and useful guidance for plan fiduciaries. Nonetheless, we will consider the feasibility of developing the type of specific guidance regarding investments in hedge funds and private equity funds as recommended in the draft report.

EBSA is committed to protecting the employer-sponsored benefits of American workers, retirees, and their families. We appreciate having had the opportunity to review and comment on the draft report. Please do not hesitate to contact us if you have questions concerning this response or if we can be of further assistance.

Sincerely,



Bradford P. Campbell  
Assistant Secretary

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## Appendix IV: Comments from the Pension Benefit Guaranty Corporation

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Office of the Director

July 11, 2008

Ms. Barbara Bovbjerg, Director  
Education, Workforce, and Income Security Issues  
Mr. Orice M. Williams, Director,  
Financial Markets and Community Investment  
Government Accountability Office  
441 G Street, N.W.  
Washington, D.C. 20548

Dear Ms. Bovbjerg and Mr. Williams:

Thank you for the opportunity to comment on the draft report entitled, "DEFINED BENEFIT PENSION PLANS: Guidance Needed to Better Inform Plans of the Challenges and Risks of Investing in Hedge Funds and Private Equity" (GAO-08-692).

In our role as an insurer, PBGC has an interest in the transparency of the investments made by plans it insures. Existing disclosure requirements provide only a limited window on hedge funds and private equity investments. However, to date, defined benefit pension plans that have been terminated and trustee by PBGC have not had significant amounts invested in either hedge funds or private equity investments.

The draft report notably acknowledges that, within the wide and growing array of hedge funds, despite having a reputation of being "risky" investment vehicles, "this was not their original purpose, and is not true of all hedge funds today." In addition, the draft report underscores ERISA's notion of the prudence of an individual investment being considered within the context of the total plan portfolio.

As there are risks involved with all investments, we certainly agree with the principle enunciated in ERISA, that plan trustees should exercise due diligence in making prudent investment decisions solely for the benefit of the plan and its participants and beneficiaries, and closely monitor investment performance on an on-going basis. In seeking to fully meet the obligations of the plan under ERISA, plan trustees must fully understand the potential benefits and risks and the relative performance of all of its investments, including hedge funds and private equity investments.

With nearly 44 million workers and retirees relying on PBGC's insurance programs, we appreciate GAO's work in highlighting issues that relate to pensions, including those raised in this report and look forward to continuing to work with GAO. Again, thank you for the opportunity to comment.

Sincerely,



Charles E.F. Millard

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## Appendix V: GAO Contacts and Staff Acknowledgments

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|                       |   |
|-----------------------|---|
| GAO Contacts          | Barbara D. Bovbjerg (202) 512-7215 or <a href="mailto:bovbjergb@gao.gov">bovbjergb@gao.gov</a><br><br>Orice M. Williams (202) 512-8678 or <a href="mailto:williamso@gao.gov">williamso@gao.gov</a>  |
| Staff Acknowledgments | David Lehrer, Assistant Director, and Michael Hartnett managed this report. Sharon Hermes, Angela Jacobs, and Ryan Siegel made important contributions throughout this assignment.<br><br>Joseph A. Applebaum, Joe Hunter, Ashley McCall, Jay Smale Jr., Jena Sinkfield, Frank S. Synowiec, Karen Tremba, Rich Tsuhara, Charlie Willson, and Craig Winslow also provided key support. |
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EXHIBIT 14

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**GAO**

**United States Government  
Accountability Office**  
Testimony Before the  
Subcommittee on Health,  
Employment, Labor, and  
Pensions, Committee on  
Education and Labor, House  
of Representatives

For Release on  
Delivery Expected  
at 10:00 a.m. EDT  
Tuesday, July 20,  
2010

**DEFINED BENEFIT  
PENSION PLANS**

**Plans Face Valuation and  
Other Challenges When  
Investing in Hedge Funds  
and Private Equity**

Statement of Barbara Bovbjerg,  
Managing Director, Education,  
Workforce, and Income Security



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GAO-08-692



Highlights of *GAO-10-915T*, a testimony before the Subcommittee on Health, Employment, Labor and Pensions, Committee on Education and Labor, House of Representatives

### **Why GAO Did This Study**

Millions of Americans rely on private or public defined benefit pension plans, which promise to pay retirement benefits that are generally based on an employee's salary and years of service. Plan sponsors are increasingly investing in "alternative" assets such as hedge funds and private equity. This has raised concerns, given that these two types of investments have qualified for exemptions from some federal regulations and could present more risk to retirement assets than traditional investments.

This testimony discusses (1) the extent to which defined benefit plans have invested in hedge funds and private equity, (2) challenges that such plans face in investing in hedge funds and private equity, (3) steps that plan sponsors can take to address these challenges, and (4) the implications of these challenges for the federal government.

To prepare this statement, GAO relied primarily on its published reports on hedge funds and private equity (GAO-08-692 and GAO-08-200), and obtained new data on the extent of plan investments in hedge funds and private equity.

GAO has previously recommended that the Secretary of Labor provide guidance designed to help ERISA fiduciaries better assess their ability to invest in hedge funds and private equity. Labor generally agreed with our recommendation, but has yet to take action.

[View GAO-10-915T or key components.](#) For more information, contact Barbara Bovbjerg at (202) 512-7215 or [bovbjergb@gao.gov](mailto:bovbjergb@gao.gov).

**July 20, 2010**

## **DEFINED BENEFIT PENSION PLANS Plans Face Valuation and Other Challenges When Investing in Hedge Funds and Private Equity**

### **What GAO Found**

A growing number of private and public sector plans have invested in hedge funds and private equity, but such investments generally comprise a small share of total plan assets. According to a survey of large plans, the share of plans with investments in hedge funds grew from 11 percent in 2001 to 51 percent in 2009. Over the same time period, investments in private equity were more prevalent but grew more slowly—an increase from 71 percent in 2001 to 90 percent in 2009. Still, the average allocation of plan assets to hedge funds was less than 5 percent, and the average allocation to private equity was less than 8 percent. Available data also show that investments in hedge funds and private equity are more common among large pension plans, measured by assets under management, compared to mid-size plans. Survey information on smaller plans is unavailable, so

the extent to which these plans invest in hedge funds or private equity is unknown.

Hedge funds and private equity investments pose a number of risks and challenges beyond those posed by traditional investments. For example, investors in hedge funds and private equity face uncertainty about the precise valuation of their investment. Hedge funds may, for example, own thinly traded assets whose valuation can be complex and subjective, making valuation difficult. Further, hedge funds and private equity funds may use considerable leverage—the use of borrowed money or other techniques—which can magnify profits, but can also magnify losses if the market goes against the fund’s expectations. Also, both are illiquid investments—that is they cannot generally be redeemed on demand. Finally, investing in hedge funds can pose operational risk—that is, the risk of investment loss from inadequate or failed internal processes, people, and systems, or problems with external service providers rather than an unsuccessful investment strategy.

Plan sponsors we spoke with address these challenges in a number of ways, such as through careful and deliberate fund selection, and negotiating key contract terms. For example, investors in both hedge funds and private equity funds may be able to negotiate fee structure and valuation procedures, and the degree of leverage employed. Also, plans address various concerns through due diligence and monitoring, such as careful review of investment, valuation, and risk management processes.

The Department of Labor (Labor) has a role in helping to ensure that plans fulfill their Employee Retirement and Income Security Act of 1974 (ERISA)

fiduciary duties, which includes educating employers and service providers about their fiduciary responsibilities under ERISA. According to plan officials, state and federal regulators, and others, some pension plans, such as smaller plans, may have particular difficulties in addressing the various demands of hedge fund and private equity investing. In light of this, in 2008, we recommended that Labor provide guidance on the challenges of investing in hedge funds and private equity and the steps plans should take to address these challenges.

Mr. Chairman and Members of the Subcommittee,

I am pleased to be here to participate in today's hearing on creating greater accounting transparency for pensioners. As you know, millions of Americans rely on defined benefit (DB) plans for their financial well-being after their working years. Historically, public and private sector pension plans have primarily invested in traditional investments such as stocks and bonds; but more recently, plans are increasingly investing in "alternative" investments such as hedge funds and private equity.

While there is no statutory definition of hedge funds, the phrase "hedge fund" is commonly used to refer to a pooled investment vehicle that is privately organized and administered by professional managers, and that often engages in active trading of various types of securities, as well as futures and options contracts. Similarly, private equity is not statutorily defined, but is generally considered to be privately managed investment pools administered by professional managers who typically make long-term investments in private companies, taking a controlling interest with the aim of increasing the value of these companies through such strategies as improving operations or developing new products. Both hedge funds and private equity may be managed so as to be exempt from certain aspects of federal securities law and regulation that apply to other investment pools such as mutual funds. There are a number of investments that are considered to be alternative investments, but my statement today will focus on our prior work on pension plan investment in hedge funds and private equity.

Much has happened in the financial markets since we issued three reports—one which addressed pension plan

investments in hedge funds and private equity, another which addressed federal oversight and other issues regarding hedge funds exclusively, and a final report addressed private equity funds—in 2008.<sup>1</sup> Hedge funds have been deeply affected in the financial turmoil. According to an industry survey, most hedge fund strategies produced double-digit losses in 2008, and hedge funds saw approximately \$70 billion in redemptions between June and November 2008.<sup>2</sup> Some observers blamed hedge funds for dramatic volatility in the stock and commodity markets in 2008 and some funds of hedge funds<sup>3</sup> were heavily invested in the Madoff fraud. Nevertheless, an industry survey of institutional investors suggests that these investors are still committed to investing in hedge funds in the long term.

My statement today is based primarily on our 2008 report on pension plan investments in hedge funds and private equity. My comments will focus on 1) the extent to which DB plans have invested in hedge funds and private

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<sup>1</sup> GAO, *Hedge Funds: Regulators and Market Participants Are Taking Steps to Strengthen Market Discipline, but Continued Attention Is Needed*, GAO-08-200 (Washington D.C.: Jan. 24, 2008); *Defined Benefit Pension Plans: Guidance Needed to Better Inform Plans of the Challenges and Risks of Investing in Hedge Funds and Private Equity*, GAO-08-692 (Washington D.C.: Aug. 14, 2008); and *Private Equity: Recent Growth in Leveraged Buyouts Exposed Risks That Warrant Continued Attention*, GAO-08-885 (Washington D.C.: Sept. 9, 2008).

<sup>2</sup> Greenwich Associates and SEI Knowledge Partnership, *Hedge Funds under the Microscope: Examining Institutional Commitment in Challenging Times* (January 2009).

<sup>3</sup> Funds of funds are investment funds that buy stakes in multiple underlying hedge funds. Fund of funds managers invest in other hedge funds rather than trade directly in the financial markets, and thus offer investors broader exposure to different hedge fund managers and strategies.

equity, 2) challenges that such plans face in investing in hedge funds and private equity, 3) steps that plan sponsors can take to address these challenges, and 4) the implications these challenges for plan sponsors and the federal government.

In conducting our prior work, we reviewed relevant literature and survey data and conducted in-depth interviews with pension plan representatives and industry experts. We obtained and analyzed data on the extent of pension plan investments in hedge funds and private equity from private organizations such as Greenwich Associates, Pensions & Investments, and Pyramis Global Advisors. We updated these data for purposes of my testimony today. We also conducted in-depth interviews with representatives of 26 public and private sector DB pension plans and, where possible, obtained and reviewed supporting documentation. These plans were selected based on several criteria, including the range of investment in hedge funds and private equity and the amount of total plan assets. We also interviewed officials of regulatory agencies, relevant industry organizations, investment consulting firms, and other national experts. We conducted our prior work from June 2007 to July 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives.

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## **Background**

Millions of current and future retirees rely on private or public DB plans, which promise to pay retirement benefits that are generally based on an employee's salary and years of service. The financial condition of these

plans—and hence their ability to pay promised retirement benefits when such benefits are due—depends on adequate contributions from employers and, in some cases, employees, as well as prudent investments that preserve principal and yield an adequate rate of return over time. The plan sponsor must make contributions to the plan that are intended to ensure it is adequately funded to pay promised benefits. To maintain and increase plan assets, fiduciaries of public and private sector pension plans choose investments that are expected to grow in value or yield income. Plan fiduciaries invest in various categories of asset classes, which traditionally have consisted mainly of stocks and bonds. Pension fiduciaries may also invest in other asset classes or trading strategies, such as hedge funds and private equity, which can generally be riskier investments, so long as such investments are prudent.

To obtain favorable tax treatment private sector pension plan investment decisions must comply with the provisions of the Employee Retirement and Income Security Act of 1974 (ERISA), under which plan sponsors and other fiduciaries must act solely in the interest of the plan participants and beneficiaries, (1) for the exclusive purpose of providing benefits to participants and their beneficiaries, as well as defraying reasonable expenses of administering the plan; (2) with the care, skill, prudence, and diligence then prevailing that a prudent man acting in a similar situation would use; (3) by diversifying plan investments so as to minimize the risk of large losses; and (4) in accordance with plan documents consistent with ERISA.<sup>4</sup> Under ERISA, the prudence of any individual investment is considered in the context of the total plan portfolio, rather than in isolation. Hence, a relatively risky

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<sup>4</sup> 29 U.S.C. § 1104(a).

investment may be considered prudent if it is part of a broader strategy to balance the risk and expected return to the portfolio. The Employee Benefit Security Administration (EBSA) at the Department of Labor (Labor) is responsible for enforcing these standards, as well as educating and assisting plan participants and plan sponsors.

In the public sector, governments have established pension plans at state, county, and municipal levels, as well as for particular categories of employees, such as police officers, fire fighters, and teachers. The structure of public pension plan systems can differ considerably from state to state. Public sector DB plans are not subject to funding, vesting, and most other requirements applicable to private sector DB plans under ERISA,<sup>5</sup> but must follow requirements established for them under applicable state law and have generally adopted fiduciary standards similar to those of ERISA.

Generally privately managed and engaged in active trading of various types of securities, hedge funds are typically structured and operated as limited partnerships or limited liability companies exempt from certain registration, disclosure, and other requirements under the Securities Act of 1933,<sup>6</sup> Securities Exchange Act of 1934,<sup>7</sup> Investment Company Act of 1940,<sup>8</sup> and Investment Advisers Act of 1940<sup>9</sup> that apply to other investment pools,

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<sup>5</sup> 29 U.S.C. § 1003(b)(1).

<sup>6</sup> Ch. 38, tit. I, 48 Stat. 74 (codified at 15 U.S.C. § 77a et seq.).

<sup>7</sup> Ch. 404, 48 Stat. 881 (codified at 15 U.S.C. § 78a et seq.).

<sup>8</sup> Ch. 686, tit. I, 54 Stat. 797 (codified as amended at 15 U.S.C. § 80a-1 et seq.).

<sup>9</sup> Ch. 686, tit. II, 54 Stat. 847 (codified as amended at 15 U.S.C. § 80b-1 et seq.).

such as mutual funds.<sup>10</sup> Unlike a mutual fund, which must strictly abide by the detailed investment policy and other limitations specified in its prospectus, most hedge funds specify broad objectives and authorize multiple strategies. They may invest in a wide variety of financial instruments, including stocks and bonds, currencies, futures contracts, and other assets.

Like hedge funds, there is no legal or commonly accepted definition of private equity funds, but the term generally includes privately managed pools of capital that invest in companies, many of which are not listed on a stock exchange. Although there are some similarities in the structure of hedge funds and private equity funds, the investment strategies employed are different. Unlike many hedge funds, private equity funds typically make long-term investments in private companies and seek to obtain financial returns not through particular trading strategies and techniques, but through long-term appreciation based on corporate stewardship, improved operating processes, and financial restructuring of those companies, which may involve a merger or acquisition. Private equity is generally considered to involve a substantially higher degree of risk than traditional

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<sup>10</sup> Although certain advisers may be exempt from registration requirements, they remain subject to anti-fraud, anti-manipulation, and large trading position reporting rules. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act advisers of all private funds, including hedge funds and private equity funds with \$150 million or more in assets under management in the U.S. may be required to register with the Securities and Exchange Commission (SEC), obligated to comply with new recordkeeping and reporting requirements, and subject to enhanced SEC scrutiny and audit. H.R. 4173, 111th Cong. tit. IV (as reported out of conference on June 29, 2010).

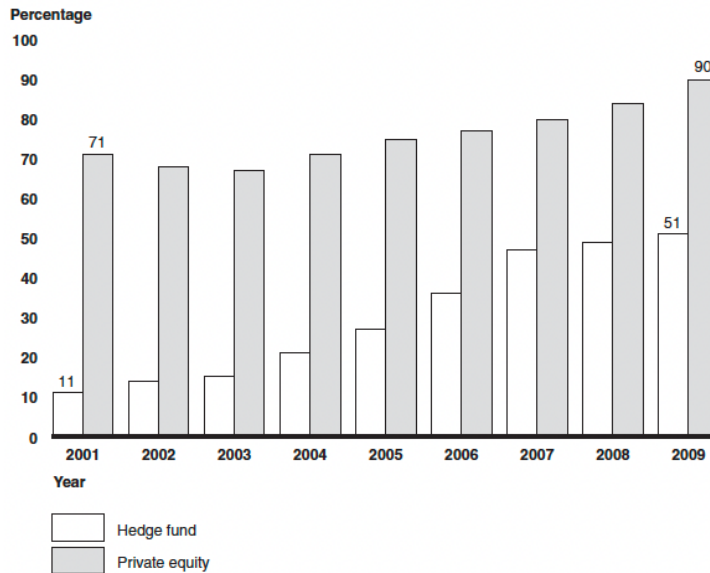
investments, such as stocks and bonds, in exchange for a higher return.

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**A Growing Number of Pension Plans are Investing in Hedge Funds or Private Equity, but Such Investments Are Generally a Small Portion of Plan Assets**

We reported in 2008 that DB plan investments in hedge funds and private equity have grown, but such investments are generally a small portion of plan assets, and this trend has continued. According to a Pensions & Investments survey, the percentage of large plans (as measured by total plan assets) investing in hedge funds grew from 11 percent in 2001 to 51 percent in 2009 (see fig. 1). Over the same time period, the percentage of large plans that invest in private equity grew at a much lesser rate—71 percent to 90 percent—because a much larger percentage of plans were already invested in private equity in 2001.

Figure 1: Share of Large DB Plans Investing in Hedge Funds and Private Equity

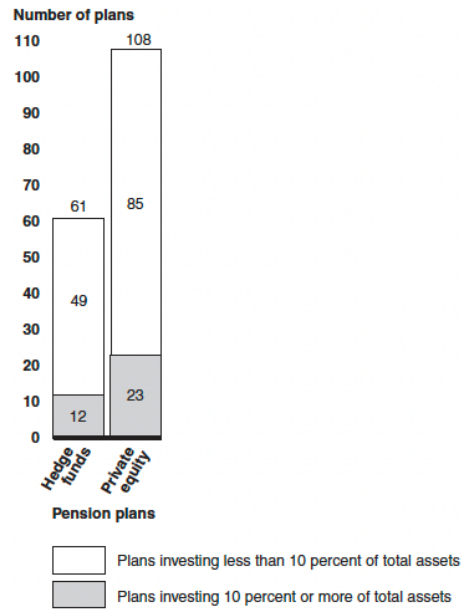


Source: Pensions & Investments' 2009 annual survey.

Data from the same survey reveal that investments in hedge funds and private equity typically comprise a small share of plan assets. The average allocation to hedge funds among plans with such investments was not quite 5 percent in 2009. Similarly, among plans with investments in private equity, the average allocation was less than 8 percent. Although the majority of plans with investments in hedge funds or private equity have small allocations to these assets, a few plans have relatively large allocations, according to the Pensions & Investments survey. Of the 61 plans that reported hedge fund investments in 2009, 12 had allocations of 10 percent or more (see fig. 2). The highest reported hedge fund allocation was 29 percent of total assets. Similarly, of the 108 plans that reported private equity investments in 2009, 23 had allocations of 10

percent or more and the highest reported private equity allocation was 26 percent.

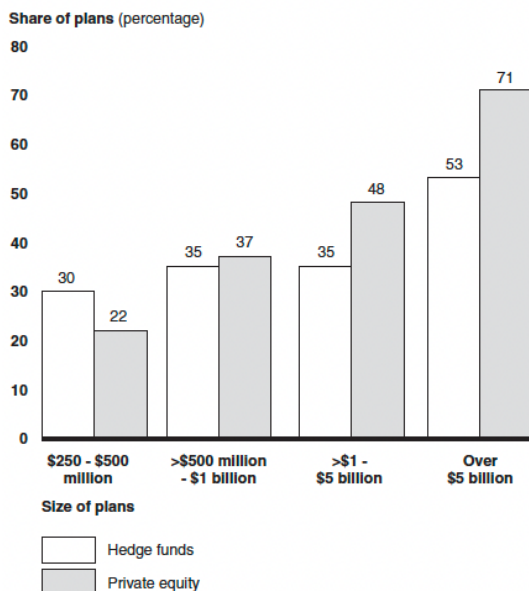
**Figure 2: The Number of Plans with Investments in Hedge Funds or Private Equity by Size of Allocation**



Source: GAO analysis of *Pensions & Investments* 2009 annual survey data.

Available survey data show that larger plans, measured by total plan assets, are more likely to invest in hedge funds and private equity compared to mid-size plans. As shown below, a survey by Greenwich Associates found that 30 percent of mid-size plans—those with \$250 to \$500 million in total assets—were invested in hedge funds, compared to 53 percent of the largest plans—those with more than \$5 billion in total assets (see fig. 3). Survey data on plans with less than \$200 million in assets are unavailable and, in the absence of this information, it is unclear to what extent these plans invest in hedge funds and private equity.

**Figure 3: Pension Plans with Investments in Hedge Funds and Private Equity by Size of Total Plan Assets**



Source: Greenwich Associates, 2009.

Note: The figures above include public and corporate plans. Information on the investments of collectively bargained plans by size of total assets was not available.

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## Hedge Fund and Private Equity Investments Pose Various Risks and Challenges for Plan Sponsors

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### *Valuation*

One of the major challenges that both hedge fund and private equity investments pose to plan sponsors investing is uncertainty over the current value of their investment. With regard to hedge funds, we noted that plans may lack information on both the nature of the specific underlying holdings of the hedge fund, as well as the aggregate value on a day to day basis. Because many hedge funds may own

thinly traded securities and derivatives whose valuation can be complex, and in some cases subjective, a plan may not be able to obtain timely information on the value of assets owned by a hedge fund.<sup>11</sup> Further, hedge fund managers may decline to disclose information on asset holdings and the net value of individual assets largely because release of such information could compromise their trading strategy. In addition, even if hedge fund managers were to provide detailed positions, plan sponsors might be unable to fully analyze and assess the prospective return and risk of a hedge fund. As we noted in our August 2008 report, hedge fund managers may seek to profit through complex and simultaneous positions and can abruptly change their positions and trading tactics in order to achieve desired return as changing market conditions warrant. Consequently, a plan may not be able to independently ascertain the value or fully assess the degree of investment risk posed by its hedge fund investment. Although we noted in January 2008 that some hedge funds have improved disclosure and transparency about their operations due to the demands of institutional investors, several pension plans cited limited transparency as a prime reason they had chosen not to invest in hedge funds.<sup>12</sup> During our research for that report, representatives of one plan told us that they had considered investing in hedge funds several years before, but that most of the hedge funds it contacted would not provide position-level information, and they were reluctant to make such an investment without this information.

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<sup>11</sup> A security is described as thinly traded when trading infrequently and/or in low volume.

<sup>12</sup> See [GAO-08-200](#).

Similar to hedge funds, valuations of private equity investments are uncertain during the fund's cycle, which often lasts 10 years or more. Unlike investments which are traded and priced in public markets, plans have limited information on the value of private equity investments until the underlying holdings are sold. Some plan representatives we interviewed explained that fund managers often value underlying holdings at their initial cost until they are sold through an initial public offering or other type of sale.<sup>13</sup> In some cases private equity funds estimate the value of the fund by comparing companies in their portfolio to the value of comparable publicly-traded assets. However, an investment consultant explained that such periodic valuations have limited utility. Prior to the sale of underlying investments, assessing the value of a private equity fund is difficult. In 2008, plan officials we interviewed acknowledged the difficulty of valuing private equity investments and generally accepted it as a trade-off for the potential benefits of the investment.

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<sup>13</sup> The definition of fair value has been codified by the Financial Accounting Standards Board (FASB) at Accounting Standards Codification (ASC) 320-10-20 Investments—Debt and Equity Securities, Overall, Glossary. ASC 320-10-20 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As discussed in SFAS No. 157, Fair Value Measurements, which is codified at FASB ASC 820, Fair Value Measurements and Disclosures, the changes to current practice resulting from the application of ASC 820 relate to the definition of fair value, the methods used to measure fair value, and the expanded disclosures about fair value measurements. The definition of fair value may change the manner in which some entities, such as private equity funds, determine fair value.

*Investment risk*

While any plan investment may fail to deliver expected returns over time, hedge fund and private equity investments pose investment challenges beyond those posed by traditional investments. For example, both hedge fund and private equity managers may use leverage—that is, borrowed money or other techniques—to potentially increase an investment’s return without increasing the amount invested. While registered investment companies are subject to strict leverage limits, a hedge fund or private equity fund can make relatively unrestricted use of leverage. This is noteworthy because while leverage can magnify profits, it can also magnify losses to the fund if the market goes against the fund’s expectations. In addition, a private equity fund manager’s strategy typically involves concentrating its holdings in a limited number of underlying companies—generally about 10 to 15 companies, often in the same sector. Further, hedge funds and private equity funds also feature relatively costly fee structures, which have significant impact on net investment returns.<sup>14</sup> In 2008, we reported that hedge funds and private equity funds often charge an annual fee of 2 percent of invested capital and 20 percent of returns, whereas mutual fund managers reportedly charge a fee of about 1 percent or less of assets under management.<sup>15</sup> For private equity, if the gross

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<sup>14</sup> For example, we reported that the typical hedge fund fee structure consists of 2 percent of total assets under management and a performance fee of about 20 percent of the funds annual profits. This fee structure would reduce a 12 percent return to only 7.6 percent, after fees are deducted.

<sup>15</sup> Some plans may ensure they will not pay a performance fee unless the value of the investment passes a previous peak value of the

returns are not sufficiently high, net returns to investors will not meet the commonly cited goal of exceeding the return of the stock market and, thus, plans will not have earned a premium for assuming the risks inherent in private equity investments.

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*Lack of liquidity*

Hedge funds and private equity are also relatively illiquid investments—that is, investors generally cannot easily redeem their investments on demand. Hedge funds often require an initial lockup of 1 year or more, during which an investor cannot cash out of the hedge fund. After the initial lockup period, hedge funds offer only occasional liquidity, sometimes with a prenotification requirement. Hedge funds impose such liquidity limits because sudden liquidations could, for example, disrupt a carefully calibrated investment strategy. Nonetheless, they also pose certain disadvantages to plan sponsors, such as inhibiting a plan's ability to limit a hedge fund's investment loss. Private equity funds require an even longer-term commitment than hedge fund investments. Private equity funds can require commitments of 10 years or more, and during that time, a plan may have no ability to redeem its investments. A private equity fund cycle typically includes an initial period in which investors must provide the fund with capital when called upon, which may not be redeemed for several years, to invest in underlying companies and then obtain returns over time as investments mature. Several plan representatives and other experts we interviewed stated that the nature of private equity necessitates long commitments as returns are generated through long-term growth strategies,

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fund shares. This provision is known as a high water mark.

rather than short-term gains. Representatives of several plans noted that they expect higher returns from private equity investments in exchange for the long-term commitment.

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### *Operational risk*

Finally, we reported that pension plans investing in hedge funds are also exposed to operational risk—that is, the risk of investment loss due not to a faulty investment strategy, but from inadequate or failed internal processes, people, and systems, or problems with external service providers. Operational problems can arise from a number of sources, including inexperienced operations personnel; inadequate internal controls; lack of compliance standards and enforcement; errors in analyzing, trading, or recording positions; or outright fraud. According to a report by an investment consulting firm, because many hedge funds engage in active, complex, and sometimes heavily leveraged trading, a failure of operational functions, such as processing or clearing one or more trades, may have grave consequences for the overall position of the hedge fund. Several pension plans we contacted expressed concerns about operational risk; one noted back office and operational issues become deal breakers in some cases.

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### **Plan Sponsors Take a Number of Steps to Address the Risks of Hedge Fund and Private Equity Investing**

Pension plans we spoke with take a number of steps in an attempt to mitigate the risks and challenges of investing in hedge funds and private equity.

First, discussions with plan sponsors revealed the importance of making careful and deliberate fund

selection when investing in hedge funds and private equity. In the case of hedge funds, plan sponsors emphasized defining a clear purpose and strategy for their hedge fund investments. One plan fiduciary noted that plan sponsors should decide exactly why they want to invest in hedge funds. The official noted that there are many different possible hedge fund strategies, and a simple desire for the reportedly large returns of hedge funds is not sufficient. Most of the plans we contacted described one or more specific strategies for their hedge fund investments, such as a pure long-short strategy.<sup>16</sup> Several sources stated that private equity investments have greater variation in performance among funds, particularly among venture capital investments, compared to other asset classes, such as domestic stocks, and, therefore, they must invest with top performing funds in order to achieve long-term returns in excess of the stock market.

Plan sponsors and others also cited the importance of negotiating key terms of investments in hedge funds and private equity. They said in the case of hedge funds, such terms can include fee structure and conditions, degree of transparency, valuation procedures, redemption provisions, and degree of leverage employed. For example, pension plans may want to ensure that they will not pay a performance fee unless the value of the hedge fund investment passes a previous peak value of the fund shares—known as a high water mark. Key contract terms for private equity may also include fee structure and valuation procedures, though one plan sponsor noted the

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<sup>16</sup> A long-short strategy exploits perceived anomalies in the price of securities. For example, a hedge fund may buy bonds that it believes are under-priced and sell short bonds that it believes to be over-priced.

ability to negotiate favorable contract terms is limited when investing in top performing funds, because investing in such funds is highly competitive. In addition, any “side letters” or contracts that may grant special rights or terms to other investors are also thought to be critical. Side letters document specific arrangements regarding, for example, prohibited transactions, redemption rights, reporting, and disclosure under which investors that are party to them receive advantages that may come at the detriment of other investors.

Due diligence and ongoing monitoring, beyond those required for traditional investments, are also important. For hedge funds, due diligence can be a wide ranging process including study of a hedge fund’s investment process, valuation, risk management processes, and compliance procedures, as well as a review of back office operations. As with hedge fund investments, plans take additional steps to mitigate the challenges of investing in private equity through extensive and ongoing monitoring, beyond that required for traditional investments. Plan representatives we interviewed said these steps include regularly reviewing reports on the performance of the underlying investments of the private equity fund and having periodic meetings with fund managers. In some cases, plans participate on the advisory board of a private equity fund, which provides a greater opportunity for oversight of the fund’s operations and new investments; however this involves a significant time commitment and may not be feasible for every private equity investment.

Finally, several plan sponsors address some of the risks and challenges of investing in hedge funds and private equity by investing via funds of funds. Investing in a fund of funds provides investors with diversification across multiple funds, which can mitigate the effect of one

manager's poor performance. In particular, funds of private equity funds can allow plans to invest in a variety of managers, industries, geographies, and year of initial capital investment. In addition, a plan sponsor may be able to rely on a fund of funds manager to conduct negotiations, due diligence, and monitoring of the underlying hedge funds. As we reported, funds of funds can be appropriate if plan sponsors do not have the skills necessary to manage a portfolio of hedge funds. In addition, investing through a fund of funds may provide a plan better access to hedge funds or private equity funds than a plan would be able to obtain directly. Nonetheless, investing in a fund of funds has some drawbacks and limitations, including an additional layer of fees—such as a 1 percent flat fee and a performance fee of between 5 and 10 percent of returns—on top of the substantial fees that a fund of funds manager pays to the underlying hedge funds. Furthermore, funds of funds also pose the same challenges as hedge funds, such as limited transparency and liquidity, and the need for the plan to conduct a due diligence review of the fund of funds firm. Investing through a fund of funds does not relieve plan sponsors of their own fiduciary duties; accordingly, the plan sponsors must act prudently in selecting and monitoring fund of funds.

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### **The Federal Government Can Help Educate Plans on the Challenges of Investing in Hedge Funds**

According to plan officials, state and federal regulators, and others, some pension plans, especially smaller plans, may find it particularly difficult to address the various demands of hedge fund investing. For example, an official of a national organization representing state securities regulators told us that medium- and small-size plans may not have the expertise

to oversee the trading and investment practices of hedge funds. Some plans may also lack the ability to conduct the necessary due diligence and monitoring of hedge fund investments. This official said that smaller plans may have only one or two person staffs, or may lack the resources to hire outside consulting expertise. A labor union official made similar comments, noting that smaller pension plans lack the internal capacity to assess hedge fund investments, and that such plans may be locked out of top performing hedge funds. While such plans might often be smaller plans, larger plans may also lack sufficient expertise. A representative of one pension plan with more than \$32 billion in total assets noted that before investing in hedge funds, the plan would have to build up its staff in order to conduct the due diligence necessary during the fund selection process.

In light of these challenges, Labor can play a role in helping to ensure that plans fulfill their ERISA fiduciary duties when investing in hedge funds and private equity. For example, in 2006, the ERISA Advisory Council recommended that Labor publish guidance about the unique features of hedge funds and matters for consideration in their use by qualified plans.<sup>17</sup> In 2008, the ERISA Advisory Council recommended that Labor publish guidance to clarify the role of ERISA fiduciaries in selecting, valuing, and accounting for hard to value assets, of which many hedge funds and private equity funds are comprised.<sup>18</sup> In addition, the Investor's

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<sup>17</sup> The Advisory Council on Employee Welfare and Pension Benefit Plan, which was created under ERISA to provide advice to the Secretary of Labor, published the report on Prudent Investment Process in 2006.

<sup>18</sup> The Advisory Council on Employee Welfare and Pension

Committee formed by the President's Working Group on Financial Markets published a report in January 2009 on the best practices for hedge fund investors.<sup>19</sup> The report acknowledges that hedge fund investments are not necessarily suitable for some investors and provides many recommendations for investors selecting and monitoring their hedge fund investments—including best practices for valuation—such as obtaining a written statement of the fund's valuation policies and procedures and assuring the fund's portfolio is being valued in accordance with Generally Accepted Accounting Principles (GAAP).

In 2008, we recommended that Labor provide guidance for qualified plans under ERISA on the unique challenges of investing in hedge funds and private equity and the steps plans should take to address these challenges. For example, we stated that EBSA could outline the implications of a hedge fund's or fund of funds' limited transparency on the fiduciary duty of prudent oversight. EBSA can also reflect on the implications of these best practices for some plans—especially smaller plans—that might not have the resources to take actions consistent with the best practices, and thus would be at risk of making imprudent investments in hedge funds.

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Benefit Plan, which was created by ERISA to provide advice to the Secretary of Labor, published the report on Hard to Value Assets and Target Date Funds in 2008.

<sup>19</sup> *Principles and Best Practices for Hedge Fund Investors: Report of the Investors' Committee to the President's Working Group on Financial Markets* (Jan. 15, 2009). The President's Working Group on Financial Markets includes the heads of the U.S. Department of the Treasury, the Board of Governors of the Federal Reserve, the Securities and Exchange Commission, the Commodity Futures Trading Commission, and the Investors' Committee consists of a broad array of investor and investor advocates.

Finally, we noted that while EBSA is not tasked with offering guidance to public sector plans, such plans may nonetheless benefit from such guidance. To date, Labor has not acted on this recommendation.

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### **Concluding Observations**

As plan sponsors seek to better ensure adequate return on assets under management, recent trends suggest that investments in alternative assets such as hedge funds and private equity are becoming more commonplace. It is reasonable to expect that the number of plan sponsors making such investments will increase in the future. Our past work indicates that such assets may serve useful purposes in a well thought out investment program, offering plan sponsors advantages that may not be as readily available from more traditional assets. Nonetheless, it is equally clear that investments in such assets place demands on plan sponsors that are significantly beyond the demands of more traditional asset classes.

In light of these challenges, which can be daunting even for large plan sponsors, we believe that, as we recommended in 2008, the Secretary of Labor should provide guidance regarding investing in hedge funds and private equity specifically designed for qualified plans under ERISA. In particular, we believe that a discussion of the challenges that such investments pose to small plan sponsors would be particularly beneficial.

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This concludes my prepared statement. I would be happy to answer any questions that the subcommittee may have.

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### **GAO Contact and Staff Acknowledgments**

For further questions on this testimony, please contact me at (202) 512-7215. Individuals making key contributions to this testimony include Joseph Applebaum, Michael Hartnett, Sharon Hermes, Angela Jacobs, David Lehrer, Ryan Siegel, and Craig Winslow.

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EXHIBIT 15

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**GAO**

**United States Government  
Accountability Office**  
Statement  
Before the U.S.  
Department of Labor's  
Advisory Council on  
Employee Welfare and  
Pension Benefit Plans

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For Release on  
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Wednesday, August  
31, 2011

**DEFINED BENEFIT  
PENSION PLANS**

**Plans Face Challenges  
When Investing in Hedge  
Funds and Private  
Equity**

Statement of Barbara Bovbjerg,  
Managing Director, Education,  
Workforce, and Income  
Security



**GAO-11-901SP**



## **Highlights**

Highlights of GAO-11-901SP, statement before the U.S. Department of Labor's Advisory Council on Employment Welfare and Pension Benefit Plans

### **Why GAO Did This Study**

Millions of Americans rely on retirement savings plans for their financial well-being in retirement. Plan sponsors are increasingly investing in assets such as hedge funds (privately administered pooled investment vehicles that typically engage in active trading strategies) and private equity funds (privately managed investment pools that typically make long-term investments in private companies). Given ongoing market challenges, it is

important that plan fiduciaries apply best practices, and choose wisely when investing plans assets to ensure

that plans are adequately funded to meet future promised benefits.

This statement addresses (1) what is known about the extent to which defined benefit plans have invested in hedge funds and private equity, (2) challenges that such plans face in investing in hedge funds and private

equity, (3) steps that plan sponsors can take to address these challenges, and (4) the implications of

these challenges for plan sponsors and the federal government.

To prepare this statement, GAO relied primarily on its prior products on hedge funds and private equity (GAO-08-692 and GAO-10-915T), and obtained new data on the extent of plan investments in hedge funds and private equity.

August 31, 2011

## DEFINED BENEFIT PENSION PLANS

### **Plans Face Challenges When Investing in Hedge Funds and Private Equity**

#### **What GAO Found**

A growing number of private and public sector pension plans have invested in hedge funds and private equity, but such investments generally constitute a small share of total plan assets. According to a survey of large plans, the share of plans with investments in hedge funds grew from 11 percent in 2001 to 60 percent in 2010. Over the same time period, investments in private equity were more prevalent but grew more slowly—an increase from 71 percent of large plans in 2001 to 92 percent in 2010. Still, the average allocation of plan assets to hedge funds was a little over 5 percent, and the average allocation to private

equity was a little over 9 percent. Available data also show that investments in hedge funds and private equity are more common among large pension plans, measured by assets under management, compared with midsize plans. Survey information on smaller plans is unavailable, so the extent to which these plans invest in hedge funds or private equity is unknown.

Hedge funds and private equity investments pose a number of risks and challenges beyond those posed by traditional investments. For example, investors in hedge funds and private equity face uncertainty about the precise valuation of their investment. Hedge funds may, for example, own thinly traded assets whose valuation can be complex and subjective, making valuation difficult. Further, hedge funds and private equity funds may use considerable leverage—the use of borrowed money or other techniques—which can magnify profits, but can also magnify losses if the market goes against the fund’s expectations. Also, both are illiquid investments—that is they cannot generally be redeemed on demand. Finally, investing in hedge funds can pose operational risks—that is, the risk of investment loss from inadequate or failed internal processes, people, and systems, or problems with external service providers rather than an unsuccessful investment strategy.

Plan sponsors GAO spoke with address these challenges in a number of ways, such as through careful and deliberate fund selection, and negotiating key contract terms. For example, investors in both hedge funds and private equity funds may be able to negotiate fee structure and valuation procedures, and the degree of leverage employed. Also, plans address various concerns through due diligence and

monitoring, such as careful review of investment, valuation, and risk management processes.

The Department of Labor (Labor) has a role in helping to ensure that private plans fulfill their fiduciary duties, which includes educating employers and service providers about their fiduciary responsibilities under Employee Retirement Income Security Act of 1974 (ERISA). According to plan officials, state and federal regulators, and others, some pension plans, such as smaller plans, may have particular difficulties in addressing the various demands of hedge fund and private equity investing. In light of this, in 2008, GAO recommended that Labor provide guidance on the challenges of investing in hedge funds and private equity and the steps plans should take to address these challenges. Labor generally agreed with our recommendation, but has yet to take action. The agency explained that the lack of uniformity among these investments could complicate the development of comprehensive guidance for plan fiduciaries.

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Mr. Chairman and Members of the Council,

I am pleased to be here today to discuss plan fiduciaries' investments in hedge funds and private equity.<sup>1</sup> As you know, millions of Americans rely on retirement savings plans for their financial well-being in retirement. Much has happened in the financial markets since we issued three reports in 2008—one that addressed defined benefit (DB) pension plan investments in hedge funds and private equity, another that addressed federal oversight and other issues regarding hedge funds exclusively, and a third that addressed private equity funds.<sup>2</sup> Hedge funds

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<sup>1</sup> While there is no statutory definition of hedge funds, the phrase "hedge fund" is commonly used to refer to a pooled investment vehicle that is privately organized and administered by professional managers, and that often engages in active trading of various types of securities, as well as futures and options contracts. Similarly, private equity is not statutorily defined, but is generally considered to be privately managed investment pools administered by professional managers who typically make long-term investments in private companies, taking a controlling interest with the aim of increasing the value of these companies through such strategies as improving operations or developing new products. Both hedge funds and private equity may be managed so as to be exempt from certain aspects of federal securities law and regulation that apply to other investment pools such as mutual funds.

<sup>2</sup> GAO, *Hedge Funds: Regulators and Market Participants Are Taking Steps to Strengthen Market Discipline, but Continued Attention Is Needed*, GAO-08-200 (Washington D.C.: Jan. 24, 2008); *Defined Benefit Pension Plans: Guidance Needed to Better Inform Plans of the Challenges and Risks of Investing in Hedge Funds and Private Equity*, GAO-08-692 (Washington D.C.: Aug. 14, 2008); and *Private Equity: Recent Growth in Leveraged Buyouts Exposed Risks That Warrant*

were deeply affected by the financial market events of 2008. According to a 2009 industry survey, most hedge fund strategies produced double-digit losses in 2008, and hedge funds saw approximately \$70 billion in redemptions between June and November 2008.<sup>3</sup> Nevertheless, many of these investments have rebounded, and a 2010 industry survey of institutional investors suggests that these investors continue to be committed to investing in hedge funds, but with a shifting set of objectives and criteria.<sup>4</sup>

My statement today is based primarily on findings from our 2008 report on private and public sector DB pension plan investments in hedge funds and private equity, and a subsequent 2010 testimony that we have updated to reflect more recent data.<sup>5</sup> Specifically, my comments will focus on (1) the extent to which DB plans have invested in hedge funds and private equity, (2) challenges that such plans face in investing in hedge funds and private equity, (3) steps that plan sponsors can take to address these challenges, and (4) the implications of these challenges for plan sponsors and the federal government. In addition, we currently have work under way examining DB plans' recent

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*Continued Attention*, GAO-08-885 (Washington D.C.: Sept. 9, 2008).

<sup>3</sup> Greenwich Associates and SEI Knowledge Partnership, *Hedge Funds under the Microscope: Examining Institutional Commitment in Challenging Times* (January 2009).

<sup>4</sup> Greenwich Associates and SEI Knowledge Partnership, *Institutional Hedge Fund Investing Comes of Age: A New Perspective on the Road Ahead* (June 2011).

<sup>5</sup> GAO, *Defined Benefit Pension Plans: Plans Face Valuation and Other Challenges When Investing in Hedge Funds and Private Equity*, GAO-10-915T (Washington D.C.: July 20, 2010).

experiences investing in these vehicles. Specifically, this project—being conducted for the ranking member of the Subcommittee on Health, Employment, Labor and Pensions of the House Committee on Education and the Workforce—seeks to assess the extent to which DB plans have realized desired benefits from investing in hedge funds and private equity, and what actions they may have taken in response to lessons learned over the last 5 years. We expect to issue a report on this work early next year.

In conducting our prior work, we reviewed relevant literature and survey data and conducted in-depth interviews with pension plan representatives and industry experts. We obtained and analyzed data on the extent of pension plan investments in hedge funds and private equity from private organizations such as Greenwich Associates and Pensions & Investments. We updated these data for purposes of my statement today. We also conducted in-depth interviews with representatives of 26 public and private sector DB pension plans and obtained and reviewed available supporting documentation. These plans were selected based on several criteria, including the range of investment in hedge funds and private equity and the amount of total plan assets. We also interviewed officials of regulatory agencies, relevant industry organizations, investment consulting firms, and other national experts. We conducted our work in accordance with generally accepted government auditing standards. Additional information on our scope and methodology is available in the published reports.

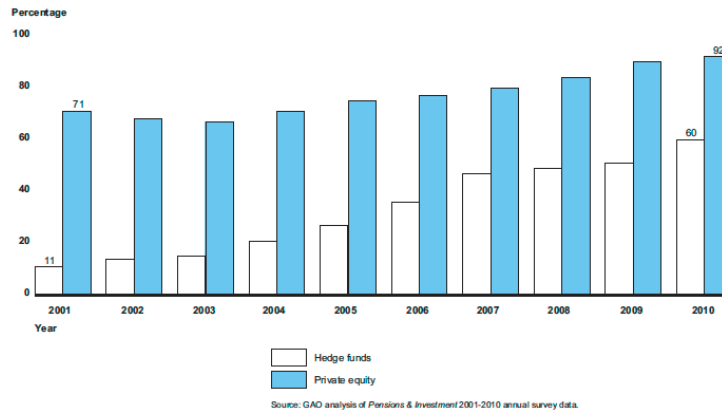
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## A Growing Number of Pension Plans Are Investing in Hedge Funds or Private Equity, but Such Investments Are Generally a Small Portion of Plan Assets

We reported in 2008 that DB plan investments in hedge funds and private equity have grown, but such investments are generally a small portion of plan assets. This remains the case today. According to a Pensions & Investments survey, the percentage of large plans (as measured by total plan assets) investing in hedge funds grew from 11 percent in 2001 to 60 percent in 2010 (see fig. 1). Over the same time period, the percentage of large plans that invest in private equity grew at a much slower rate—71 percent to 92 percent—likely because of the fact that a much larger percentage of plans were already invested in private equity in 2001.

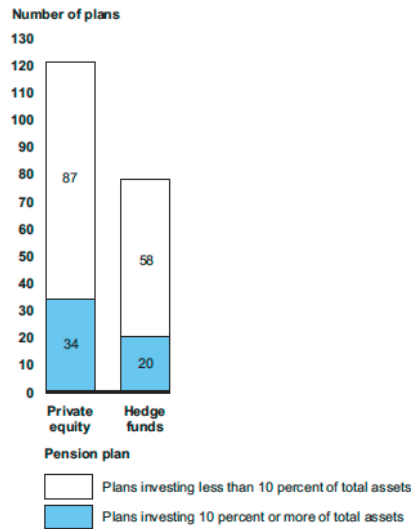
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**Figure 1: Share of Large DB Plans Investing in Hedge Funds and Private Equity from 2001 to 2010**



Data from the same survey reveal that investments in hedge funds and private equity typically constitute a small share of plan assets. The average allocation to hedge funds among plans with such investments was a little over 5 percent in 2010. Similarly, among plans with investments in private equity, the average allocation was a little over 9 percent. Although the majority of plans with investments in hedge funds or private equity have small allocations to these assets, a few plans have relatively large allocations, according to the Pensions & Investments survey. Of the 78 large plans that reported hedge fund investments in 2010, 20 had allocations of 10 percent or more (see fig. 2). The highest reported hedge fund allocation was 33 percent of total assets. Similarly, of the 121 plans that reported private equity investments in 2010, 34 had allocations of 10 percent or more, and the highest reported private equity allocation was 30 percent.

**Figure 2: The Number of Large DB Plans with Investments in Hedge Funds or Private Equity by Size of Allocation, 2010**



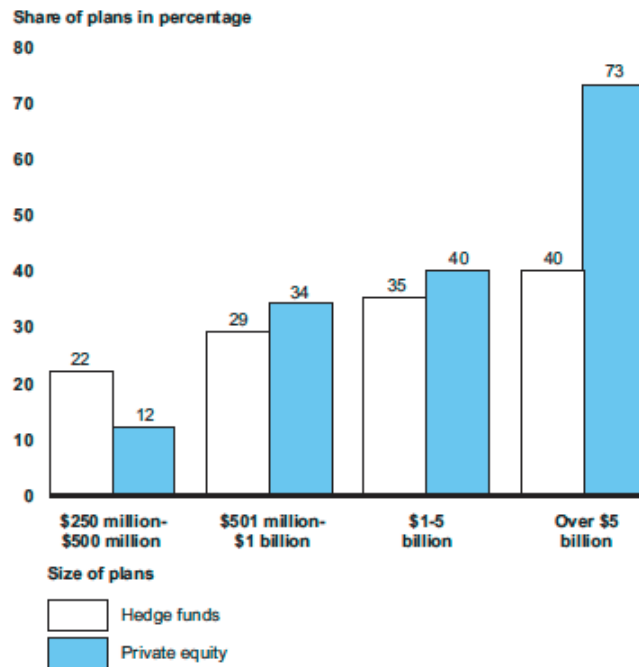
Source: GAO analysis of Pensions & Investment 2010 annual survey data.

Note: A total of 121 large DB plans reported investing in private equity, and a total of 78 large plans reported investing in hedge funds.

Available survey data show that larger plans, measured by total plan assets, are more likely to invest in hedge funds and private equity compared with midsize plans. As shown below, a 2010 survey by Greenwich Associates found that 22 percent of midsize plans—those with \$250 million to \$500 million in total assets—were invested in hedge funds compared with 40 percent of the largest plans—those with over \$5 billion in total assets (see fig. 3). Survey data on plans with less than \$200 million in assets are unavailable and, in the absence of this information,

the extent to which these smaller plans invest in hedge funds and private equity is unclear.<sup>6</sup>

**Figure 3: Pension Plans with Investments in Hedge Funds and Private Equity by Size of Total Plan Assets, 2010**



Source: Greenwich Associates, 2010.

Note: The figure above includes public and corporate plans and does not include investments of collectively bargained plans.

<sup>6</sup> According to the Pension Benefit Guaranty Corporation (PBGC), individual DB plans with less than \$200 million in total assets composed about 15 percent of the total assets of all DB plans in 2005.

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## **Hedge Fund and Private Equity Investments Pose Various Risks and Challenges for Plan Sponsors**

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### *Valuation Risk*

One of the major challenges that both hedge fund and private equity investments pose to plan sponsors is uncertainty over the current value of the sponsors' investment. With regard to hedge funds, we noted that plan officials may lack information on both the nature of the specific underlying holdings of the hedge fund, as well as the aggregate value on a day-to-day basis. Because many hedge funds may own thinly traded securities and derivatives whose valuation can be complex and subjective, a plan official may not be able to obtain timely information on the value of assets owned by a hedge fund.<sup>7</sup> Further, hedge fund managers may decline to disclose information on asset holdings and the net value of individual assets largely because the release of such information could compromise their trading strategy.<sup>8</sup> In addition, even if hedge fund managers were to provide detailed positions, these managers may seek to profit through complex and simultaneous positions and can abruptly change their positions and trading tactics in order to achieve a desired return as

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<sup>7</sup> A security is described as thinly traded when trading infrequently or in low volume.

<sup>8</sup> For example, disclosure of asset holdings could enable a competitor to either duplicate or sabotage a manager's ability to profit from the opportunity he has identified.

changing market conditions warrant, making it difficult for plans to independently ascertain the value or fully assess the degree of investment risk. Although we noted in January 2008 that some hedge funds have improved disclosure and transparency about their operations because of the demands of institutional investors, several pension plans cited limited transparency as a prime reason they had chosen not to invest in hedge funds.<sup>9</sup>

As with hedge funds, valuations of private equity investments are uncertain during the investment's long duration, which often lasts 10 years or more. Unlike investments that are traded and priced in public markets, plan officials have limited information on the value of private equity investments until the underlying holdings are sold.<sup>10</sup> In some cases, private equity funds estimate the value of the fund by comparing the value of companies in their portfolio with the value of comparable publicly traded assets.

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<sup>9</sup> See GAO-08-200.

<sup>10</sup> The definition of "fair value" has been codified by the Financial Accounting Standards Board (FASB) at Accounting Standards Codification (ASC) 320-10-20 Investments-Debt and Equity Securities, Overall, Glossary. ASC 320-10-20 defines "fair value" as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As discussed in SFAS No. 157, Fair Value Measurements, which is codified at FASB ASC 820, Fair Value Measurements and Disclosures, the changes to current practice resulting from the application of ASC 820 relate to the definition of "fair value", the methods used to measure fair value, and the expanded disclosures about fair value measurements. The definition of fair value may change the manner in which some entities, such as private equity funds, determine fair value.

However, prior to the sale of underlying investments, assessing the value of a private equity fund is difficult.

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### *Investment Risk*

While any plan investment may fail to deliver expected returns over time, hedge fund and private equity investments pose investment challenges beyond those posed by traditional investments. For example, both hedge fund and private equity managers may use leverage—that is, borrowed money or other techniques—to potentially increase an investment’s return without increasing the amount of capital invested. Although registered investment companies are subject to strict leverage limits, a hedge fund or private equity fund can make relatively unrestricted use of leverage. Leverage can magnify profits, but can also magnify losses to the fund if the market goes against the fund’s expectations. In addition, a private equity fund manager’s strategy typically involves concentrating its holdings in a limited number of underlying companies—generally about 10 to 15 companies, often in the same sector. The returns for such concentrated, undiversified funds are highly susceptible to the success or failure of each underlying company and related market sector conditions. Further, hedge funds and private equity funds can also feature relatively costly fee structures compared with those of mutual funds. These fee structures can have a significant impact on net investment returns.<sup>11</sup> Despite these fee

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<sup>11</sup> For example, we reported that the typical hedge fund fee structure consists of 2 percent of total assets under management

structures, pension plan officials we contacted cited attaining returns superior to those attained in the stock market as a reason for investing in hedge funds and private equity. One plan official noted that as long as hedge funds add value net of fees, they found the higher fees acceptable.

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*Lack of Liquidity*

Hedge funds and private equity are also relatively illiquid investments—that is, investors generally cannot easily redeem their investments on demand. Hedge funds often require an initial lockup of a plan’s investment for a year or more, during which an investor cannot cash out of the hedge fund. After the initial lockup period, hedge funds offer only periodic liquidity, such as quarterly. Hedge funds impose such liquidity limits because sudden liquidations could disrupt a carefully calibrated investment strategy. Nonetheless, these constraints also pose certain disadvantages to plan sponsors, such as inhibiting a plan’s ability to limit a hedge fund’s investment loss. Private equity funds require an even longer-term commitment than hedge fund investments, and during that period, a plan may have no ability to redeem its investments—and can often require additional capital over the life of the investment. A private equity fund cycle typically follows a pattern known as the J-curve, which reflects an initial period of negative returns during which investors provide the fund with capital to invest in underlying

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and a performance fee of about 20 percent of the funds annual profits. This fee structure would reduce a 12 percent return to only 7.6 percent, after fees are deducted.

companies and then obtain returns over time as investments mature.

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### *Operational Risk*

We reported that pension plans investing in hedge funds are also exposed to operational risk—that is, the risk of investment loss because of inadequate or failed internal processes, people, and systems, or problems with external service providers. Operational problems can arise from a number of sources, including inexperienced operations personnel; inadequate internal controls; lack of compliance standards and enforcement; errors in analyzing, trading, or recording positions; or outright fraud. While most investments can pose some type of operational risk, according to a report by an investment consulting firm, many hedge funds engage in active, complex, and sometimes heavily leveraged trading, and a failure of operational functions, such as processing or clearing one or more trades, and may have particularly grave consequences for the overall position of the hedge fund.

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### **Plan Sponsors Take a Number of Steps to Address the Risks of Hedge Fund and Private Equity Investing**

Pension plan officials we spoke with take a number of steps in an attempt to mitigate the risks and challenges of investing in hedge funds and private equity.

First, plan sponsors noted the importance of making careful and deliberate fund selection when investing in hedge funds and private equity. In the case of hedge funds, plan sponsors emphasized defining a clear purpose and strategy for their hedge fund investments. Most of the plans we contacted described one or more specific strategies for their hedge fund investments. Several sources stated that private equity investments have greater variation in performance among funds, particularly among venture capital investments compared with other asset classes such as domestic stocks, and therefore they must invest with top-performing funds in order to achieve long-term returns in excess of those of the stock market.

Plan sponsors and others also cited the importance of negotiating key terms of investments in hedge funds and private equity. They said in the case of hedge funds, such terms can include fee structure and conditions, degree of transparency, valuation procedures, redemption provisions, and degree of leverage employed. For example, pension plans may want to ensure that they will not pay a performance fee<sup>12</sup> unless the value of the hedge fund investment passes a previous peak value of the fund shares—known as a high-water mark. Key contract terms for private equity may also include fee structure and valuation procedures, though one plan sponsor noted the ability to negotiate favorable contract terms is limited when investing in top-

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<sup>12</sup> Hedge fund and private equity managers typically charge a performance fee, in addition to a fee based on the amount of assets under management.

performing funds, because investing in such funds is highly competitive.

Due diligence and ongoing monitoring, beyond those required for traditional investments, are also important. For hedge funds, due diligence can be a wide-ranging process including study of a hedge fund's investment, valuation, risk management processes, and compliance procedures, as well as a review of back office operations. As with hedge fund investments, plans take additional steps to mitigate the challenges of investing in private equity through extensive and ongoing monitoring, beyond that required for traditional investments. Plan representatives we interviewed said these steps include regularly reviewing reports on the performance of the underlying investments of the private equity fund and having periodic meetings with fund managers. In some cases, plans participate on the advisory board of a private equity fund, which provides a greater opportunity for oversight of the fund's operations and new investments; however, this involves a significant time commitment and may not be feasible for every private equity investment.

Also, several plan sponsors address some of the risks and challenges of investing in hedge funds and private equity by investing via a fund of funds.<sup>13</sup> Investing in a fund of funds provides investors with diversification across multiple funds, which can mitigate the effect of one manager's poor performance. In particular, a fund of private equity

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<sup>13</sup> A fund of funds is an investment fund that buys shares of multiple underlying funds. For example, by investing in multiple hedge funds, fund of funds managers offer investors broad exposure to different hedge fund managers and strategies.

funds can allow plans to invest in a variety of managers, industries, geographies, and year of initial capital investment. In addition, a plan sponsor may be able to rely on a fund of funds manager to conduct negotiations, due diligence, and monitoring of the underlying hedge funds. As we reported, funds of funds can be appropriate if plan sponsors do not have the skills necessary to manage a portfolio of hedge funds. In addition, investing through a fund of funds may provide a plan better access to hedge funds or private equity funds than a plan would be able to obtain through direct investment. Nonetheless, investing in a fund of funds has some drawbacks and limitations, including an additional layer of fees—such as a 1 percent flat fee and a performance fee of 5 to 10 percent of returns—on top of the substantial fees that a fund of funds manager pays to the underlying hedge funds. Furthermore, funds of funds also pose the same challenges as hedge funds, such as limited transparency and liquidity, and the need for the plan to conduct a due diligence review of the fund of funds firm. However, investing through a fund of funds does not relieve plan sponsors of their fiduciary duties; accordingly, the plan sponsors must act prudently in selecting and monitoring funds of funds.

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### **The Federal Government Can Help Educate Plans on the Challenges of Investing in Hedge Funds**

According to plan officials, regulators, and others, some pension plans—especially smaller plans—may find it particularly difficult to address the various

demands of hedge fund investing. For example, medium-size and small plans may not have the expertise to oversee the trading and investment practices of hedge funds. Some plans may also lack the ability to conduct the necessary due diligence and monitoring of hedge fund investments. Smaller plans may have only one-or two-person staffs, or may lack the resources to hire outside consulting expertise and may be locked out of top-performing funds. To a lesser extent, some larger plans may also lack sufficient expertise. A representative of one pension plan with more than \$32 billion in total assets noted that before investing in hedge funds, the plan would have to build up its staff in order to conduct the due diligence necessary during the fund selection process.

In light of these challenges, and as predecessors to this 2011 ERISA Advisory Council have concluded, the Department of Labor (Labor) can play a role in helping to ensure that plans fulfill their Employee Retirement Income Security Act of 1974 (ERISA) fiduciary duties when investing in hedge funds and private equity.<sup>14</sup> For example, in 2006, the ERISA Advisory Council recommended that Labor publish guidance about the unique features of hedge funds and matters for consideration in their use by qualified plans.<sup>15</sup> In 2008, the ERISA Advisory Council recommended that Labor publish guidance to clarify the role of ERISA fiduciaries in selecting, valuing,

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<sup>14</sup> The Advisory Council on Employee Welfare and Pension Benefit Plans was created under ERISA to provide advice to the Secretary of Labor.

<sup>15</sup> Advisory Council on Employee Welfare and Pension Benefit Plans, *Report of the Working Group on Prudent Investment Process*, 2006.

and accounting for hard-to-value assets, of which many hedge funds and private equity funds are composed.<sup>16</sup> In addition, the Investor's Committee formed by the President's Working Group on Financial Markets published a report in January 2009 on the best practices for hedge fund investors.<sup>17</sup> The report acknowledged that hedge fund investments are not necessarily suitable for some investors and provided many recommendations for investors selecting and monitoring their hedge fund investments—including best practices for valuation—such as obtaining a written statement of the fund's valuation policies and procedures and ensuring the fund's portfolio is being valued in accordance with Generally Accepted Accounting Principles (GAAP).

In 2008, we recommended that Labor provide guidance for qualified plans under ERISA on the unique challenges of investing in hedge funds and private equity and the steps plans should take to address these challenges.<sup>18</sup> For example, we stated that Labor's Employee Benefits Security

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<sup>16</sup> Advisory Council on Employee Welfare and Pension Benefit Plans, *Report on Hard to Value Assets and Target Date Funds*, 2008.

<sup>17</sup> Investor's Committee, *Principles and Best Practices for Hedge Fund Investors: Report to the President's Working Group on Financial Markets*, January 15, 2009. The President's Working Group on Financial Markets includes the heads of the U.S. Department of the Treasury, the Board of Governors of the Federal Reserve, the Securities and Exchange Commission, and the Commodity Futures Trading Commission, and the Investors' Committee consists of a broad array of investors and investor advocates.

<sup>18</sup> GAO-08-692.

Administration (EBSA) could outline the implications of a hedge fund's or fund of funds' limited transparency on the fiduciary duty of prudent oversight. EBSA can also reflect on the implications of these best practices for some plans—especially smaller plans—that might not have the resources to take actions consistent with the best practices, and thus would be at risk of making imprudent investments in hedge funds. Finally, we noted that while EBSA is not tasked with offering guidance to public sector plans, such plans may nonetheless benefit from such guidance. Although Labor generally agreed with our recommendation, the agency explained that the lack of uniformity among these investments could complicate the development of comprehensive guidance for plan fiduciaries. To date, Labor has not acted on this recommendation.

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### **Concluding Observations**

As plan sponsors seek to better ensure adequate return on assets under management, recent trends suggest that investments in alternative assets such as hedge funds and private equity are becoming more commonplace. In light of these trends and ongoing public equity market volatility, it is reasonable to expect that the number of plan sponsors making such investments will increase in the future. Our past work indicates that such assets may serve useful purposes in a well-thought-out investment program, offering plan sponsors advantages that may not be as readily available from more traditional investment options. Nonetheless, it is equally clear that investments in such assets place demands on plan sponsors that are

significantly beyond the demands of more traditional asset classes.

These challenges can be daunting even for large plan sponsors. Accordingly, we believe that, as we recommended in 2008, the Secretary of Labor should provide guidance regarding investing in hedge funds and private equity specifically designed for qualified plans under ERISA. In particular, we believe that a discussion of the challenges that such investments pose to small plan sponsors would be beneficial.

This concludes my prepared statement. I would be happy to answer any questions that the council may have.

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#### GAO Contacts and Staff Acknowledgments

For further questions on this statement, please contact me at (202) 512-7215. Individuals making key contributions to this statement include Michael Hartnett, Sharon Hermes, David Lehrer, and Amber Yancey Carroll.

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EXHIBIT 16

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U.S. Department of Labor  
Employee Benefits Security  
Administration  
Washington, D.C. 20210



June 3, 2020  
Jon W. Breyfogle, Esq. Groom Law Group, Chartered  
1701 Pennsylvania Ave., N.W.  
Washington, D.C. 20006

Dear Mr. Breyfogle:

You asked on behalf of Pantheon Ventures (US) L.P. (Pantheon) and Partners Group (USA), Inc. (Partners Group), for the views of the Department of Labor (Department) on the use of private equity investments in designated investment alternatives made available to participants and beneficiaries in individual account plans, such as 401(k) plans, subject to the Employee Retirement Income Security Act of 1974 (ERISA).<sup>1</sup>

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<sup>1</sup> The Department has also been coordinating its consideration of your request with the Chairman of the Securities and Exchange Commission who urged the Department to address uncertainties regarding ERISA that may be impeding plan fiduciaries from considering private equity investment opportunities as a way to enhance retirement savings and investment security for American workers. The Committee on Investment of Employee Benefit Assets Inc. (CIEBA) also submitted a letter to the Department in support of guidance being issued in this area. According to CIEBA's website, it

Your inquiry involves the use of private equity investments within professionally managed asset allocation funds that are designated investment alternatives for participant-directed individual account plans. Both Pantheon and Partners Group have developed private equity investments designed to be used as a component of a managed asset allocation fund in an individual account plan. Both investments are offered as collective investment trusts that invest in private equity and have a liquidity component to manage the participant directed deposits and withdrawals from the fund.

You represent that these investment alternatives offer plan participants who have longer investment horizons an equities-based investment choice that may enhance retirement outcomes when compared to investment choices containing only publicly traded securities.<sup>2</sup> You note that asset allocation funds with a private equity component could give individual participants access to the type of asset allocation used by many actively managed defined benefit plans for various purposes, including diversifying investment risk and enhancing investment returns.<sup>3</sup> You state that certain private equity investments

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is the largest organization of corporate pension investment officers, represents more than 110 of the country's largest pension funds, and its members manage more than \$2 trillion of defined benefit and defined contribution plan assets on behalf of more than 17 million plan participants and beneficiaries.

<sup>2</sup> You cited a study modeling investment returns over time in the target date fund context. See *The Evolution of Target Date Funds: Using Alternatives to Improve Retirement Outcomes*, Georgetown University Center for Retirement Initiatives, Policy Report 18-01 (June 2018).

<sup>3</sup> You cited a study showing that defined benefit plans frequently invest a portion of their assets in private market assets, such as private equity investments, private company debt, and real estate to

may present the opportunity for enhanced diversification of investment risk and for greater returns on participant investments than could be achieved solely in the public market. You indicate that there has been a reduction in the number of public companies over the past 20 years, and that many companies now access private capital in lieu of public markets for longer periods of time.<sup>4</sup> As a result,

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diversify investment risk and to enhance investment returns. You noted that the study indicates that defined benefit plans that invest in private equity investments hold, on average, 19% of their assets in private market investments. See Center for Retirement Research at Boston College, Public Plans Database (2018) (represents average weighted by plan size) (at <https://publicplansdata.org/quick-facts/national/>). You also pointed to developments in other countries where pension regulators are revising their guidance related to defined contribution plan investment in private equity. The Pensions Regulator (a component of the United Kingdom's Department for Work and Pensions), revised its guidance on defined contribution plan investment governance responsibilities to include private equity under the headings "unregulated investments" and "patient capital." A Guide to Investment Governance, *The Pensions Regulator*, pp. 29, 47-50 (June 2019) (at [www.thepensionsregulator.gov.uk/-/media/thepensionsregulator/files/import/pdf/dc-investment-guide.ashx](http://www.thepensionsregulator.gov.uk/-/media/thepensionsregulator/files/import/pdf/dc-investment-guide.ashx)).

<sup>4</sup> You provided citations to the following in support of this representation: Financial Times, The incredible shrinking stock market (June 26, 2019) (at [www.ft.com/content/0c9c0b64-9760-11e9-9573-ee5cbb98ed36](http://www.ft.com/content/0c9c0b64-9760-11e9-9573-ee5cbb98ed36)); U.S. Department of Treasury, Capital Markets, A Financial System that Creates Opportunities (Oct. 2017), p. 21 (at [www.treasury.gov/press-center/press-releases/Documents/A-Financial-System-Capital-Markets-FINAL-FINAL.pdf](http://www.treasury.gov/press-center/press-releases/Documents/A-Financial-System-Capital-Markets-FINAL-FINAL.pdf)); Jay Clayton, Chairman, Securities and Exchange Commission, Testimony on "Oversight of the U.S. Securities and Exchange Commission" before the Committee on Banking, Housing, and Urban Affairs, United States Senate (Sept. 26, 2017) (stating that "fewer companies are choosing to go public in their growth phase or at all and, consequently and significantly, there are fewer investment opportunities for Main Street

you represent that some private equity investments may offer the potential for enhanced returns over time by giving investors a stake in privately held companies during their early growth stages. You also state that private equity investments may also contribute to diversification and provide a hedge against market downturns by offering investment opportunities that do not move in tight lockstep with the broader public market.

You indicate that private equity investments would be offered as part of a multi-asset class vehicle structured as a custom target date, target risk, or balanced fund. Each asset allocation fund with a private equity component would have a sufficient pool of assets to diversify the exposure of plan participants to the private equity investments with other investments in a range of asset classes with different risk and return characteristics and investment horizons. The asset allocation fund's overall exposure to private equity investments would have a target allocation that does not exceed a specified portion of the fund's assets, with the remainder of the fund's portfolio invested in publicly traded securities or other liquid investments with readily ascertainable market values. In this manner the fund would be designed to provide sufficient liquidity to participants to take benefit distributions and direct exchanges among the plan's investment line-up in accordance with plan terms and to meet periodic capital calls on private equity investments. You represent that one typical structure of the asset allocation fund would be a custom target date fund structured by a plan investment committee as a separately

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investors.")(at  
[www.banking.senate.gov/imo/media/doc/Clayton%20Testimony%2009-26-17.pdf](http://www.banking.senate.gov/imo/media/doc/Clayton%20Testimony%2009-26-17.pdf)).

managed account with the committee retaining responsibility for management of the account with the assistance of an independent ERISA section 3(21) fiduciary investment adviser, or alternatively, the plan investment committee could delegate those investment responsibilities to an ERISA section 3(38) investment manager. In some other cases, the asset allocation fund with a private equity component would be in the form of a prepackaged investment option offered by a financial institution to individual account plans as a “fund of funds” (structured as, e.g., a collective trust fund or other pooled vehicle) that invests in other funds, with one of the underlying funds being a fund that invests primarily in private equity. In no case would the private equity component of the asset allocation fund be available as a vehicle for direct investment by plan participants and beneficiaries on a stand-alone basis.<sup>5</sup>

Finally, you represent that plan sponsors who offer their workers both defined benefit and defined contribution plans may invest in private equity for their defined benefit plans but they do not do so for their participant directed individual account plans. You indicate that without ERISA Title I guidance, plan sponsors are concerned that they may have fiduciary liability even where they believe that providing prudently selected and monitored exposure to private equity investments is in the best interest of their individual account plan participants.

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<sup>5</sup> This letter does not address any fiduciary or other ERISA issues that would be involved in a defined contribution plan allowing individual participants to invest their accounts directly in private equity investments. Such direct investments in private equity investments present distinct legal and operational issues for fiduciaries of ERISA-covered individual account plans.

Whether a particular fund or investment alternative satisfies the requirements set forth in sections 403 and 404 of ERISA is an inherently factual question upon which the Department will not issue opinions. We have determined that it is appropriate to respond to your inquiry in the form of an information letter, the effect of which is described in section 11 of ERISA Procedure 76-1.

ERISA, under section 403 and 404, establishes comprehensive standards to govern fiduciary conduct. Among other things, fiduciaries with respect to an employee benefit plan must discharge their duties with respect to a plan solely in the interest of the plan's participants and beneficiaries, and with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.<sup>6</sup>

Of particular relevance to your request, under Title I of ERISA, plan fiduciaries have duties to prudently select and monitor any designated investment alternative under the plan, and liability for losses resulting from a failure to satisfy those duties. *See, e.g.,* 29 CFR 2550.404c-1(d)(2)(iv) and 29 CFR 2550.404c-5(b). In evaluating a particular investment alternative for consideration as a designated investment alternative, the fiduciary must engage in an objective, thorough, and analytical process

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<sup>6</sup> Under ERISA, a fiduciary includes anyone who (i) has any discretionary authority or discretionary responsibility in the administration of an employee benefit plan; (ii) exercises any discretionary authority or discretionary control respecting management of such plan or exercises any authority or control respecting management or disposition of the plan's assets; or (iii) renders investment advice for a fee with respect to any plan assets.

that considers all relevant facts and circumstances and then act accordingly.<sup>7</sup>

The Department believes that a plan fiduciary of an individual account plan may offer an asset allocation fund with a private equity component of the type you describe in a manner consistent with the requirements of Title I of ERISA. However, there are important differences between a fiduciary's decision to include private equity investments in the portfolio of a professionally managed defined benefit plan, and the decision to include an asset allocation fund with a private equity component as part of the investment lineup for a participant-directed individual account plan. As compared to typical public market investments available in individual account plans, private equity investments tend to involve more complex organizational structures and investment strategies, longer time horizons, and more complex, and typically, higher fees. A typical private equity investment is structured to reflect the longer-term nature of the commitments required to achieve the investment's objectives. The typical structures also allow the vehicle's investment professionals to guide the management and operations of the portfolio companies in which the vehicle invests to maximize the returns for investors over a multi-year period during which investors' ability to redeem or

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<sup>7</sup> See 29 CFR 2550.404a-1 (fiduciary investment duties). The Department has previously observed in the case of other complex investments that plan fiduciaries are responsible for securing sufficient information to understand the investment, and its attendant risks, prior to making the investment. Information Letter from Olena Berg to Eugene A. Ludwig (Mar. 21, 1996) (at [www.dol.gov/agencies/ebsa/employers-and-advisers/guidance/information-letters/03-21-1996](http://www.dol.gov/agencies/ebsa/employers-and-advisers/guidance/information-letters/03-21-1996)).

sell to obtain a return of capital may be limited. As compared to public market investments, private equity investments are subject to different regulatory disclosure requirements, oversight, and controls. In addition, valuation of private equity investments is more complex because private equity investments often have no easily observed market value, and there is often an element of judgment involved in valuing each of the portfolio companies prior to their sale by the investment fund or other liquidity event (e.g., initial public offering).

In evaluating whether to include a particular investment vehicle with an allocation of private equity as a designated investment alternative, the responsible plan fiduciary must evaluate the risks and benefits associated with the investment alternative. In making this determination, the fiduciary should consider (i) whether adding the particular asset allocation fund with a private equity component would offer plan participants the opportunity to invest their accounts among more diversified investment options within an appropriate range of expected returns net of fees (including management fees, performance compensation, or other fees or costs that would impact the returns received) and diversification of risks over a multi-year period; (ii) whether the asset allocation fund is overseen by plan fiduciaries (using third-party investment experts as necessary) or managed by investment professionals that have the capabilities, experience, and stability to manage an asset allocation fund that includes private equity investments effectively given the nature, size, and complexity of the private equity activity; and (iii) whether the asset allocation fund has limited the allocation of investments to private equity in a way that is designed to address the unique characteristics associated with such

an investment, including cost, complexity, disclosures, and liquidity, and has adopted features related to liquidity and valuation designed to permit the asset allocation fund to provide liquidity for participants to take benefits and direct exchanges among the plan's investment line-up consistent with the plan's terms.

With respect to valuation and liquidity in particular, a plan fiduciary, for example, could require that the private equity investments in the investment alternative not be higher than a specific percentage,<sup>8</sup> ensure that the private equity investments be independently valued according to agreed-upon valuation procedures that satisfy the Financial Accounting Standards Board Accounting Standards Codification (ASC) 820, "Fair Value

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<sup>8</sup>For example, a fiduciary could consider whether to follow the U.S. Securities and Exchange Commission (SEC) rule that includes a 15% limitation on illiquid investments applicable to registered open-end investment companies (i.e., mutual funds and exchange traded funds). See Investment Company Liquidity Risk Management Programs, Release No. 33-10233; IC-32315 (Oct. 13, 2016) (at [www.sec.gov/rules/final/2016/33-10233.pdf](http://www.sec.gov/rules/final/2016/33-10233.pdf)). The rule formalized a similar longstanding SEC guideline that generally limited registered open-end funds' aggregate holdings of "illiquid assets" to no more than 15% of the fund's net assets. See *id.*, notes 38-40 and accompanying text. We also understand that some mutual funds, including target date funds, currently invest in private equity, although only in very low allocations. See generally Concept Release on Harmonization of Securities Offering Exemptions, Release 33-10649, section IV (June 18, 2019) (at [www.sec.gov/rules/concept/2019/33-10649.pdf](http://www.sec.gov/rules/concept/2019/33-10649.pdf)). See also Comment Letter of Fidelity Investments (Sept. 24, 2019) (at [www.sec.gov/comments/s7-08-19/s70819-6190605-192467.pdf](http://www.sec.gov/comments/s7-08-19/s70819-6190605-192467.pdf)) (stating that target date funds have the sufficient flexibility under this rule to invest directly or indirectly in growth stage issuers, including unregistered funds or securities).

Measurements and Disclosures,”<sup>9</sup> and require additional disclosures needed to meet the plan’s ERISA obligations to report information about the current value of the plan’s investments.

It would also be important for the responsible fiduciary to consider the asset allocation fund with a private equity component in light of the plan’s features and participant profile (including, e.g., participant ages, normal retirement age, anticipated employee turnover, and contribution and withdrawal patterns) and make a

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<sup>9</sup>In the United States, private equity managers generally are required to register as investment advisers under the Investment Advisers Act of 1940, as amended (Advisers Act). There is an exemption from registration available for advisers with less than \$150 million in private fund assets under management in the United States, however, most private equity funds and private equity fund assets are managed by registered investment advisers. To comply with Rule 206(4)-2 under the Advisers Act, private equity managers can obtain an annual audit of their funds’ financial statements prepared in accordance with United States generally accepted accounting principles (GAAP). GAAP requires that investments of investment companies (including private equity funds’ investments in underlying portfolio companies) be reported at “fair value.” Fair value for GAAP purposes is defined primarily in ASC 820. Private equity managers outside of the United States may obtain an annual audit of their funds’ financial statements prepared in accordance with International Financial Reporting Standards (IFRS) instead of GAAP, so long as financial statements information is substantially similar to statements prepared in accordance with GAAP, and any material differences with GAAP are reconciled. See Staff Responses to Questions About the Custody Rule, FAQ VI.5 (at [www.sec.gov/divisions/investment/custody\\_faq\\_030510.htm](http://www.sec.gov/divisions/investment/custody_faq_030510.htm)). IFRS 13, Fair Value Measurement, uses the same definition of fair value as ASC 820. Regardless of whether private equity managers prepare their funds’ financial statements under GAAP or IFRS, their annual audits must meet the requirements of auditing standards generally accepted in the United States.

considered decision about whether the characteristics of the investment alternative align with the plan's characteristics and needs of plan participants, taking into account, among other things, the investment alternative's investment allocation and strategy, fees and other expenses, and the nature and duration of any liquidity restrictions, the participants' ability to access funds in their accounts (e.g., loans and distributions when employees separate from service with the sponsoring employer), and their ability to change investment selections on a potentially frequent basis.<sup>10</sup>

Additionally, as with any designated investment alternative, the plan fiduciary must consider whether it has the skills, knowledge, and experience to make the required determinations or whether the plan fiduciary needs to seek assistance from a qualified investment adviser or other investment professional.<sup>11</sup> The fiduciary

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<sup>10</sup> EBSA Fact Sheet entitled "Target Date Retirement Funds - Tips for ERISA Plan Fiduciaries" (Feb. 2013) (at [www.dol.gov/sites/dolgov/files/EBSA/about-ebsa/our-activities/resource-center/fact-sheets/target-date-retirement-funds.pdf](http://www.dol.gov/sites/dolgov/files/EBSA/about-ebsa/our-activities/resource-center/fact-sheets/target-date-retirement-funds.pdf)) ("TDFs may have different investment strategies, glide paths, and investment-related fees. Because these differences can significantly affect the way a TDF performs, it is important that fiduciaries understand these differences when selecting a TDF as an investment option for their plan[,] . . . consider how well the TDF's characteristics align with eligible employees' ages and likely retirement dates[, and] . . . the possible significance of other characteristics of the participant population, such as participation in a traditional defined benefit pension plan offered by the employer, salary levels, turnover rates, contribution rates and withdrawal patterns.").

<sup>11</sup> For example, the responsible fiduciary should be able to determine, either alone or with the assistance of a qualified adviser, whether the particular investment arrangement complies with

also must periodically review whether the investment vehicle continues to be prudent and in the best interests of plan participants, taking into account the considerations outlined above and any other factors that the plan fiduciary deems appropriate in light of its fiduciary duties under ERISA.

The fiduciary must also determine whether plan participants will be furnished adequate information regarding the character and risks of the investment alternative to enable them to make an informed assessment regarding making or continuing an investment in the fund. This factor would be especially important in the case of a plan or responsible plan fiduciary claiming limited fiduciary liability under ERISA section 404(c) for participants exercising control over their accounts (see 29 CFR 2550.404c-1) and/or deciding that a particular investment alternative would be prudent to use as a qualified default investment alternative (QDIA) for the plan under 29 CFR 2550.404c-5. Moreover, as noted above, the fiduciary responsible for including the fund on the plan's investment menu always retains responsibility for ensuring that the decision to retain the fund is consistent with the fiduciary responsibility provisions of Section 404 of ERISA.

In conclusion, a plan fiduciary would not, in the view of the Department, violate the fiduciary's duties under section 403 and 404 of ERISA solely because the fiduciary offers a professionally managed asset allocation fund with a private equity component as a designated investment alternative for an ERISA covered individual account plan in the manner described in this letter. There may be many

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applicable requirements under securities, banking, or other relevant laws and regulations.

reasons why a fiduciary may properly select an asset allocation fund with a private equity component as a designated investment alternative for a participant directed individual account plan. Private equity investments, however, present additional considerations to participant-directed individual account plans that are different than those involved in defined benefit plans. In making such a selection for an individual account plan, the fiduciary must engage in an objective, thorough, and analytical process that compares the asset allocation fund with appropriate alternative funds that do not include a private equity component, anticipated opportunities for investment diversification and enhanced investment returns, as well as the complexities associated with the private equity component.<sup>12</sup>

We hope you find this information to be helpful.

Sincerely,

Louis J. Campagna  
Chief, Division of Fiduciary Interpretations  
Office of Regulations and Interpretations

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<sup>12</sup>This letter does not address any potential prohibited transaction issues under section 406 of ERISA or the application of any statutory or administrative prohibited transaction exemptions that may need to be considered in connection with the structure, investments, or fees of any individual designated investment alternative or private equity investments. This letter also does not address any issue with respect to the structure or operations of any particular investment arrangement that may arise under the federal securities or banking laws, the Internal Revenue Code, or any other applicable federal or state law.

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EXHIBIT 17

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**Target Date Retirement Funds -  
Tips for ERISA Plan Fiduciaries**



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U.S. Department of Labor  
Employee Benefits Security Administration  
February 2013

*Target date retirement funds (also called target date funds or TDFs) have become an increasingly popular investment option in 401(k) plans and similar employee-directed retirement plans. The U.S. Department of Labor's Employee Benefits Security Administration (EBSA) prepared the following general guidance to assist plan fiduciaries in selecting and monitoring TDFs and other investment options in 401(k) and similar participant-directed individual account plans. Employers and other plan fiduciaries can learn more about their fiduciary responsibilities under the Employee Retirement Income Security Act of 1974 (ERISA) by visiting EBSA's website at [www.dol.gov/ebsa/compliance\\_assistance.html](http://www.dol.gov/ebsa/compliance_assistance.html).*

**Target Date Fund Basics**

With the growth of 401(k) and other individual account retirement plans, many more participants are responsible for investing their retirement savings. Target date retirement funds, or TDFs, can be attractive investment

options for employees who do not want to actively manage their retirement savings. TDFs automatically rebalance to become more conservative as an employee gets closer to retirement. The “target date” refers to a target retirement date, and often is part of the name of the fund. For example, you might see TDFs with names like “Portfolio 2030,” “Retirement Fund 2030,” or “Target 2030” that are designed for individuals who intend to retire during or near the year 2030. Because of these features, many plan sponsors decide to use TDFs as their plan’s qualified default investment alternative (QDIA) under Department of Labor regulations. A QDIA is a default investment option chosen by a plan fiduciary for participants who fail to make an election regarding investment of their account balances.<sup>1</sup>

TDFs offer a long-term investment strategy based on holding a mix of stocks, bonds and other investments (this mix is called an asset allocation) that automatically changes over time as the participant ages. A TDF’s initial asset allocation, when the target date is a number of years away, usually consists mostly of stocks or equity investments, which often have greater potential for higher returns but also can be more volatile and carry greater investment risk. As the target retirement date approaches (and often continuing after the target date), the fund’s asset allocation shifts to include a higher proportion of more conservative investments, like bonds and cash instruments, which generally are less volatile and carry less investment risk than stocks. The shift in the asset allocation over time is called the TDF’s “glide path.” It is

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<sup>1</sup> More information on QDIAs is available in the Department’s publication “Automatic Enrollment 401(k) Plans for Small Businesses” (available at <http://www.dol.gov/ebsa/pdf/automaticenrollment401kplans.pdf>).

important to know whether a target date fund's glide path uses a "to retirement" or a "through retirement" approach. A "to" approach reduces the TDF's equity exposure over time to its most conservative point at the target date. A "through" approach reduces equity exposure through the target date so it does not reach its most conservative point until years later.

Within this general framework, however, there are considerable differences among TDFs offered by different providers, even among TDFs with the same target date. For example, TDFs may have different investment strategies, glide paths, and investment-related fees. Because these differences can significantly affect the way a TDF performs, it is important that fiduciaries understand these differences when selecting a TDF as an investment option for their plan.

### **What to Remember When Choosing Target Date Funds**

- ***Establish a process for comparing and selecting TDFs.*** In general, plan fiduciaries should engage in an objective process to obtain information that will enable them to evaluate the prudence of any investment option made available under the plan. For example, in selecting a TDF you should consider prospectus information, such as information about performance (investment returns) and investment fees and expenses. You should consider how well the TDF's characteristics align with eligible employees' ages and likely retirement dates. It also may be helpful for plan fiduciaries to discuss with their prospective TDF providers the possible significance of other characteristics of the participant population, such as participation in a traditional defined benefit

pension plan offered by the employer, salary levels, turnover rates, contribution rates and withdrawal patterns.

- ***Establish a process for the periodic review of selected TDFs.*** Plan fiduciaries are required to periodically review the plan's investment options to ensure that they should continue to be offered. At a minimum, the review process should include examining whether there have been any significant changes in the information fiduciaries considered when the option was selected or last reviewed. For instance, if a TDF's investment strategy or management team changes significantly, or if the fund's manager is not effectively carrying out the fund's stated investment strategy, then it may be necessary to consider replacing the fund. Similarly, if your plan's objectives in offering a TDF change, you should consider replacing the fund.
- ***Understand the fund's investments – the allocation in different asset classes (stocks, bonds, cash), individual investments, and how these will change over time.*** Have you looked at the fund's prospectus or offering materials? Do you understand the principal strategies and risks of the fund, or of any underlying asset classes or investments that may be held by the TDF? Make sure you understand the fund's glide path, including when the fund will reach its most conservative asset allocation and whether that will occur at or after the target date. Some funds keep a sizeable investment in more volatile assets, like stocks, even as they pass their "target" retirement dates. Since these funds continue to invest in stock, your employees' retirement savings may continue

to have some investment risk after they retire. These funds are generally for employees who don't expect to withdraw all of their 401(k) account savings immediately upon retirement, but would rather make periodic withdrawals over the span of their retirement years. Other TDFs are concentrated in more conservative and less volatile investments at the target date, assuming that employees will want to cash out of the plan on the day they retire. If the employees don't understand the fund's glide path assumptions when they invest, they may be surprised later if it turns out not to be a good fit for them.

- ***Review the fund's fees and investment expenses.*** TDF costs can vary significantly, both in the amount and types of fees. Small differences in investment fees and costs can have a serious impact on reducing long term retirement savings.<sup>2</sup> Do you understand the fees and expenses, including any sales loads, for the TDF? If the TDF invests in other funds, did you consider the fees and expenses for both the TDF and the underlying funds? If the expense ratios of the individual component funds are substantially less than the overall TDF, you should ask what services and expenses make up the difference. Added expenses may be for asset

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<sup>2</sup> A difference of just one percentage point in fees (1.5% as compared with 0.5%) over 35 years dramatically affects overall returns. If a worker with a 401(k) account balance of \$25,000 averages a seven percent return, the worker will have \$227,000 at retirement with the lower fee and \$163,000 with the higher fee, assuming no further contributions. U.S. Department of Labor, Employee Benefits Security Administration, A Look At 401(k) Plan Fees, at [http://www.dol.gov/ebsa/publications/401k\\_employee.html](http://www.dol.gov/ebsa/publications/401k_employee.html).

allocation, rebalancing and access to special investments that can smooth returns in uncertain markets, and may be worth it, but it is important to ask.

- ***Inquire about whether a custom or non-proprietary target date fund would be a better fit for your plan.*** Some TDF vendors may offer a pre-packaged product which uses only the vendor's proprietary funds as the TDF component investments. Alternatively, a "custom" TDF may offer advantages to your plan participants by giving you the ability to incorporate the plan's existing core funds in the TDF. Non-proprietary TDFs could also offer advantages by including component funds that are managed by fund managers other than the TDF provider itself, thus diversifying participants' exposure to one investment provider. There are some costs and administrative tasks involved in creating a custom or non-proprietary TDF, and they may not be right for every plan, but you should ask your investment provider whether it offers them.
- ***Develop effective employee communications.*** Have you planned for the employees to receive appropriate information about TDFs in general, as a retirement investment option, and about individual TDFs available in the plan? Just as it is important for the plan fiduciary to understand TDF basics when choosing a TDF investment option for the plan, employees who are responsible for investing their individual accounts need information too. Disclosures required by law also must be considered. The Department published a final rule that, starting for most plans in August

2012, requires that participants in 401(k)-type individual account retirement plans receive greater information about the fees and expenses associated with their plans, including specific fee and expense information about TDFs and other investment options available under their plans. The Department of Labor is also working on regulations to improve the disclosures that must be made to participants specifically about TDFs. For example, in addition to general information about TDFs, the proposed regulations call for disclosures to include an explanation that an investment in a TDF is not guaranteed and that participants can lose money in the fund, including at and after the target date. Check EBSA's website for updates on regulatory disclosure requirements.

- ***Take advantage of available sources of information to evaluate the TDF and recommendations you received regarding the TDF selection.*** While TDFs are relatively new investment options, there are an increasing number of commercially available sources for information and services to assist plan fiduciaries in their decision-making and review process.
- ***Document the process.*** Plan fiduciaries should document the selection and review process, including how they reached decisions about individual investment options.

## **Related Information**

### **From the Department of Labor**

- Investor Bulletin: Target Date Retirement Funds
- A Look at 401(k) Plan Fees

- Meeting Your Fiduciary Responsibilities
- Understanding Retirement Plan Fees and Expenses
- Understanding Your Retirement Plan Fees
- Selecting and Monitoring Pension Consultants – Tips for Plan Fiduciaries

**From the SEC:**

- Beginners' Guide to Asset Allocation, Diversification, and Rebalancing
- Invest Wisely: An Introduction to Mutual Funds
- Mutual Fund Fees and Expenses

**From the Financial Industry Regulatory Authority (FINRA):**

- Fund Analyze

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EXHIBIT 18

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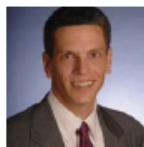
PIMCO



Your Global Investment Authority  
**Defined Contribution Plans**

Intel Custom  
Target-Date Evolution

In this PIMCO *DC Dialogue*, we speak with **Stuart Odell** at Intel about how Intel has modified its defined contribution plan since we last interviewed Stuart in 2007. Stuart tells us how Intel has increased its



This issue features an interview with **Stuart Odell**, Assistant Treasurer of Retirement Investments at Intel Corporation



Moderated by **Stacy L. Schaus, CFP®**  
PIMCO Executive Vice President and  
Defined Contribution Practice Leader

participation and contribution rates, streamlined the investment lineup, and increased asset diversification within its custom target-date strategies. He discusses the 401(k) plan's importance in helping participants meet their retirement income needs. Stuart shares that alternative investments, including hedge funds and real assets, have been added to provide additional diversification

across different market environments, to reduce volatility, and to help participants improve their chances of achieving their retirement income objectives. He also discusses the important role of stable value both in Intel's plan and in the custom strategies.

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**DC Dialogue:** Stuart, thank you for joining us for a second discussion with *DC Dialogue*. In 2007, you shared details about your plans as well as how you had decided to build custom target-date funds rather than buy off-the-shelf target-date funds. Can you update us on your DC plans and how they continue to evolve?

**Stuart Odell:** For people in the U.S. who joined us before 2011, we offer two retirement plans: a defined contribution profit sharing plan combined with a defined benefit floor offset plan, which represents Intel's contribution to employees' retirement, and a 401(k) plan to which employees can defer and invest their own retirement contributions. Employees joining after 2011 have only the 401(k) plan to which Intel contributes a discretionary amount annually and to which employees can also defer and invest salary and bonuses. The U.S. plans have about 50,000 participants and about \$14 billion in total assets, with an average participant balance approaching \$250,000. In 2011, we made several changes to our 401(k) plan to improve participation, streamline the investment structure and enhance the custom target-date funds.

**DCD:** What changes were made to improve participation? Can you also address contribution rates?

**Odell:** Our participation rate in the 401(k) historically exceeded 80% which is not bad considering we don't utilize a matching contribution, but we still were able to improve participation to over 90% by using automatic enrollment programs.

We automatically enroll new hires into the 401(k), defaulting their contributions into our custom target-date strategies. We set the initial default level at 6% and then automatically escalate the savings rate by 2% a year up to 15% of pay.

Philosophically, Intel chose not to make its contribution in the form of a "match," as many employers do, because Intel understood that some employees who might not be able to afford to take advantage of a match would be disadvantaged. A discretionary contribution ensures Intel is doing its part in ensuring everyone is investing for retirement regardless of their ability to invest on their own. And by adding the auto-enrollment and escalation programs, we're helping our employees overcome participation inertia while also allowing them to easily opt out should they decide to.

We automatically enroll new hires into the 401(k), defaulting their contributions into our custom target-date strategies. We set the initial default level at 6% and then automatically escalate the savings rate by 2% a year up to 15% of pay. To my knowledge, we have not had any complaints or concerns with either the auto-enrollment or the escalation rate. That may change as the rate continues to climb toward 15%, but participants can stop the escalation at any time. We would rather set participants on a path to save sufficiently and let them take action to reduce the rate if they prefer.

In addition to auto-enrolling new hires, in 2011 we also swept in any nonparticipating employees. It would be a good idea to go through this process every year or two so that we're continually sweeping in nonparticipants (but also allowing them to opt out). Given the power of inertia, eventually you would have most people contributing and staying in the plan. I think that would be the right thing to do, but it's not something we've done yet.

**DCD:** Besides automatically enrolling new hires and sweeping in nonparticipants, did you also fully re enroll or, perhaps better termed, "reallocate" existing participant assets?

**Odell:** Yes, that's right. In 2011, we streamlined the core investment lineup, and we reallocated existing participants into the custom target-date strategies, unless they opted out.

Reallocating all participant assets was a big step for Intel. One of the conditions of our reallocation was to make it as straightforward as possible for participants to keep their asset allocation and most of the investment choices they had previously been invested in if they wanted to. Many of those investment choices would no longer be offered within the core investment lineup but instead our participants could access the investment options that were being removed from the core lineup through a new brokerage account option. To allow participants to retain their existing allocation, we simplified the process to a single click of a button, although, in some cases, opening a brokerage account was also required, which involved the manual process of having to sign a form.

Before the reallocation, we offered 72 funds in the core lineup, and upon completion of the re-enrollment, we reduced our core investment lineup to 20 options, counting all the target date funds as one investment option.

Participants who chose to keep investment options that were removed from the core lineup can still access them, as well as many other mutual funds and ETFs, through the brokerage window. About a third of participants kept their original asset allocation, while about two-thirds were mapped into the target date funds.

**DCD:** What does the investment lineup look like today?

**Odell:** Today we have a three-tier structure. Tier I is a set of diversified premixed portfolios, including the set of 11 custom target-date funds and our global diversified fund. The global diversified

fund is a mirror of our sharing plan asset allocation, including alternative investments. Tier II is the core lineup, which includes the primary sleeves of the custom target funds, mainly as multi-manager structures, plus several core asset class mutual funds. The primary core strategies include capital preservation (money market and stable value), fixed income (core and global), large cap U.S. equities (value, core blend and growth), small/mid cap U.S. equities, and non-U.S. developed with some emerging market equity. Tier III provides specialty options, such as a brokerage window, company stock, and dedicated emerging market equities. In terms of assets, about 50% of the assets are in the target-date tier, 35% in the core tier, and 15% is in the specialty tier.

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**Before the reallocation, we offered 72 funds in the core lineup, and upon completion of the re-enrollment, we reduced our core investment lineup to 20 options.**

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**Intel 401(K) Lineup – Funds and Utilization**

| Tier 1: Asset Allocation                               | Tier 2: Core Funds  | Tier 3: Specialty Options   |
|--|---|---|
| 11 Target Date funds<br>401(k) Global Diversified fund | <b>Capital Preservation fund</b><br>Money Market fund<br>Stable Value fund                                    | <b>Brokerage Account</b><br>Self-Directed Brokerage                                     |
|  | <b>Fixed Income fund</b><br>Core Bond fund<br>Global Bond fund<br>Aggregate Debt Index fund                   | <b>Emerging Market fund</b><br>Emerging Market Stock fund<br>Emerging Market Index fund |
|  | <b>Large Value fund</b><br>Large Cap U.S. Value fund  | <b>Company Stock</b><br>Company Stock fund  |
|  | <b>Large Core fund</b><br>S&P 500 Index fund<br>Large Cap U.S. Stock fund                                     |   |
|  | <b>Large Growth fund</b><br>Large Cap U.S. Growth fund  |   |
|  | <b>International fund</b><br>International Growth fund<br>International Stock fund<br>ACWI ex-U.S. Index fund |   |
|  | <b>Small/Midcap fund</b><br>Mid Cap U.S. Stock fund<br>Small Cap U.S. Stock fund<br>Russell 2500 Index fund   |   |

Source: Intel  
As of April 2014

**DCD:** In 2004, you were a pioneer in offering custom target-date strategies. Can you tell us whether you are still pleased with this direction?

**Odell:** Yes, we're pleased with our direction. Custom strategies - which we renamed from "Lifestage Funds" to "Target Date Funds" - made sense when we launched them and continue to offer advantages to our participants today. In 2003, we studied custom versus packaged. At the time, we were concerned with the quality and cost of packaged solutions in the market. We saw the advantage of building our own glide path and selecting investment managers both for our core lineup and as components in

the custom target-date strategies. In addition, we realized cost savings in building our own. Building custom has allowed us to evolve the glide path structure and add to the investment lineup, including folding in alternatives.

Building custom has allowed us to evolve the glide path structure and add to the investment lineup, including folding in alternatives.



On the cost side, our strategies tap into institutionally priced vehicles, including collective investment trusts and separately managed accounts. While we have evolved our custom strategies to include more asset classes, such as alternatives, we believe the cost is reasonable for the value offered to participants.

**DCD:** Are all of the custom target-date underlying investments also offered in the core lineup?

**Odell:** No. We offer most of the asset classes within our target-date funds as stand-alone core options, but certain strategies, such as hedge funds and commodities, are available only as part of the target-date funds, not as stand-alone investment options.

**DCD:** You've certainly invested a lot of time and effort setting up and managing your program. Can you tell us more about your 401(k) plan philosophy and how alternatives fit in?

**Odell:** Like the vast majority of employers, our 401(k) is a primary retirement vehicle. At Intel, we're dedicated to managing this plan to help our employees succeed in reaching their retirement goals. When we considered the investment structure, we wanted to bring to the table our best thinking from the profit sharing plan, which, coupled with a floor offset plan, is really a hybrid defined benefit structure. In the

1980s, in lieu of a traditional pension benefit, Intel started this hybrid plan to provide participants the better of a pension benefit or the outcome of a defined contribution plan. Like many plan sponsors that oversee defined benefit plans, Intel incorporated alternatives and other diversifying assets into our hybrid plan. We also knew that our 401(k) participants needed broader diversification to help reduce risk and improve the likelihood of reaching their goals.

To understand why we added real assets and alternatives, just reflect back on what happened to many packaged target-date funds during the 2008 financial crisis. Target-date funds labeled "retirement year 2010" lost 24% of their value, and some lost as much as 41%, according to Morningstar. At the time, most of these products were invested in traditional long-only stock and bond portfolios. While stocks and bonds are important, we believe they are insufficient to provide the diversification and risk management that retirement investors need. If you consider a 60/40 stock-to-bond portfolio, over 90% of the

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While stocks and bonds are important, we believe they are insufficient to provide the diversification and risk management that retirement investors need. If you consider a 60/40 stock-to-bond portfolio, over 90% of the risk comes from the equity markets.

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risk comes from the equity markets. Today there is greater interest by target-date managers in providing better diversification to help protect assets in all kinds of market environments.

**DCD:** Was risk reduction your primary driver in adding alternatives to your custom strategies?

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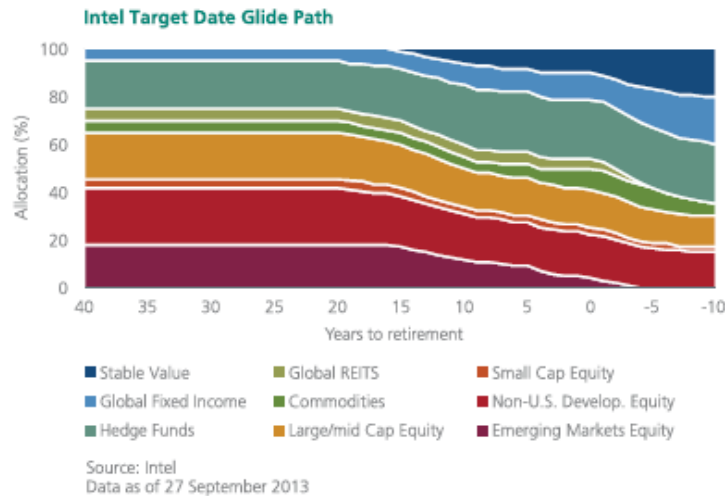
Adding alternatives is designed to help reduce the volatility in our target-date strategies and improve diversification, potentially allowing the portfolios to perform well in different market environments.

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**Odell:** Yes. Given low correlations to equity, adding alternatives is designed to help reduce the volatility in our target-date strategies and improve diversification, potentially allowing the portfolios to perform well in different market environments. We also believe these assets will contribute to investment returns over time. What's important is that alternatives remove the reliance on equities as the sole growth driver for participant assets.

**DCD:** What is the investment structure and glide path of your target-date funds today?

**Odell:** Intel's target-date fund glide path includes five primary sleeves: stable value, global fixed income, U.S. equities, non-U.S. developed and emerging market equities, and alternatives.



**DCD:** It appears that participants can gain access to alternatives both through the custom target-date strategies and through the global diversified fund that you offer as a Tier I core option.

**Odell:** That's correct. They have access to alternatives only through these blended asset allocation vehicles. We don't offer the ability to invest directly in the alternatives as stand-alone investment options. At the same time, we don't need to place caps on the amount that participants can invest in the target-date or global diversified fund. The only fund in the plan that we place limits on is the Intel stock fund, which we do limit to 20% of participants' exchanges or contributions.

**DCD:** What types of alternatives are offered in the custom strategies and separately in the global diversified fund?

**Odell:** In the target-date funds, we have a target allocation to hedge funds, commodities and global REITs. In the global diversified fund, in addition to a target allocation to hedge funds, commodities and REITs, there is a target allocation to private equity, private real estate,

private energy and distressed debt. We allocate about 25% of our custom target strategies and about 40% of our global diversified fund to alternatives.

**DCD:** How has your investment oversight changed to manage the alternatives?

**Odell:** We have an investment policy committee that is responsible for asset allocation and investment oversight. Treasury reports to the committee and is responsible for implementation as well as investment monitoring.

We have a seven-member investment staff focused on manager selection, oversight and risk management. To supplement our dedicated resources, we also utilize outside consultants with expertise in both traditional and alternative investments.

**DCD:** Can you share with us how you have worked with pricing and liquidity of the alternatives?

**Odell:** Well, pricing and liquidity are two different areas. While the majority of the underlying funds within the portfolios are priced daily, only about 30% provide daily liquidity. Many of our investment managers are not set up to manage daily asset flows. To manage the daily flows of the overall funds, we have liquidity sleeves - typically a passively managed strategy within each underlying asset class that can handle daily flows and portfolio rebalancing.

The liquidity sleeves then allow us to fund managers based on when they are able to take the funds. For example,

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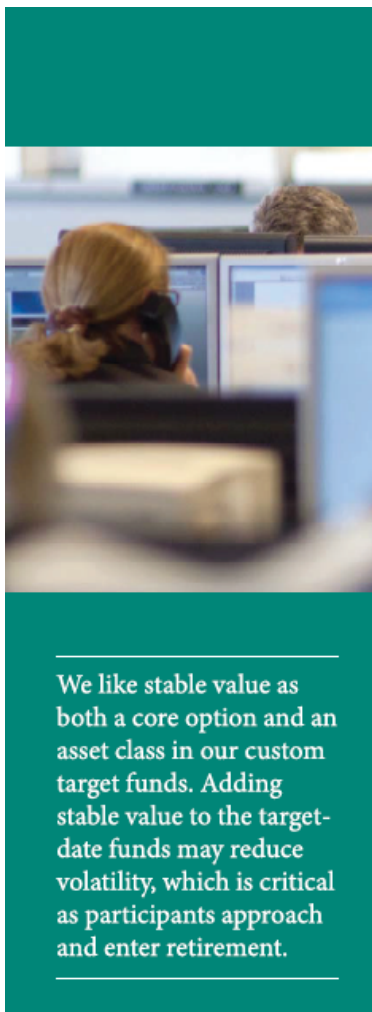
In the target-date funds, we have a target allocation to hedge funds, commodities and global REITs. We allocate about 25% of our custom target strategies and about 40% of our global diversified fund to alternatives.

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hedge funds would typically require at least a 30-day notice to receive or redeem capital.

**DCD:** What is your view on daily valuation within DC plans?

**Odell:** Daily valuation and daily liquidity simply do not make as much sense within the context of long-term retirement plans, particularly if it prevents participants from accessing certain types of investments that may be well suited for their investment horizon. DC plans did not start out daily valued. In the 1980s and early 1990s, these plans often were quarterly valued and offered participants the ability to change their asset allocation only once a quarter. Somehow the industry convinced plan sponsors that daily valuation and daily transaction capabilities were a good thing. At this point, the ship has probably sailed on that one, but a question worth asking is, "If you have 25 years until retirement, do you really need to be able to day trade your 401(k)?"



Today we know that that the daily valuation and other requirements - including liquidity and leverage rules - severely limit the types of investment strategies and structures that we can provide within DC plans. Unfortunately, what may initially have appeared to be a benefit to participants is now recognized as a potential detriment. The illiquidity premium can be significant, particularly when estimated future returns for traditional stocks and bonds are much lower than they have been in the past. By adding alternatives into our custom strategies, we're able to garner some of the illiquidity premium of these assets.

**DCD:** How has the allocation to alternatives changed the overall cost of your plan? Are

performance fees applied to any of the alternatives?

**Odell:** Alternatives have driven our custom target-date fees up, and we do have performance fees on many of the strategies. While the fees are higher, we believe the costs are reasonable given the diversification benefits and risk-adjusted return potential. Further, with performance

based fees, the manager is only paid when they deliver on their objectives.

**DCD:** Let's discuss some of the other asset classes that are offered within your custom strategies and your core lineup. Can you tell us about your stable value fund?

**Odell:** We like stable value as both a core option and an asset class in our custom target funds. Relative to the Lipper Money Markets Fund Average, the Hueler Stable Value Pooled Index has provided a return of over 2% higher on average per year. That's been a huge advantage as we try to help participants understand what stable value offers. We allocate to stable value particularly in the target-date funds, which are designed for older participants. Stable value provides an alternative to cash, potentially providing principal preservation plus some of the core bond exposure. Adding stable value to the target-date funds may reduce volatility, which is critical as participants approach and enter retirement.

To manage the flows into and out of the stable value fund, we have added a liquidity tier. By managing the liquidity, we have successfully worked with the stable value wrap providers and have not had issues with offering this vehicle within the custom strategies.

**DCD:** How are the core bond and equity strategies structured?

**Odell:** These are commingled trust vehicles that may include up to five underlying managers. We typically include both active and passive components within each asset class. The index component is used for liquidity as well as for certain asset classes where we see less opportunity for active management to generate alpha. Our global fixed income strategy is primarily actively managed, whereas our large cap U.S. equity fund has a larger passive component.

**DCD:** In the recent U.S. equity bull run, many assets other than equity have generally lagged. Has this been an issue? Do your participants understand the returns?

**Odell:** Over the last several years, investment returns of alternatives generally have not performed as strongly relative to the equity markets. However, despite the relative recent

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With the right consultant, there is no reason you cannot develop custom strategies.

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underperformance, absolute performance of alternatives remains on track with our objectives, and we believe these diversifying assets are critical in the long run - for both risk management and return. Plans that have heavy allocations to equity risk may be thinking, "Hey, the markets came back," and may find it easy to forget the losses experienced in 2008. While participants may not see the immediate benefit of the diversification in our program, we believe they will in the long run.

**DCD:** Now that it's been a few years since your full re-enrollment or reallocation, how are participants using the target-date funds? Have they remained invested in them? Do you receive positive feedback?

**Odell:** We see about 40% of participants investing 100% of their DC balance in a single target-date vintage. Another 20% of participants hold two investments, including one target-date vintage and a second target-date vintage or other core investment offering. To have about 60% of your participants holding one or two investment options, including at least one target-date fund, suggests our population has embraced that structure.

When we receive feedback, overall it has been thanks for the work that we have done to offer this program. We have

had to explain why our target-date funds do not have the returns of the stock market. That can take some time, but they generally get it. We also have had to explain the increase in fees due to the addition of active management, as well as inclusion of performance fees in the expense ratio calculation.

**DCD:** What would you tell other plan sponsors as they consider custom and alternatives?

**Odell:** Rolling out custom strategies and integrating more complex investment solutions will not be for all plan sponsors. Sponsors who oversee DB assets may be best equipped and most comfortable moving in this direction. Setting up custom and continuing to manage the asset allocation requires time and effort. Consultants and managers can help and even fully take on nearly all facets of this work, including the implementation, communication, glide path management and ongoing oversight. You could be a plan sponsor without any asset management expertise and hire a consultant to build custom and to select investments for you. With the right consultant, there is no reason you cannot develop custom strategies.



Plan sponsors that are focused on helping their participants reach their goals are likely to consider custom strategies.

With that said, there is work to do to get custom strategies going. We believe the additional work is worth it, as participants are likely to achieve better retirement outcomes with more sophisticated custom strategies. Plan sponsors that are focused on helping their participants reach their goals are likely to consider custom strategies.

**DCD:** Stuart, thank you for your time and for sharing all of the updates on your plan.

**Odell:** My pleasure.

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EXHIBIT 19

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**Morningstar Manager Research**

7 May 2018

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## **Executive Summary**

All-time high flows, paired with positive returns, lifted assets in target-date mutual funds above \$1 trillion in 2017, a sizable increase from just \$158 billion at year-end 2008. The unimpeded growth means target-date funds play an increasingly important role in retirement success for more and more investors. Meanwhile, many target-date providers have adapted to meet the burgeoning demand for low-cost options. This year's report covers recent developments in the competitive landscape, and then it highlights noteworthy considerations for target-date investors in five areas: Price, Performance, Parent, People, and Process.

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## **Key Takeaways**

- > Assets in target-date mutual funds eclipsed \$1 trillion in 2017 after seeing an all-time high of \$70 billion in estimated net flows during the year. The funds have experienced more than \$40 billion in net flows each year since 2008.
- > In 2017, passive target-date series—ones that invest predominantly in index funds—attracted nearly 95% of the \$70 billion in estimated net flows to target-date funds. This preference appears to be driven by retirement plan sponsors' demand for low costs.
- > Fees for target-date funds continued their multiyear downward trend in 2017. The average asset-weighted expense ratio fell to 0.66% at the end of 2017, a notable decrease from 0.91% just five years earlier. The injection of more passive exposure within historically active target-date series and the launch of series that blend active and passive funds has contributed to that trend.

- > When target-date providers have launched additional lower-cost series to meet demand, those series generally have been the most popular, but not all have produced better performance results than older, more-costly ones.
- > Target-date managers who run multiple series personally invest more frequently, and in higher amounts, in their older, pricier series.
- > Portfolios for different passive target-date series may diverge significantly, even more so than active series from a sub-asset-class glide path viewpoint. While active and passive series generally have similar average equity glide paths, the average sub-asset-class exposures reveal more diversified bond exposures in active series than passive ones.

## **Assets, Flows, and the Competitive Landscape**

Target-date funds continue to play an increasing role in retirement success for many Americans by serving as a common default investment in defined-contribution retirement plans. This section covers how assets and flows to target-date funds have changed over time, as well as how target-date firms attempt to participate in the funds' generally strong growth trend.

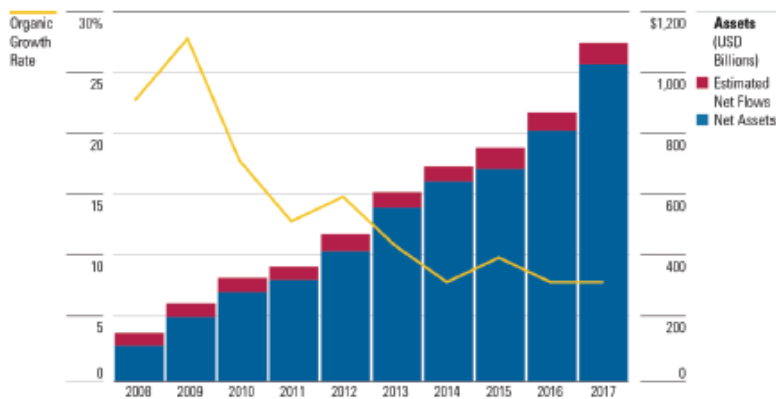
### **\$1 Trillion and Growing**

Target-date funds hit a momentous mark in 2017 by eclipsing \$1 trillion in assets. Assets in target-date mutual funds totaled roughly \$1.11 trillion at the end of 2017, up from \$880 billion at year-end 2016. The asset growth is remarkable: Industry assets amounted to only \$158 billion at the end of 2008. (Exhibit 1 shows the year-over-year asset growth of target-date mutual funds.) The asset growth in 2017 came from the combination of positive

returns—the average return for target-date fund Morningstar Categories ranged from 8.8% to 21.3%—and positive flows from investors.

Target-date funds also saw an all-time high in estimated net flows in 2017. The estimated \$70 billion of net flows that went to target-date mutual funds in 2017 edged the previous high of \$69 billion set in 2015 and represented a notable increase from \$59 billion in 2016. The net flows have been consistently strong, exceeding more than \$40 billion each year since 2008.

**Exhibit 1** Net Assets, Estimated Net Flow, and Organic Growth Rates of U.S. Target-Date Mutual Funds, 2008-17

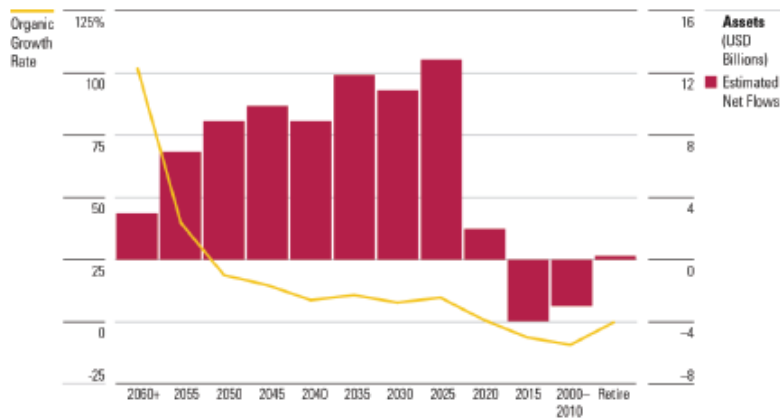


Source: Morningstar, Inc. Data as of 12/31/17.

The strong flows to target-date funds have come from investors across all stages of their careers. Exhibit 2 shows that net flows for the target-date 2025 through 2050 Morningstar Categories topped more than \$8 billion in 2017. Based on the assumed retirement age of 65, these categories cover investors from age 33 to 57. The 2025 category's \$13 billion in net flows in 2017 was the largest. Investors in that category are often at or near their peak earnings level and may be more conscientious of their upcoming retirement. Conversely, the relatively modest

\$2 billion net flows in 2017 for the target-date 2060+ category comes from investors in early in their careers who typically earn and contribute less. Meanwhile, the categories that have passed their target retirement date can expect net outflows. It's unclear whether these target-date fund investors gradually withdraw assets for retirement income or move assets in a lump sum to another strategy once they reach retirement.

**Exhibit 2** 2017 Estimated Flows and Organic Growth Rate by Morningstar Target-Date Category



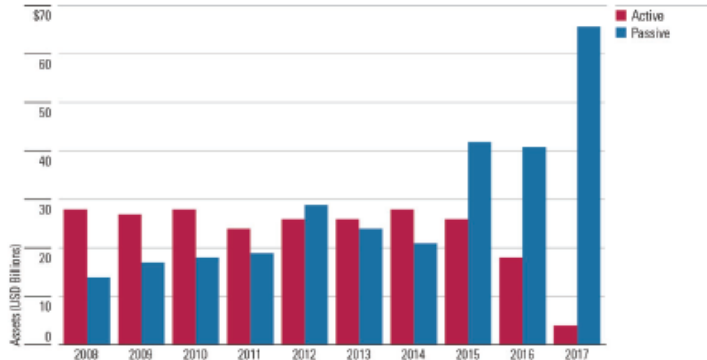
Source: Morningstar, Inc. Data as of 12/31/17.

### The Flight to Passive

Quite possibly the most remarkable trend for target-date funds in 2017 was investors' dramatically increasing preference for series that own passively managed funds. Nearly 95% of the \$70 billion estimated net flows to target-date funds in 2017 went to target-date series that invest predominantly—at least 80% of assets—in index funds. (While these are commonly referred to as passive target-date series, no series is truly passively managed, as every target-date manager makes active decisions in building a glide path and selecting asset classes.) As seen in Exhibit

3, this trend started in 2015 when passive target-date series' net flows exceeded those for active ones.

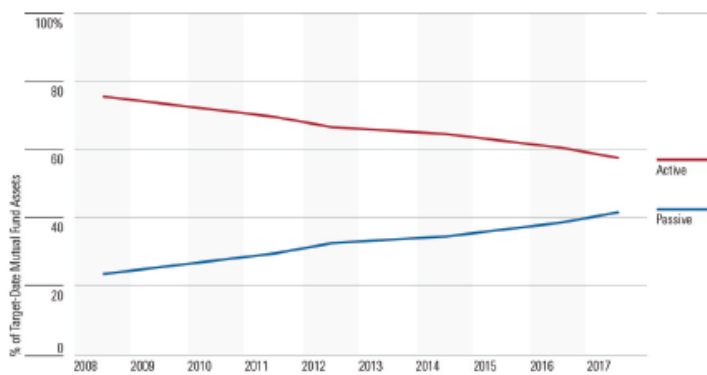
**Exhibit 3** Estimated Net Yearly Flows by Active versus Passive Target-Date Series, 2008-17



Source: Morningstar, Inc. Data as of 12/31/17.

Investors' increased preference for passive target-date series over active ones in recent years—as reflected in the flows—has narrowed the gap in assets between the two types of series. While active series still have more assets, passive series accounted for 42% of target-date mutual fund assets at the end of 2017, up from 35% in 2014 and 24% in 2008.

**Exhibit 4** Percentage of Target-Date Mutual Funds Assets by Active versus Passive, 2008-17

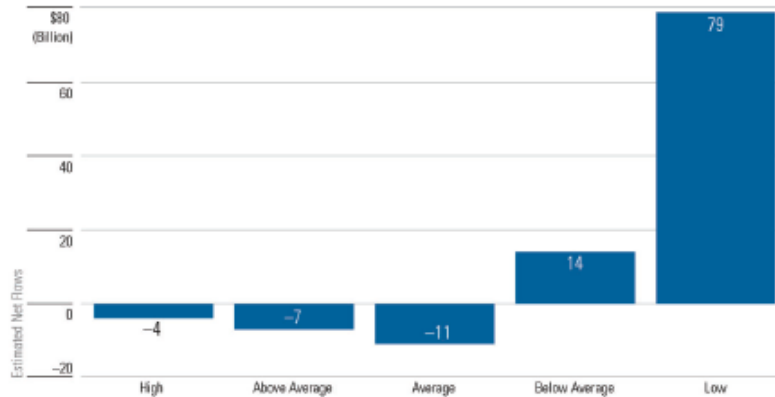


Source: Morningstar, Inc. Data as of 12/31/17.

### A Healthy Appetite for Cheap Funds

Investors' flight to passive target-date series appears to be driven by a demand for low costs. Exhibit 5 illustrates the preference for low-cost target-date funds, illustrating estimated flows according to Morningstar Fee Level—Distribution ranks, which accounts for the distribution channel of each share class. Share classes of target-date funds that earn a Low or Below Average rank were the only ones with positive net flows in 2017, and those in Low received nearly \$80 billion in estimated net flows.

**Exhibit 5** 2017 Estimated Net Flows to Target-Date Funds by Morningstar Fee Level—Distribution



Source: Morningstar, Inc. Data as of 12/31/17.

True, the cheapest target-date series invest only in index funds, but not all passive target-date series come at an appealing price, and some active target-date series have competitive fees. For example, the 1290 Retirement, ClearTrack, and Great-West SecureFoundation Lifetime series hold index funds but are relatively more expensive, and none of those series saw significant estimated positive net flows in 2017. Meanwhile, the American Funds Target Date Retirement and JPMorgan SmartRetirement Blend

series come with competitive fees despite holding more than 25% of their assets in actively managed funds at the end of 2017; those series experienced positive net flows of approximately \$24 billion and \$2 billion, respectively, in 2017.

### **Winners and Losers in the Cost War**

As target-date funds continue to see strong growth each year, only a handful of firms have benefited. Vanguard has been the big winner of new investments in recent years. As shown in Exhibit 6, it saw a whopping \$50.6 billion in estimated net inflows in 2017, bringing its total target-date mutual fund assets to an industry-leading \$381 billion. To put Vanguard's success into context, its 2017 net flows exceeded the sixth-largest provider's total assets in target-date mutual funds. American Funds' \$24.1 billion in 2017 estimated net flows came in a distant second, but still represented a strong year. While American Funds' \$88 billion in target-date mutual fund assets makes it the fourth-largest provider, it still has significant ground to make up to catch the next-largest provider, as its 2007 arrival to the space was relatively late compared with the other major players.

Only three other firms saw more than \$1 billion in estimated net flows to their target-date mutual funds in 2017: TIAA Investments (\$6.1 billion), BlackRock (\$4.6 billion), and State Street Global Advisors (\$2.7 billion). Target-date funds have become increasingly important to TIAA Investments, as they account for approximately one third of the firm's mutual fund assets. They also represent more than 40% of State Street Global Advisors' mutual fund assets.

Despite the strong growth in target-date funds in general, not all target-date providers saw positive net flows in 2017. Seventeen of 41 firms experienced negative

net flows from their target-date mutual funds in 2017, with T. Rowe Price's roughly \$9.5 billion representing the largest outflow. (T. Rowe Price has stated that clients' transition from its mutual fund version to the collective investment trust version has contributed to the outflow.) Wells Fargo's roughly negative \$4.7 billion in estimated flows in 2017 marked its third consecutive year of outflows. Amid that trend, Wells Fargo jettisoned longtime subadvisor Global Index Advisors from its legacy target-date offering in July 2017, handing over the management of that series to an in-house team. Principal (negative \$3.5 billion) and John Hancock (negative \$1.5 billion) were the other firms that also saw more than \$1 billion in estimated outflows from their target-date mutual funds in 2017.

Fidelity serves as an example of a firm that has been able to quell outflows from its target-date funds. Fidelity remains the second-largest target-date provider with nearly \$228 billion in target-date mutual fund assets, and it has been able to bring the net outflows from its target-date funds down to a trickle. Fidelity made a series of changes to its flagship Freedom series, inserting strategies of its most proven equity managers into the underlying mix in 2012, revamping the series' glide path in 2013, and then adding the ability to tactically position the funds in 2014. The firm's net outflows started in 2014 and peaked at \$7.9 billion that year, but the net outflows have come down each year since and Fidelity saw less than \$0.5 billion in net outflows in 2017. The Freedom series' improved results since implementing changes have likely helped assuage concerns.

**Exhibit 6 2017 Target-Date and Firm Assets and Net Flows**

| Fund Company                        | 2017 Total Assets           |                      |                                    | 2017 Net Flows              |                      |                                  |
|-------------------------------------|-----------------------------|----------------------|------------------------------------|-----------------------------|----------------------|----------------------------------|
|                                     | Target-Date<br>US\$ Million | Firm<br>US\$ Million | Firm Assets<br>From TD<br>Assets % | Target-Date<br>US\$ Million | Firm<br>US\$ Million | Firm Flows<br>From TD<br>Flows % |
| Vanguard                            | 381,489.8                   | 3,466,811.6          | 11.0                               | 50,617.2                    | 207,039.2            | 24                               |
| Fidelity Investments                | 227,532.3                   | 1,461,367.3          | 15.6                               | -461.8                      | 10,506.4             | (L)                              |
| T. Rowe Price                       | 165,573.8                   | 582,267.3            | 28.0                               | -9,546.0                    | -10,859.0            | 88                               |
| American Funds                      | 88,862.1                    | 1,524,349.1          | 5.8                                | 24,114.7                    | 16,628.8             | 145                              |
| JPMorgan                            | 53,498.5                    | 301,024.0            | 17.8                               | 672.7                       | -478.0               | (G)                              |
| TIAA Investments                    | 43,578.5                    | 130,919.6            | 33.3                               | 6,075.0                     | 8,141.0              | 75                               |
| Principal Funds                     | 26,371.5                    | 135,570.3            | 19.5                               | -3,503.7                    | -3,097.0             | 113                              |
| American Century Investments        | 19,014.5                    | 114,962.6            | 16.5                               | -362.7                      | -6,586.7             | 6                                |
| BlackRock                           | 18,474.3                    | 260,747.4            | 7.1                                | 4,561.7                     | 6,362.7              | 72                               |
| John Hancock                        | 17,163.2                    | 150,834.4            | 11.4                               | -1,466.9                    | -1,828.5             | 80                               |
| State Farm                          | 8,278.1                     | 21,392.6             | 38.7                               | -215.0                      | -680.4               | 32                               |
| Great-West Funds                    | 7,467.8                     | 19,273.5             | 38.7                               | -191.2                      | -378.2               | 51                               |
| Voya                                | 6,987.5                     | 85,883.4             | 8.1                                | 748.7                       | -8,502.3             | (G)                              |
| KP Funds                            | 6,884.0                     | 7,276.6              | 94.6                               | 676.2                       | 1,417.6              | 48                               |
| Wells Fargo Funds                   | 5,522.9                     | 92,521.7             | 6.0                                | -4,652.2                    | -9,607.7             | 48                               |
| USAA                                | 4,558.5                     | 69,663.8             | 6.5                                | 35.9                        | 251.5                | 14                               |
| Schwab Funds                        | 4,464.9                     | 77,582.8             | 5.8                                | 402.6                       | 4,694.4              | 9                                |
| State Street Global Advisors        | 4,417.2                     | 10,845.9             | 40.7                               | 2,736.2                     | 1,103.0              | 248                              |
| GuideStone Funds                    | 2,986.6                     | 11,919.4             | 25.1                               | 307.3                       | 189.4                | 162                              |
| MFS                                 | 2,787.7                     | 225,390.2            | 1.2                                | -155.0                      | 2,251.7              | (L)                              |
| MassMutual                          | 2,467.6                     | 25,938.0             | 9.5                                | -237.0                      | -948.5               | 25                               |
| Nationwide                          | 1,885.2                     | 19,100.1             | 9.9                                | -137.6                      | -1,352.3             | 10                               |
| Putnam                              | 1,048.9                     | 69,830.2             | 1.5                                | 106.2                       | -1,744.8             | (G)                              |
| MainStay                            | 763.4                       | 53,625.1             | 1.4                                | -71.2                       | -7,218.2             | 1                                |
| AllianceBernstein                   | 724.1                       | 81,564.9             | 0.9                                | 63.6                        | 5,758.5              | 1                                |
| Dimensional Fund Advisors           | 615.0                       | 403,409.1            | 0.2                                | 223.5                       | 31,151.6             | 1                                |
| Morningstar & Napier                | 608.1                       | 7,324.6              | 8.2                                | 12.4                        | 2,862.3              | 0                                |
| Transamerica                        | 590.6                       | 39,532.7             | 1.5                                | 32.6                        | 277.2                | 12                               |
| Franklin Templeton Investments      | 547.3                       | 382,839.8            | 0.1                                | -29.0                       | -28,143.1            | 0                                |
| Pimco                               | 480.5                       | 337,143.9            | 0.1                                | 22.8                        | 30,935.2             | 0                                |
| AXA Equitable                       | 479.3                       | 109,468.2            | 0.4                                | 31.7                        | -6,238.6             | (G)                              |
| Allianz Funds                       | 457.9                       | 18,320.0             | 2.5                                | 14.4                        | -5,627.0             | (G)                              |
| BMO Funds                           | 351.9                       | 7,007.2              | 5.0                                | -110.2                      | -275.0               | 40                               |
| Invesco                             | 255.9                       | 168,965.1            | 0.2                                | -28.4                       | -3,779.0             | 1                                |
| Goldman Sachs                       | 254.0                       | 82,300.5             | 0.3                                | -16.5                       | -2,675.2             | 1                                |
| Harbor                              | 177.0                       | 69,389.9             | 0.3                                | 7.9                         | -13,450.9            | (G)                              |
| Prudential Funds (PGIM Investments) | 118.4                       | 98,731.6             | 0.1                                | 111.8                       | 5,968.4              | 2                                |
| Natixis Funds                       | 30.8                        | 56,366.9             | 0.1                                | 26.9                        | -473.8               | (G)                              |
| 1290 Funds                          | 24.7                        | 281.6                | 8.8                                | 22.2                        | 43.9                 | 51                               |
| Columbia                            | 18.5                        | 154,490.1            | 0.0                                | 18.1                        | -9,292.4             | (G)                              |
| Virtus                              | 16.2                        | 43,404.2             | 0.0                                | 1.6                         | -573.5               | (G)                              |
| <b>Total</b>                        | <b>1,107,629.7</b>          | <b>10,989,657.7</b>  | <b>10.1</b>                        | <b>70,433.6</b>             | <b>206,958.2</b>     | <b>34.2</b>                      |

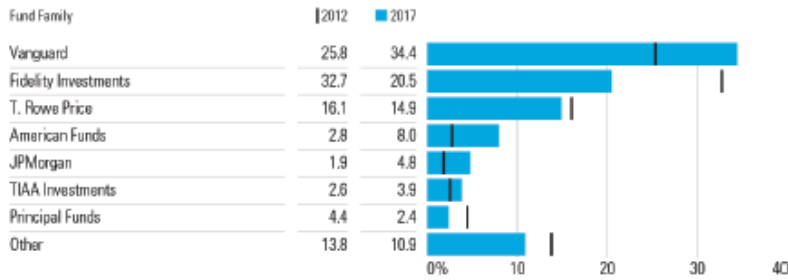
Source: Morningstar, Inc. Data as of 12/31/17. Morningstar flows data strips out firms' funds-of-funds assets to avoid double-counting. This also results in firm total asset levels and net flow figures that omit assets invested in nonproprietary funds. Exhibit 6 adds back the

estimated effect from those nonproprietary funds to firms' total assets and total new flows to show a more complete and intuitive picture. Otherwise, KP Funds, for example, which only offers target-date mutual funds and has significant investments in nonproprietary funds, would show that its target-date assets make up more than 100% of the firm's total assets under management. Assets include mutual fund and exchange-traded fund assets, where applicable. Series marked (G) under "Firm Flows from TD Flows %" saw positive growth in flows on top of negative overall firm-level flows—the sign change makes percentage representations less meaningful. Series marked (L) had target-date outflows on top of inflows for the overall firm.

### **The Fight for Market Share**

The “Big Three”—Vanguard, Fidelity, and T. Rowe Price—have long been the dominant players in the target-date fund space, but their collective market share has edged down to 70% from 75% five years ago, and the relative position of the three firms has changed. Since taking the top spot from Fidelity in 2014, Vanguard has lengthened its lead. Vanguard's 34% market share at year-end 2017 nearly matched Fidelity and T. Rowe Price's combined market share of 35%. Fidelity has lost market share since the end of 2012 when it had nearly 33% of assets. Meanwhile, T. Rowe Price's market share stayed between 15% and 17% over the past five years. Notably, American Funds has gained significant market share since 2012, up from 3% in 2012 to 8% at the end of 2017. J.P. Morgan's market share also increased over that time but has hovered around 5% over the past three years. The five largest providers held nearly 83% of the market share at year-end 2017. Exhibit 7 shows the market shares in 2017 and compares them with 2012.

**Exhibit 7 Firm Market Share of Target-Date Mutual Funds: 2017 versus 2012**



Source: Morningstar, Inc. Data as of 12/31/17.

Exhibit 8 expands beyond the largest providers, showing the year-over-year change in market share and organic growth rate from 2016 to 2017 for all providers of target-date mutual funds. Of the 10 largest providers, five had negative organic growth rates in 2017, meaning that any asset growth came from market appreciation rather than contributions from investors. Only four of the 10 largest providers—Vanguard, American Funds, TIAA Investments, and BlackRock—grew market share in 2017.

**Exhibit 8** 2017 Target-Date Net Assets, Market Share, and Organic Growth, by Firm

| Fund Company                        | Total Net Assets US\$ Million |                  | Market Share % |              | Organic Growth Rate % |            |
|-------------------------------------|-------------------------------|------------------|----------------|--------------|-----------------------|------------|
|                                     | 2017                          | 2016             | 2017           | 2016         | 2017                  | 2016       |
| Vanguard                            | 381,489.8                     | 280,332.4        | 34.4           | 31.8         | 18.1                  | 16.5       |
| Fidelity Investments                | 227,532.3                     | 193,052.3        | 20.5           | 21.9         | -0.2                  | -1.5       |
| T. Rowe Price                       | 165,573.8                     | 148,007.7        | 14.9           | 16.8         | -6.5                  | 4.1        |
| American Funds                      | 88,662.1                      | 53,637.4         | 8.0            | 6.1          | 45.0                  | 45.5       |
| JPMorgan                            | 53,498.5                      | 44,770.9         | 4.8            | 5.1          | 1.5                   | 12.3       |
| TIAA Investments                    | 43,578.5                      | 31,338.4         | 3.9            | 3.6          | 19.4                  | 16.2       |
| Principal Funds                     | 26,371.5                      | 26,114.2         | 2.4            | 3.0          | -13.4                 | -1.9       |
| American Century Investments        | 19,014.5                      | 17,025.2         | 1.7            | 1.9          | -2.1                  | 9.5        |
| BlackRock                           | 18,474.3                      | 11,679.3         | 1.7            | 1.3          | 39.1                  | 39.8       |
| John Hancock                        | 17,163.2                      | 16,331.1         | 1.5            | 1.9          | -9.0                  | -1.6       |
| State Farm                          | 8,278.1                       | 7,410.9          | 0.7            | 0.8          | -2.9                  | -1.6       |
| Great-West Funds                    | 7,467.8                       | 6,642.3          | 0.7            | 0.8          | -2.9                  | -8.3       |
| Voya                                | 6,987.5                       | 5,317.6          | 0.6            | 0.6          | 14.1                  | 0.8        |
| KP Funds                            | 6,894.0                       | 5,310.3          | 0.6            | 0.6          | 12.7                  | 11.7       |
| Wells Fargo Funds                   | 5,522.9                       | 9,451.4          | 0.5            | 1.1          | -49.2                 | -40.1      |
| USAA                                | 4,558.5                       | 3,895.0          | 0.4            | 0.4          | 0.9                   | -4.2       |
| Schwab Funds                        | 4,464.9                       | 3,452.6          | 0.4            | 0.4          | 11.7                  | 1.9        |
| State Street Global Advisors        | 4,417.2                       | 1,258.0          | 0.4            | 0.1          | 217.3                 | 425.4      |
| GuideStone Funds                    | 2,986.6                       | 2,394.8          | 0.3            | 0.3          | 12.8                  | 11.8       |
| MFS                                 | 2,787.7                       | 2,567.1          | 0.3            | 0.3          | -6.0                  | 17.0       |
| MassMutual                          | 2,467.6                       | 2,343.4          | 0.2            | 0.3          | -10.1                 | -1.7       |
| Nationwide                          | 1,885.2                       | 1,767.0          | 0.2            | 0.2          | -7.8                  | 0.1        |
| Putnam                              | 1,048.9                       | 828.0            | 0.1            | 0.1          | 12.8                  | 37.6       |
| MainStay                            | 763.4                         | 713.4            | 0.1            | 0.1          | -10.0                 | -6.0       |
| AllianceBernstein                   | 724.1                         | 564.2            | 0.1            | 0.1          | 11.3                  | 6.9        |
| Dimensional Fund Advisors           | 615.0                         | 323.5            | 0.1            | 0.0          | 69.1                  | 1,523.5    |
| Manning & Napier                    | 609.1                         | 543.0            | 0.1            | 0.1          | -2.5                  | -15.0      |
| Transamerica                        | 590.6                         | 488.5            | 0.1            | 0.1          | 6.7                   | 161.4      |
| Franklin Templeton Investments      | 517.3                         | 608.0            | 0.0            | 0.1          | 6.8                   | 1.4        |
| Fimco                               | 480.5                         | 393.6            | 0.0            | 0.0          | 5.8                   | -31.0      |
| AXA Equitable                       | 479.3                         | 382.1            | 0.0            | 0.0          | 8.3                   | -5.1       |
| Allianz Funds                       | 457.9                         | 378.8            | 0.0            | 0.0          | 3.8                   | -2.1       |
| BMO Funds                           | 351.9                         | 406.0            | 0.0            | 0.0          | -27.2                 | -3.8       |
| Invesco                             | 255.9                         | 261.6            | 0.0            | 0.0          | -10.9                 | -31.5      |
| Goldman Sachs                       | 254.0                         | 243.8            | 0.0            | 0.0          | -6.8                  | 18.4       |
| Harbor                              | 177.0                         | 146.4            | 0.0            | 0.0          | 5.4                   | 0.5        |
| Prudential Funds (PGIM Investments) | 118.4                         | 0.7              | 0.0            | 0.0          | 15,667.0              | —          |
| Natixis Funds                       | 30.8                          | —                | 0.0            | —            | —                     | —          |
| 1290 Funds                          | 24.7                          | —                | 0.0            | —            | —                     | —          |
| Columbia                            | 18.5                          | —                | 0.0            | —            | —                     | —          |
| Virtus                              | 16.2                          | 12.4             | 0.0            | 0.0          | 12.8                  | —          |
| PNC Funds                           | —                             | 27.4             | —              | 0.0          | -107.0                | 61.0       |
| Russell                             | —                             | 267.1            | —              | 0.0          | -109.6                | -21.5      |
| <b>Total</b>                        | <b>1,107,629.7</b>            | <b>880,585.4</b> | <b>100.0</b>   | <b>100.0</b> | <b>8.0</b>            | <b>7.8</b> |

Source: Morningstar, Inc. Data as of 12/31/17.

**“You want it, we got it.”**

Firms that manage target-date funds increasingly have launched additional target-date series in attempt to meet investors’ preferences. Initially, firms came to market with just a single approach to target-date investing, but since 2008, when Voya—then under the ING name—launched a version of its original strategy that invested only in index funds, several firms have also launched a second or even third target-date series. Exhibit 9 shows the 12 firms with multiple target-date series, when each series became available, each series’ assets as of year-end 2017, and estimated net flows in 2017. (Invesco launched a second target-date series—Peak Retirement—in 2017, but it was excluded from Exhibit 9 since the launch occurred at the end of the year.)

A firm's least-expensive series generally has been the most popular with investors. Firms with multiple target-date series often offer a version that invests predominantly in index funds as an alternative to one that holds actively managed underlying funds. These versions typically follow the same general asset-allocation approach as the legacy series, but for a lower fee and subsequently attract more flows than the older sibling series. BlackRock, Fidelity, John Hancock, Schwab, TIAA-CREF, and Voya each saw the highest estimated net flows in their passive series in 2017. In the cases of BlackRock, John Hancock, and Voya, which each offer three series, one of their passive series was the only one with positive estimated net flows in 2017.

Other firms have created series with more exposure to index funds while keeping some actively managed funds in the mix. These “blend” or “hybrid” strategies also have found favor with investors: The blend series from J.P. Morgan, PIMCO, and Principal each saw positive

estimated net flows in 2017 while their active versions experienced negative estimated net flows.

A few providers offered multiple glide paths to address different levels of risk-tolerance, but investors haven't displayed a strong preference for the new glide paths. While John Hancock's Multi-Index Preservation series has slightly more assets than its older Multimanager Lifetime series, T. Rowe Price's Target Retirement series, which launched in in 2013, represented less than 1% of the firm's target-date mutual fund assets at year-end 2017. Great-West and Wells Fargo also offer multiple glide paths, but both saw negative estimated net flows from all their series in 2017.

**Exhibit 9 Fund Firms With Multiple Target-Date Fund Series**

| Firm and Target-Date Series Name      | Inception Date | Assets<br>US\$ Million | % of Firm's TDF Assets | 2017 Estimated Flows<br>US\$ Million |
|---------------------------------------|----------------|------------------------|------------------------|--------------------------------------|
| <b>BlackRock</b>                      |                | <b>18,471.0</b>        |                        |                                      |
| BlackRock LifePath Dynamic            | 3/1/94         | 1,426.5                | 7.7                    | -510.6                               |
| BlackRock LifePath Smart Beta         | 4/20/07        | 168.1                  | 0.9                    | -5.1                                 |
| BlackRock LifePath Index              | 5/31/11        | 16,876.4               | 91.4                   | 5,075.4                              |
| <b>Fidelity</b>                       |                | <b>227,377.5</b>       |                        |                                      |
| Fidelity Freedom                      | 10/17/96       | 185,224.9              | 81.5                   | 1,191.3                              |
| Fidelity Advisor Freedom              | 7/24/03        | 18,294.8               | 8.0                    | -1,634.4                             |
| Fidelity Freedom Index                | 10/2/09        | 23,856.4               | 10.5                   | 3,613.1                              |
| Fidelity Flex Freedom                 | 6/8/17         | 1.4                    | 0.0                    | 1.3                                  |
| <b>Great-West</b>                     |                | <b>7,467.8</b>         |                        |                                      |
| Great-West Lifetime Conservative      | 5/1/09         | 676.1                  | 9.1                    | -81.0                                |
| Great-West Lifetime                   | 5/1/09         | 6,191.7                | 82.9                   | -82.8                                |
| Great-West SecureFoundation Lifetime  | 11/13/09       | 600.0                  | 8.0                    | -27.4                                |
| <b>John Hancock</b>                   |                | <b>17,163.2</b>        |                        |                                      |
| John Hancock Multimanager Lifetime    | 10/30/06       | 7,687.0                | 44.8                   | -847.9                               |
| John Hancock Multi-Index Preservation | 4/23/10        | 8,162.6                | 47.6                   | -787.7                               |
| John Hancock Multi-Index Lifetime     | 11/7/13        | 1,313.7                | 7.7                    | 168.7                                |
| <b>JPMorgan</b>                       |                | <b>53,498.5</b>        |                        |                                      |
| JPMorgan SmartRetirement              | 5/15/06        | 45,580.5               | 85.2                   | -1,189.0                             |
| JPMorgan SmartRetirement Blend        | 7/2/12         | 7,918.0                | 14.8                   | 1,861.7                              |
| <b>PIMCO</b>                          |                | <b>480.5</b>           |                        |                                      |
| PIMCO RealPathTM                      | 3/31/08        | 177.0                  | 36.8                   | -216.7                               |
| PIMCO RealPath Blend                  | 12/31/14       | 303.5                  | 63.2                   | 239.5                                |
| <b>Principal</b>                      |                | <b>26,371.5</b>        |                        |                                      |
| Principal LifeTime                    | 3/1/01         | 25,154.1               | 95.4                   | -3,728.0                             |
| Principal Lifetime Hybrid             | 9/30/14        | 1,217.4                | 4.6                    | 224.3                                |
| <b>Schwab</b>                         |                | <b>4,464.9</b>         |                        |                                      |
| Schwab Target                         | 1/1/05         | 4,085.2                | 91.5                   | 96.1                                 |
| Schwab Target Index                   | 8/25/16        | 379.7                  | 8.5                    | 306.5                                |
| <b>T. Rowe Price</b>                  |                | <b>165,573.8</b>       |                        |                                      |
| T. Rowe Price Retirement              | 9/30/02        | 164,047.7              | 99.1                   | -9,749.5                             |
| T. Rowe Price Target Retire           | 8/20/13        | 1,526.1                | 0.9                    | 203.5                                |
| <b>TIAA-CREF</b>                      |                | <b>43,578.5</b>        |                        |                                      |
| TIAA-CREF Lifecycle                   | 10/15/04       | 30,636.2               | 70.3                   | 2,015.6                              |
| TIAA-CREF Lifecycle Index             | 9/30/09        | 12,942.3               | 29.7                   | 4,059.4                              |
| <b>Voya</b>                           |                | <b>6,987.5</b>         |                        |                                      |
| Voya Solution                         | 4/23/05        | 3,278.4                | 46.9                   | -2,990.4                             |
| Voya Index Solution                   | 3/10/08        | 3,673.5                | 52.6                   | 1,037.1                              |
| Voya Target Retirement                | 12/20/12       | 35.6                   | 0.5                    | 11.5                                 |
| <b>Wells Fargo</b>                    |                | <b>5,522.9</b>         |                        |                                      |
| Wells Fargo Target                    | 3/1/94         | 5,455.7                | 98.8                   | -4,850.3                             |
| Wells Fargo Dynamic Target            | 11/30/15       | 67.2                   | 1.2                    | -1.8                                 |

Source: Morningstar, Inc. Data as of 12/31/17.

## A Fairly Steady Universe of Competitors

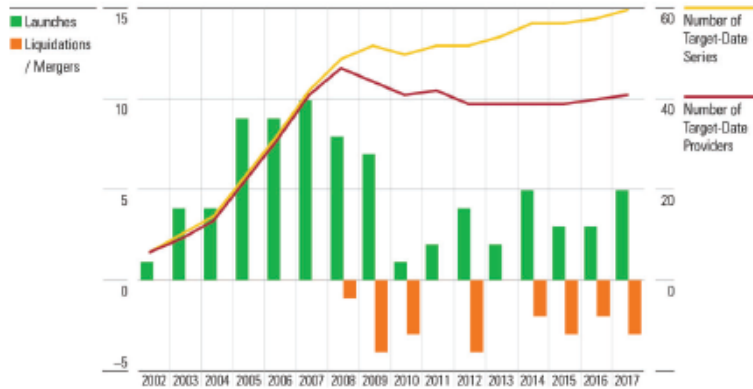
Leading up to and shortly after the Pension Protection Act of 2006, the number of target-date series available to

investors grew significantly, but growth has been moderate since. Exhibit 10 shows that 60 series of target-date mutual funds existed at year-end 2017, an all-time high, but the number hasn't increased by more than three per year since 2008. Exhibit 10 also shows that no more than five series have come to market in a calendar year since 2009. Meanwhile, two to four series have liquidated in most years since 2009.

In 2017, five target-date series launched, the most in a year since 2014. The launches included first-time entrants (1290 Retirement and Natixis Sustainable Future); another attempt from former and existing providers (Columbia Adaptive Retirement and Invesco Peak Retirement, respectively); and a version of an existing series (Fidelity Flex Freedom). New entrants often feature uncommon attributes to draw attention. For instance, unlike most target-date peers, the Natixis Sustainable Future series focuses on environmental, social, and governance investments.

The year also saw the liquidations of three series: Fidelity Multi-Manager, PNC Target, and Russell LifePoints. Each of these series struggled to gain traction, as none of them reached more than \$1 billion in assets despite having at least a four-year track record. The Russell LifePoints series dated back to the end of 2004.

**Exhibit 10** Number of Target-Date Series, Launches and Terminations 2002-17



Source: Morningstar, Inc. Data as of 12/31/17.

### Available as a Collective Investment Trust

Not only do target-date providers offer variations of their strategies, they also commonly make their strategies available in a different vehicle, via a collective investment trust, or CIT. Collective investment trusts, which are designed for qualified institutional investors, typically cost less than mutual funds.

Because CITs aren't subject to the same regulations or public disclosure requirements as mutual funds, investment firms voluntarily report CIT information to firms such as Morningstar. As a result, Morningstar's CIT database does not capture all target-date CIT offerings. Nonetheless, Morningstar's CIT data provides investors with a broader view of the target-date fund landscape. Exhibit 11 shows the total assets in target-date CITs for the 10 largest providers of target-date mutual funds as reported to Morningstar, as well as CIT series with more than \$1 billion in assets.

**Exhibit 11** Target-Date Mutual Fund Assets and CIT Assets

| Firm                         | Target-Date Mutual Fund | Estimated Target-Date CIT | Estimated Target-Date Total |
|------------------------------|-------------------------|---------------------------|-----------------------------|
| Vanguard                     | 381,489.8               | 241,318.6                 | 622,808.4                   |
| Fidelity Investments         | 227,532.3               | 29,273.4                  | 256,805.7                   |
| T. Rowe Price                | 165,573.8               | 58,373.7                  | 224,947.5                   |
| BlackRock                    | 18,474.3                | 121,278.5                 | 139,752.9                   |
| American Funds               | 88,662.1                | —                         | 88,662.1                    |
| JPMorgan                     | 53,488.5                | 31,366.3                  | 84,854.8                    |
| Principal Funds              | 26,371.5                | 33,819.8                  | 60,191.3                    |
| State Street                 | 4,417.2                 | 40,908.0                  | 45,325.2                    |
| TIAA Investments             | 43,578.5                | —                         | 43,578.5                    |
| American Century Investments | 19,014.5                | 4,664.6                   | 23,679.1                    |
| Schwab Funds                 | 4,464.9                 | 14,357.5                  | 18,822.3                    |
| John Hancock                 | 17,163.2                | —                         | 17,163.2                    |
| Wells Fargo Funds            | 5,522.9                 | 11,445.9                  | 16,968.8                    |
| Voya                         | 6,987.5                 | 1,997.8                   | 8,985.4                     |
| Great-West                   | 7,467.8                 | 1,340.5                   | 8,808.3                     |
| Northern Trust               | —                       | 7,635.3                   | 7,635.3                     |
| VantagePoint                 | —                       | 5,107.3                   | 5,107.3                     |
| flexPATH                     | —                       | 4,676.9                   | 4,676.9                     |
| Putnam                       | 1,048.9                 | 3,261.8                   | 4,310.6                     |
| Aon Hewitt                   | —                       | 4,053.8                   | 4,053.8                     |
| UBS/Morningstar              | —                       | 3,932.4                   | 3,932.4                     |
| BNY Mellon                   | —                       | 1,956.1                   | 1,956.1                     |

Source: Morningstar, Inc. Data as of 12/31/17.

By summing up firms' mutual fund and CIT assets, the competitive landscape of target-date providers shifts. Vanguard's sizable assets in CITs add significantly to its lead over peers, while BlackRock's more than \$100 billion in target-date CITs raises it to one of the largest industry players. State Street Global Advisors, which launched its target-date mutual funds in 2014, also has much more in target-date CITs than mutual funds. Meanwhile, American Funds, TIAA Investments, and John Hancock lack a CIT offering, thereby reducing their overall market share.

Certain firms offer target-date CITs but no mutual funds. VantagePoint transitioned its target-date mutual funds to CITs in 2016 and held roughly \$5 billion in the CITs at year-end 2017. Northern Trust (\$7.6 billion) is the other CIT-only provider with more than \$5 billion in target-date assets.

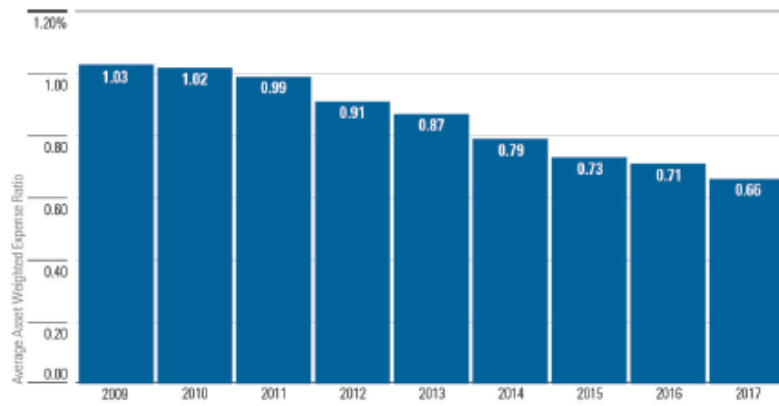
## Price

Asset-flow trends indicate that costs drive buying decisions for target-date funds. As a result, target-date fund providers remain under constant pressure to keep their fees competitive. This section discusses the current state of pricing for target-date funds.

### Target-Date Fund Fees Continue to Decline

The multiyear downward trend in fees continued for target-date funds in 2017. Exhibit 12 shows that the average asset-weighted expense ratio for target-date funds fell to 0.66% at the end of 2017, a 5-basis-point decline from 0.71% the previous year. The average asset-weighted expense ratio has come down by more than 35% since hitting 1.03% at the end of 2009.

**Exhibit 12** Target-Date Funds' Average Asset-Weighted Expense Ratio, 2009-17



Source: Morningstar, Inc. Data as of 12/31/17.

The declining asset-weighted expense ratio comes from a variety of sources: existing target-date providers lowering their fees, investors selecting lower-cost share classes, the liquidation of pricey target-date series, and the arrival of competitively priced series. A review of how each series' asset-weighted expense ratio changed over

the past year helps identify the source of the decline. Exhibit 13 shows each series' year-over-year change, listing them from the biggest declines to the largest increases.

**Exhibit 13** Target-Date Series' Expense and Market Share

| Target-Date Series                        | Weighted Average Expense Ratio % |      |                           | Market Share % |       |
|---|----------------------------------|------|---------------------------|----------------|-------|
|   | 2017                             | 2016 | 2017 to 2016 Change (bps) | 2017           | 2016  |
| Voya Index Solution                       | 0.45                             | 0.73 | -0.28                     | 0.33           | 0.25  |
| Prudential Day One                        | 0.47                             | 0.73 | -0.26                     | 0.01           | 0.00  |
| AB Multi-Manager Select                   | 0.84                             | 1.08 | -0.24                     | 0.07           | 0.06  |
| Wells Fargo Target                        | 0.38                             | 0.54 | -0.16                     | 0.02           | 1.07  |
| Schwab Target                             | 0.57                             | 0.69 | -0.12                     | 0.37           | 0.39  |
| Putnam RetirementReady                    | 0.99                             | 1.08 | -0.09                     | 0.09           | 0.09  |
| BlackRock LifePath Smart Beta             | 0.60                             | 0.68 | -0.08                     | 0.02           | 0.02  |
| American Funds Trgt Date Rtrmt            | 0.67                             | 0.75 | -0.08                     | 8.00           | 6.09  |
| State Farm LifePath                       | 0.87                             | 0.95 | -0.08                     | 0.77           | 0.84  |
| Franklin LifeSmart                        | 1.05                             | 1.12 | -0.07                     | 0.05           | 0.06  |
| American Century One Choice               | 0.80                             | 0.87 | -0.07                     | 1.72           | 1.93  |
| Manning & Napier Target                   | 0.96                             | 1.02 | -0.06                     | 0.05           | 0.06  |
| Goldman Sachs Target Date Portfolio       | 0.48                             | 0.54 | -0.06                     | 0.02           | 0.03  |
| USAA Target Retirement Funds              | 0.76                             | 0.82 | -0.06                     | 0.36           | 0.44  |
| JPMorgan SmartRetirement                  | 0.68                             | 0.74 | -0.06                     | 4.12           | 4.96  |
| Schwab Target Index                       | 0.08                             | 0.13 | -0.05                     | 0.03           | 0.01  |
| Voya Solution                             | 1.06                             | 1.10 | -0.04                     | 0.30           | 0.36  |
| Fidelity Advisor Freedom                  | 0.91                             | 0.95 | -0.04                     | 1.65           | 1.93  |
| Principal Lifetime Hybrid                 | 0.47                             | 0.50 | -0.03                     | 0.06           | 0.03  |
| T. Rowe Price Retirement                  | 0.73                             | 0.76 | -0.03                     | 14.66          | 16.68 |
| Guidestone Funds MyDestination            | 0.99                             | 1.02 | -0.03                     | 0.27           | 0.27  |
| PIMCO RealPathTM                          | 0.74                             | 0.77 | -0.03                     | 0.03           | 0.04  |
| JPMorgan SmartRetirement Blend            | 0.32                             | 0.35 | -0.03                     | 0.71           | 0.13  |
| BlackRock LifePath Index                  | 0.14                             | 0.17 | -0.03                     | 1.52           | 1.12  |
| AXA Target Allocation                     | 1.02                             | 1.04 | -0.02                     | 0.04           | 0.04  |
| AllianzGI Retirement                      | 0.68                             | 0.70 | -0.02                     | 0.04           | 0.04  |
| Nationwide Target Destination             | 0.74                             | 0.76 | -0.02                     | 0.17           | 0.20  |
| Great-West Lifetime Conservative          | 0.97                             | 0.99 | -0.02                     | 0.08           | 0.08  |
| Great-West Lifetime                       | 1.01                             | 1.02 | -0.01                     | 0.56           | 0.62  |
| KP Retirement Path                        | 0.44                             | 0.45 | -0.01                     | 0.62           | 0.60  |
| TIAA-CREF Lifecycle Index                 | 0.17                             | 0.18 | -0.01                     | 1.14           | 0.79  |
| MassMutual RetireSMART                    | 0.98                             | 0.99 | -0.01                     | 0.22           | 0.27  |
| Great-West SecureFoundation Lifetime      | 0.70                             | 0.71 | -0.01                     | 0.05           | 0.06  |
| TIAA-CREF Lifecycle                       | 0.51                             | 0.52 | -0.01                     | 2.68           | 2.77  |
| BMO Target Date Retirement Funds          | 0.76                             | 0.77 | -0.01                     | 0.03           | 0.05  |
| Invesco Balanced-Risk Retirement          | 1.15                             | 1.16 | -0.01                     | 0.02           | 0.03  |
| Harbor Target Retirement                  | 0.70                             | 0.71 | -0.01                     | 0.02           | 0.02  |
| John Hancock Multi-Index Lifetime         | 0.42                             | 0.42 | 0.00                      | 0.12           | 0.11  |
| Vanguard Target Retirement                | 0.13                             | 0.13 | 0.00                      | 34.44          | 31.84 |
| John Hancock Multi-Index Preservation     | 0.41                             | 0.41 | 0.00                      | 0.74           | 0.91  |
| T. Rowe Price Target Retire               | 0.69                             | 0.69 | 0.00                      | 0.25           | 0.13  |
| Dimensional Target Date Retirement Income | 0.28                             | 0.28 | 0.00                      | 0.06           | 0.04  |
| Wells Fargo Dynamic Target                | 0.65                             | 0.65 | 0.00                      | 0.48           | 0.01  |
| MainStay Retirement                       | 0.86                             | 0.86 | 0.00                      | 0.07           | 0.08  |
| 1290 Retirement                           | 0.65                             | —    | —                         | 0.00           | —     |

Source: Morningstar, Inc. Data as of 12/31/17.

**Exhibit 13** Target-Date Series' Expense and Market Share (Continued)

| Target-Date Series                 | Weighted Average Expense Ratio % |      |                           | Market Share % |       |
|------------------------------------|----------------------------------|------|---------------------------|----------------|-------|
|                                    | 2017                             | 2016 | 2017 to 2016 Change (bps) | 2017           | 2016  |
| Natixis Sustainable Future         | 0.65                             | —    | —                         | 0.00           | —     |
| Columbia Adaptive Retirement       | 0.59                             | —    | —                         | 0.00           | —     |
| MFS Lifetime                       | 0.87                             | 0.87 | 0.00                      | 0.25           | 0.29  |
| State Street Target Retirement     | 0.13                             | 0.13 | 0.00                      | 0.38           | 0.14  |
| Fidelity Freedom Index             | 0.12                             | 0.12 | 0.00                      | 2.15           | 1.94  |
| ClearTrack                         | 1.19                             | 1.19 | 0.00                      | 0.05           | 0.06  |
| Fidelity Freedom                   | 0.66                             | 0.66 | 0.00                      | 16.72          | 18.03 |
| Blackflock LifePath Dynamic        | 0.81                             | 0.81 | 0.00                      | 0.13           | 0.19  |
| Principal LifeTime                 | 0.82                             | 0.81 | 0.01                      | 2.32           | 2.94  |
| John Hancock Multimanager Lifetime | 0.68                             | 0.67 | 0.01                      | 0.69           | 0.83  |
| Voya Target Retirement             | 0.75                             | 0.73 | 0.02                      | 0.00           | 0.00  |
| Virtus DFA Trgt Date Retire Inc    | 0.74                             | 0.70 | 0.04                      | 0.00           | 0.00  |
| PIMCO RealPath Blend               | 0.38                             | 0.28 | 0.10                      | 0.00           | 0.00  |

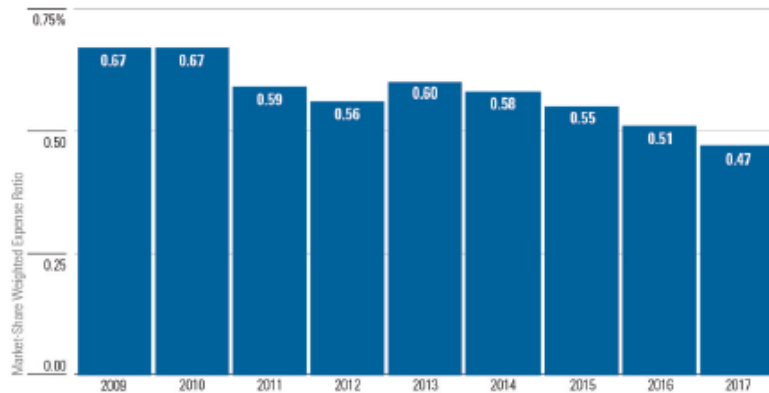
Source: Morningstar, Inc. Data as of 12/31/17.

Most target-date series' asset-weighted expense ratios declined in 2017. The Voya Index Solution saw the biggest drop of 28 basis points. Voya reduced the underlying fund fee and increased net flows to its lowest cost share class, the Z shares. The Prudential Day One series, which launched in December 2016, saw its asset-weighted expense ratio come down significantly in 2017, as the majority of flows went to its lowest-cost R6 share class. Meanwhile, the notable declines for the Wells Fargo Target and Schwab Target series both came from cutting costs in 2017. Wells Fargo's fees declined after it revamped the series in mid-2017, while Schwab injected more passively managed strategies into the underlying mix, which lowered fees. Conversely, PIMCO RealPath Blend, with its 10-basis-point increase, was the only series to see fees go up by more than 5 basis points over the year. That came from increased flows to the higher-cost Administrative share class in 2017 and does not reflect an increase in fees for the series.

### Most Target-Date Investors Pay Less Than Average

While target-date funds' average asset-weighted expense ratio has declined to a historical low, most investors in the funds actually pay less than the average. Exhibit 14 shows how the market-share-weighted expense ratio has changed over time. Unlike the average asset-weighted expense ratio, which weighs each series equally in calculating the average, the market-share-weighted expense ratio considers each series' market share. The 0.47% market-share-weighted expense ratio at the end of 2017 came in well below the 0.66% asset-weighted average expense ratio, reflecting that lower-cost offerings are winning investor assets.

**Exhibit 14** Target-Date Funds' Market-Share-Weighted Expense Ratio, 2009-17



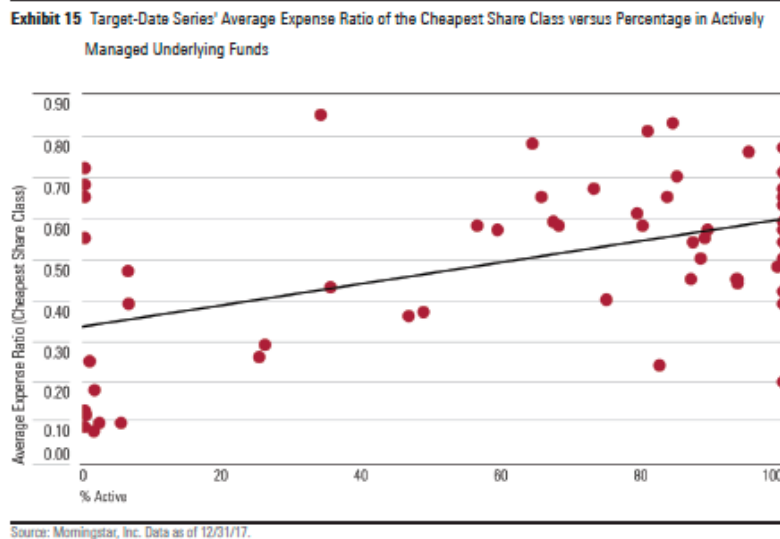
Source: Morningstar, Inc. Data as of 12/31/17.

### Buyer Beware

Low costs allow investors to reap more of their investment gains, but investors in target-date funds need to look beyond price tags to investment strategy to determine the appropriateness of the fees. A target-date provider's decision to use actively or passively managed strategies to gain exposure to desired asset classes

directly affects a target-date series' cost. Investors in series that hold passive strategies should generally expect to pay less, whereas active management often comes with a higher cost.

The distinction between “active” and “passive” target-date series has become more muddled in recent years. Several target-date series that have historically held actively managed strategies have inserted or relied more heavily on passive funds. Meanwhile, other series explicitly aim to blend active and passive funds. Exhibit 15 plots the average expense ratio of each series' lowest-cost share class while considering the percentage of series assets held in actively managed funds as of year-end 2017 to illustrate the murkiness of the active/passive distinction.



Some target-date series may appear competitively priced on the surface, but less so when considering their passive exposure. Exhibit 16 lists the coordinates for each series included in Exhibit 15, providing clarity on the

competitiveness of a series' fees versus similarly constructed peers. The Great-West Lifetime and Lifetime Conservative series both have expense ratios that would be close to the norm for a 100% active strategy, but those series hold less than 60% in active strategies. Similarly, the Schwab Target series' 0.58% expense ratio looks less appealing given it held only 68% in active strategies at the end of 2017. Meanwhile, the Principal LifeTime Hybrid series launched in 2014 as a low-cost alternative to the firm's legacy series, but its 0.43% expense ratio looks ordinary rather than a bargain considering roughly two thirds of the assets were in passive strategies at year-end 2017.

Not all passive series come with low costs. The cluster of passive series with low expense ratios includes the Schwab Target Index (0.08%), Vanguard Target Retirement (0.09%), Fidelity Freedom Index (0.10%), TIAA Lifecycle Index (0.10%), BlackRock LifePath Index (0.12%), and State Street Target Retirement (0.13%). Still, four passive series have expense ratios above 0.50%: ClearTrack (0.55%), 1290 Retirement (0.65%), Great-West Secure Foundation Lifetime (0.68%), and State Farm Lifepath (0.72%).

Exhibit 16 also identifies target-date series that may not be among the cheapest available, but are attractively priced considering their investment in actively managed funds. While the Wells Fargo Target series stands out with its 0.20% expense ratio while being 100% active, its exposure includes passive: The series holds individual securities that together replicate indexes in certain asset classes. Elsewhere, the Dimensional Target Date Retirement Income series is classified as holding more than 80% of assets in active strategies with an expense ratio of just 0.24%, but the firm keeps costs low through

an overarching systematic, rules-based approach that's distinct from traditional active management. American Funds Target Date Retirement (0.39%) and TIAA-CREF Lifecycle (0.42%) come in next, and then a few prominent series land in the 0.45% to 0.50% range: Fidelity Freedom (0.45%), JPMorgan SmartRetirement (0.48%), MFS Lifetime (0.49%), and American Century One Choice (0.50%). These all come in notably lower than the 0.55% average for a series with 100% in active strategies.

**Exhibit 16 Target-Date Series' Average Expense Ratio of the Cheapest Share Class versus Percentage in Actively Managed Underlying Funds**

| Name                                  | Active % | Average Expense Ratio (Cheapest Share Class) | Name                            | Active % | Average Expense Ratio (Cheapest Share Class) |
|---------------------------------------|----------|--|---------------------------------|----------|--|
| 1290 Retirement                       | 0        | 0.85   | KP Retirement Path              | 93       | 0.44   |
| AB Multi-Manager Select               | 80       | 0.58   | MainStay Retirement             | 64       | 0.78   |
| AllianzGI Retirement                  | 89       | 0.55   | Manning & Napier Target         | 100      | 0.59   |
| American Century One Choice           | 100      | 0.50   | MassMutual RetireSMART          | 100      | 0.54   |
| American Funds Trgt Date Rtrmt        | 100      | 0.39   | MFS Lifetime                    | 100      | 0.49   |
| AXA Target Allocation                 | 34       | 0.85   | Nationwide Destination          | 6        | 0.39   |
| BlackRock LifePath Dynamic            | 87       | 0.45   | Natixis Sustainable Future      | 100      | 0.85   |
| BlackRock LifePath Index              | 0        | 0.12   | PIMCO RealPath Blend            | 25       | 0.26   |
| BlackRock LifePath Smart Beta         | 1        | 0.25   | PIMCO RealPathTM                | 100      | 0.63   |
| BMO Target Date Retirement Funds      | 83       | 0.65   | Principal Lifetime Hybrid       | 35       | 0.43   |
| ClearTrack                            | 0        | 0.55   | Principal LifeTime              | 85       | 0.70   |
| Columbia Adaptive Retirement          | 88       | 0.50   | Prudential Day One              | 75       | 0.40   |
| Dimensional Target Date Retire Income | 82       | 0.24   | Putnam RetirementReady          | 100      | 0.67   |
| Fidelity Advisor Freedom              | 93       | 0.45   | Schwab Target Index             | 1        | 0.08   |
| Fidelity Freedom Index                | 5        | 0.10   | Schwab Target                   | 68       | 0.58   |
| Fidelity Freedom                      | 94       | 0.45   | State Farm Lifepath             | 0        | 0.72   |
| Franklin LifeSmart                    | 73       | 0.67   | State Street Target Retirement  | 0        | 0.13   |
| Goldman Sachs Target Date             | 6        | 0.47   | T. Rowe Price Retirement        | 87       | 0.54   |
| Great-West Lifetime Conservative      | 59       | 0.57   | T. Rowe Price Target Retire     | 89       | 0.57   |
| Great-West Lifetime                   | 56       | 0.58   | TIAA-CREF Lifecycle Index       | 2        | 0.10   |
| Great-West SecureFoundation Lifetime  | 0        | 0.68   | TIAA-CREF Lifecycle             | 100      | 0.42   |
| Guidestone Funds MyDestination        | 84       | 0.83   | USAA Target Retirement Funds    | 95       | 0.76   |
| Harbor Target Retirement              | 100      | 0.71   | Vanguard Target Retirement      | 0        | 0.09   |
| Invesco Balanced-Risk Retirement      | 100      | 0.77   | Virtus DFA Trgt Date Retire Inc | 79       | 0.61   |
| John Hancock Multi-Index Lifetime     | 48       | 0.37   | Voya Index Solution             | 1        | 0.18   |
| John Hancock Multi-Index Preservation | 46       | 0.36   | Voya Solution                   | 81       | 0.81   |
| John Hancock Multimanager Lifetime    | 100      | 0.57   | Voya Target Retirement          | 65       | 0.65   |
| JPMorgan SmartRetirement Blend        | 26       | 0.29   | Wells Fargo Dynamic Target      | 67       | 0.59   |
| JPMorgan SmartRetirement              | 99       | 0.48   | Wells Fargo Target              | 100      | 0.20   |

Source: Morningstar, Inc. Data as of 12/31/17.

## **Performance**

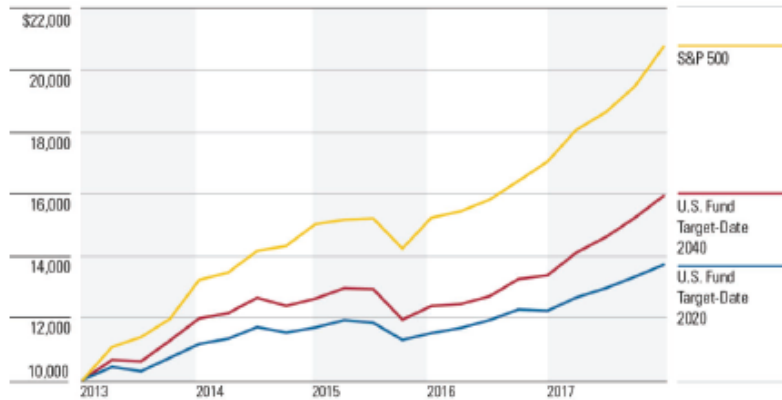
Serving as all-in-one option for an investor's retirement savings, target-date funds rightfully face scrutiny when it comes to performance results. This section looks at how target-date funds have performed versus the broad U.S. equity market, and then compares how different series of target-date funds have fared versus each other.

### **The Potential for Disappointing by Diversifying**

Target-date funds don't guarantee a return that ensures investors have sufficient savings at retirement; instead they provide a diversified portfolio that considers an investor's age in setting asset allocation and balancing risks. This simple, yet crucial, perspective helps keep target-date fund performance in proper context. As U.S. large-cap stocks have generally been the top-performing investment over the past several years, target-date investors' portfolios are typically more diverse, which may lead investors to question the merit of diversifying beyond U.S. stocks.

U.S. large-cap stocks outpaced target-date funds handily over the past five years through December 2017. Using the S&P 500 as a proxy for U.S. large-cap stocks, Exhibit 17 shows that an investor with \$10,000 (assuming no additional contributions) would have ended up with nearly \$21,000 by investing only in U.S. large-cap stocks, compared with just under \$16,000 with the average return for a 2040 fund and less than \$14,000 for a 2020 fund.

**Exhibit 17** Five-Year Growth of \$10,000: S&P 500 versus Average Target-Date Fund Returns



Source: Morningstar, Inc. Data as of 12/31/17.

As seen in Exhibit 18, the return advantage of investing in U.S. large-cap stocks holds true over the past 15 years through December 2017 as well, but the advantage came later in the period. The S&P 500 did not surge ahead of the average return of a 2020 or 2040 target-date fund until late 2011.

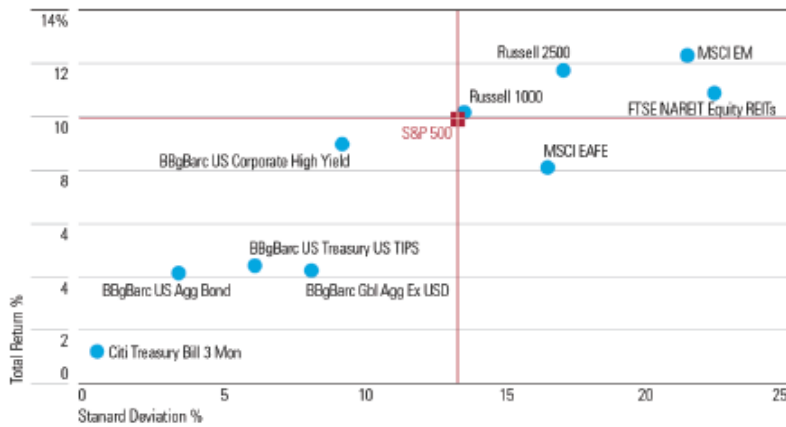
**Exhibit 18** Fifteen-Year Growth of \$10,000: S&P 500 versus Average Target-Date Fund Returns



Source: Morningstar, Inc. Data as of 12/31/17.

The inability of target-date funds to keep pace with the S&P 500 doesn't come as a surprise considering their asset-class exposure. Exhibit 19 plots the return and standard deviations of the S&P 500 (the crosshairs) as well as other indexes that serve as proxies of asset classes commonly seen in target-date funds. Notably, none of the asset classes had both a higher return and less volatility than the S&P 500 over the period, and non-U.S. developed stocks (as represented by the MSCI EAFE Index) had a lower return and more volatility.

**Exhibit 19** Fifteen-Year Risk/Reward: S&P 500 versus Common Asset Classes in Target-Date Funds



Source: Morningstar, Inc. Data as of 12/31/17.

### May Lose Money, but Usually Less

Being that many investors arrive in a target-date fund as a default investment in a retirement plan rather than by proactively selecting one, the funds often come under increased scrutiny when market turbulence hits and questions about investors' tolerance to losses arise. Memories of the target-date funds' participation in the market losses experienced during the financial crisis also resurface. (The average returns of the 2020 and 2040

target-date funds were negative 29.5% and negative 37.9% in 2008, respectively.)

Importantly, target-date funds' primary objective is not to preserve capital, though the funds have held up relatively well when the market declines. Exhibit 20 shows the quarterly success rate and average excess return of the average 2020 and 2040 funds versus the S&P 500 over the past 15 years, and then divides the results into particular market environments. While they generally lagged, both target-date funds' average returns held up better in down markets, with the 2020 fund faring better than the S&P 500 in 87% of down quarters and outperforming by more than 2.0%, on average, those quarters. Exhibit 20 also shows that the average target-date fund returns struggle to keep pace when the S&P 500 is rising and when U.S. stocks are generally in favor compared with foreign stocks.

**Exhibit 20** Quarterly Return Success Ratios versus S&P 500 for 15 Years

|   | Target-Date Fund Average |       |            |       |
|---|--------------------------|-------|------------|-------|
|   | Entire Period            |       | Up Markets |       |
|   | 2040                     | 2020  | 2040       | 2020  |
| % of Quarters Beat the S&P 500              | 43                       | 33    | 38         | 16    |
| Average Quarterly Excess Return vs. S&P 500 | -0.53                    | -0.96 | -0.73      | -2.00 |

Source: Morningstar, Inc. Data as of 12/31/17.

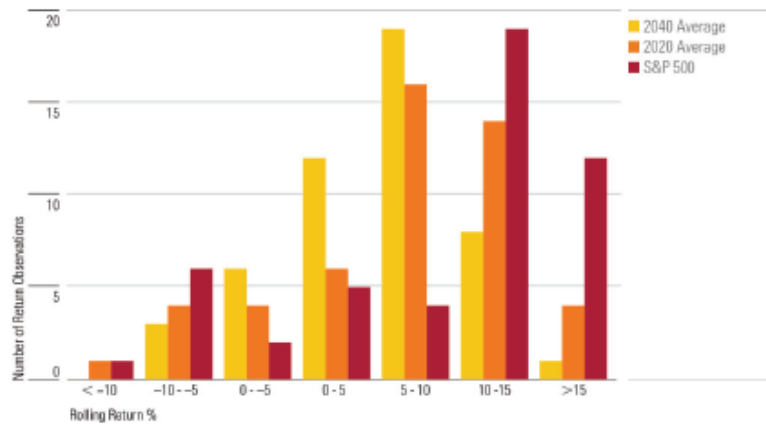
| Down Markets | U.S. > Non-U.S. Equity |      | Non-U.S. > U.S. Equity |       |
|--------------|------------------------|------|------------------------|-------|
|              | 2040                   | 2020 | 2040                   | 2020  |
|              | 60                     | 87   | 11                     | 29    |
|              | 0.07                   | 2.15 | -1.75                  | -1.67 |

### **Looking Back to Set Expectations**

Past returns certainly don't predict future returns, but a glance back may give investors at least a general sense of what they could experience when investing in a target-date fund. Exhibit 21 shows the frequency of rolling three-year returns landing within certain absolute-return ranges over the past 15 years for the average 2020 and 2040 target-date funds as well as the S&P 500. Roughly 60% of the time, the average 2020 return landed between 0% and 10%, the average 2040 return between 5% and 15%, and the S&P 500 exceeded 10%, in a roughly linear fashion. All three experienced the same number of losses over the period (slightly less than 20% of observations), though the S&P 500's were usually more severe.

While absolute returns may vary depending on the market environment, target-date investors may reasonably assume the relative outcomes of the past will hold true going forward. Target-date funds may not be the best performers when equity markets rise, but they should generate positive absolute returns. Meanwhile, they can be expected to lose value when equity markets decline, and they should hold up better than 100%-equity particularly funds that are closer to their target date and hold significant positions in bonds.

**Exhibit 21** Distribution of Rolling Three-Year Returns Over 15 Years



Source: Morningstar, Inc. Data as of 12/31/17.

### The Leaders and Laggards

Different investment philosophies, approaches, and exposures cause performance for target-date funds to vary. One way to gauge the success of target-date funds is by evaluating how returns rank within peer groups, as the peer groups represent the available opportunity set. Exhibit 22 displays each target-date series' average Morningstar Category rank—considering all funds and share classes within a series—for the trailing periods through year-end 2017.

Only four series stood out with average ranks that topped at least 60% of peers over all trailing periods shown: American Funds Target Date Retirement, T. Rowe Price Retirement, TIAA-CREF Lifecycle, and Vanguard Target Retirement. (Each of the series had at least \$30 billion in assets as of December 2017.) All of them benefited from above-average equity exposure across most of the glide path as well as generally strong showings from underlying holdings.

Some target-date series posted lackluster average ranks over all trailing periods. The Franklin LifeSmart, Invesco Balanced-Risk Retirement, State Farm LifePath, and Wells Fargo Target series each lagged at least 60% of peers across all trailing periods shown. These series' generally below-average equity exposures across the glide path proved to be a headwind over the 10-year period. A number of other series also struggled but haven't reached 10 years of performance history yet. Series with lagging peer ranks generally have been challenged in attracting and retaining assets.

Some series appear to be reversing their long-term standing. Following a string of changes beginning in 2012, the Fidelity Freedom series' recent performance has improved to top-quartile ranks for trailing periods five years and shorter, pulling its 10-year average rank to the middle of the pack. Meanwhile, the American Century One Choice's recent woes have dented its long-term record. The series still boasts a 10-year average rank that beats 64% of peers, but it has lagged at least two thirds of peers over the one-, three-, and five-year periods, as some of its largest underlying equity funds have posted lackluster results.

**Exhibit 22** Trailing Average Category Ranks by Target-Date Series (All Share Classes)

| Name                                   | Average Category Rank |        |        |         |  |
|--|-----------------------|--------|--------|---------|--|
|  | 1 Year                | 3 Year | 5 Year | 10 year |  |
| 1290 Retirement                        | —                     | —      | —      | —       |  |
| AllianceBernstein Multi-Manager Select | 27                    | 31     | —      | —       |  |
| AlliantGI Retirement                   | 28                    | 36     | 92     | —       |  |
| American Century One Choice            | 87                    | 84     | 66     | 36      |  |
| American Funds Trgt Date Rtmnt         | 36                    | 29     | 10     | 30      |  |
| AXA Target Allocation                  | 49                    | 60     | 44     | 99      |  |
| BlackRock LifePath Dynamic             | 27                    | 55     | 71     | 57      |  |
| BlackRock LifePath Index               | 52                    | 37     | 45     | —       |  |
| BlackRock LifePath Smart Beta          | 49                    | 60     | 61     | 59      |  |
| BMO Target Date Retirement Funds       | 32                    | 56     | —      | —       |  |

Source: Morningstar, Inc. Data as of 12/31/17.

**Exhibit 22** Trailing Average Category Ranks by Target-Date Series (All Share Classes) (Continued)

| Name                                      | Average Category Rank |        |        |         |  |
|---|-----------------------|--------|--------|---------|--|
|   | 1 Year                | 3 Year | 5 Year | 10 Year |  |
| ClearTrack                                | 77                    | —      | —      | —       |  |
| Columbia Adaptive Retirement              | —                     | —      | —      | —       |  |
| Dimensional Target Date Retirement Income | 54                    | —      | —      | —       |  |
| Fidelity Advisor Freedom                  | 32                    | 39     | 55     | 72      |  |
| Fidelity Flex Freedom                     | —                     | —      | —      | —       |  |
| Fidelity Freedom Index                    | 47                    | 39     | 57     | —       |  |
| Fidelity Freedom                          | 15                    | 11     | 24     | 49      |  |
| Franklin LifeSmart                        | 78                    | 95     | 74     | 74      |  |
| Goldman Sachs Target Date Portfolio       | 97                    | 79     | 55     | 92      |  |
| Great-West Lifetime Conservative          | 93                    | 83     | 85     | —       |  |
| Great-West Lifetime                       | 61                    | 46     | 33     | —       |  |
| Great-West SecureFoundation Lifetime      | 72                    | 44     | 41     | —       |  |
| Guidestone Funds MyDestination            | 45                    | 74     | 81     | 71      |  |
| Harbor Target Retirement                  | 61                    | 62     | 81     | —       |  |
| Invesco Balanced-Risk Retirement          | 98                    | 93     | 98     | 94      |  |
| Invesco Peak Retirement                   | —                     | —      | —      | —       |  |
| John Hancock Multi-Index Lifetime         | 59                    | 26     | —      | —       |  |
| John Hancock Multi-Index Preservation     | 93                    | 79     | 81     | —       |  |
| John Hancock Multimanager Lifetime        | 33                    | 30     | 29     | 47      |  |
| JPMorgan SmartRetirement Blend            | 54                    | 41     | 44     | —       |  |
| JPMorgan SmartRetirement                  | 23                    | 56     | 38     | 14      |  |
| KP Retirement Path                        | 49                    | 38     | —      | —       |  |
| MainStay Retirement                       | 34                    | 66     | 32     | 28      |  |
| Manning & Napier Target                   | 40                    | 96     | 79     | —       |  |
| MassMutual NetreSMART                     | 94                    | 77     | 64     | 59      |  |
| MFS Lifetime                              | 63                    | 43     | 48     | 42      |  |
| Nationwide Destination                    | 84                    | 63     | 57     | 64      |  |
| Natixis Sustainable Future                | —                     | —      | —      | —       |  |
| PIMCO RealPath Blend                      | 59                    | 61     | —      | —       |  |
| PIMCO RealPathTM                          | 70                    | 83     | 94     | —       |  |
| Principal Lifetime Hybrid                 | 56                    | 22     | —      | —       |  |
| Principal LifeTime                        | 31                    | 72     | 57     | 67      |  |
| Prudential Day One Target Date            | 70                    | —      | —      | —       |  |
| Putnam RetirementReady                    | 67                    | 86     | 54     | 76      |  |
| Schwab Target Index                       | 69                    | —      | —      | —       |  |

Source: Morningstar, Inc. Data as of 12/31/17.

**Exhibit 22** Trailing Average Category Ranks by Target-Date Series (All Share Classes) (Continued)

| Name                                      | Average Category Rank |        |        |         |
|---|-----------------------|--------|--------|---------|
|   | 1 Year                | 3 Year | 5 Year | 10 year |
| ClearTrack                                | 77                    | —      | —      | —       |
| Columbia Adaptive Retirement              | —                     | —      | —      | —       |
| Dimensional Target Date Retirement Income | 54                    | —      | —      | —       |
| Fidelity Advisor Freedom                  | 32                    | 39     | 55     | 72      |
| Fidelity Flex Freedom                     | —                     | —      | —      | —       |
| Fidelity Freedom Index                    | 47                    | 39     | 57     | —       |
| Fidelity Freedom                          | 15                    | 11     | 24     | 49      |
| Franklin LifeSmart                        | 78                    | 95     | 74     | 74      |
| Goldman Sachs Target Date Portfolio       | 97                    | 79     | 55     | 92      |
| Great-West Lifetime Conservative          | 93                    | 83     | 85     | —       |
| Great-West Lifetime                       | 61                    | 46     | 33     | —       |
| Great-West SecureFoundation Lifetime      | 72                    | 44     | 41     | —       |
| Guidestone Funds MyDestination            | 45                    | 74     | 81     | 71      |
| Harbor Target Retirement                  | 61                    | 62     | 81     | —       |
| Invesco Balanced-Risk Retirement          | 98                    | 93     | 98     | 94      |
| Invesco Peak Retirement                   | —                     | —      | —      | —       |
| John Hancock Multi-Index Lifetime         | 59                    | 26     | —      | —       |
| John Hancock Multi-Index Preservation     | 93                    | 79     | 81     | —       |
| John Hancock Multimanager Lifetime        | 33                    | 30     | 29     | 47      |
| JPMorgan SmartRetirement Blend            | 54                    | 41     | 44     | —       |
| JPMorgan SmartRetirement                  | 23                    | 56     | 38     | 14      |
| KP Retirement Path                        | 49                    | 38     | —      | —       |
| MainStay Retirement                       | 34                    | 66     | 32     | 28      |
| Manning & Napier Target                   | 40                    | 96     | 79     | —       |
| MassMutual RetireSMART                    | 54                    | 77     | 64     | 59      |
| MFS Lifetime                              | 63                    | 43     | 48     | 42      |
| Nationwide Destination                    | 94                    | 63     | 57     | 64      |
| Natixis Sustainable Future                | —                     | —      | —      | —       |
| PIMCO RealPath Blend                      | 59                    | 61     | —      | —       |
| PIMCO RealPathTM                          | 70                    | 83     | 94     | —       |
| Principal Lifetime Hybrid                 | 56                    | 22     | —      | —       |
| Principal LifeTime                        | 31                    | 72     | 57     | 67      |
| Prudential Day One Target Date            | 70                    | —      | —      | —       |
| Putnam RetirementReady                    | 87                    | 86     | 54     | 76      |
| Schwab Target Index                       | 69                    | —      | —      | —       |

Source: Morningstar, Inc. Data as of 12/31/17.

**Exhibit 22** Trailing Average Category Ranks by Target-Date Series (All Share Classes) (Continued)

| Name                            | Average Category Rank |        |        |         |  |
|---------------------------------|-----------------------|--------|--------|---------|--|
|                                 | 1 Year                | 3 Year | 5 Year | 10 year |  |
| Schwab Target                   | 34                    | 46     | 32     | 26      |  |
| State Farm LifePath             | 65                    | 73     | 75     | 75      |  |
| State Street Target Retirement  | 37                    | 43     | —      | —       |  |
| T. Rowe Price Retirement        | 14                    | 16     | 13     | 14      |  |
| T. Rowe Price Target Retire     | 54                    | 44     | —      | —       |  |
| TIAA-CREF Lifecycle Index       | 36                    | 20     | 14     | —       |  |
| TIAA-CREF Lifecycle             | 4                     | 4      | 7      | 24      |  |
| USAA Target Retirement Funds    | 72                    | 70     | 79     | —       |  |
| Vanguard Target Retirement      | 35                    | 32     | 16     | 18      |  |
| Virtus DFA Trgt Date Retire Inc | 58                    | —      | —      | —       |  |
| Voya Index Solution             | 59                    | 57     | 41     | —       |  |
| Voya Solution                   | 39                    | 46     | 39     | 70      |  |
| Voya Target Retirement          | 49                    | 45     | 36     | —       |  |
| Wells Fargo Dynamic Target      | 32                    | —      | —      | —       |  |
| Wells Fargo Target              | 91                    | 86     | 81     | 69      |  |

Source: Morningstar, Inc. Data as of 12/31/17.

A look at the calendar-year returns provides clarity on how target-date series arrived at their trailing results. Notably, nearly all series' annual results are uneven. As seen in Exhibit 23, top long-term performers such as American Funds Target Date Retirement lagged 85% of peers, on average, in 2010, but then followed with five consecutive years of strong rankings. The T. Rowe Price Retirement and Vanguard Target Retirement series have ranked in the top half each year since 2008 and 2009, respectively.

Even target-date series with subpar long-term results have their day in the sun. Invesco Balanced-Risk Retirement had returns that beat 95% of peers in 2016 between two calendar years of bottom-decile ranks. Similarly, PIMCO's two series bounced back from a rough 2015 with strong relative returns in 2016.

**Exhibit 23** Calendar Year Average Category Ranks by Target-Date Series (All Share Classes)

| Name                                      | Average Category Rank |      |      |      |      |      |      |      |      |      |
|---|-----------------------|------|------|------|------|------|------|------|------|------|
|   | 2017                  | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 |
| 1290 Retirement                           | —                     | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| AllianceBernstein Multi-Manager Select    | 27                    | 34   | 46   | —    | —    | —    | —    | —    | —    | —    |
| AllianzGI Retirement                      | 28                    | 30   | 65   | 98   | 90   | 82   | 46   | 36   | 31   | —    |
| American Century One Choice               | 87                    | 69   | 53   | 8    | 66   | 66   | 8    | 49   | 89   | 14   |
| American Funds Trgt Date Ptrmt            | 36                    | 49   | 17   | 19   | 5    | 27   | 24   | 85   | 47   | 42   |
| AXA Target Allocation                     | 49                    | 34   | 67   | 75   | 16   | 51   | 86   | 82   | 86   | 68   |
| BlackRock LifePath Dynamic                | 27                    | 57   | 75   | 52   | 80   | 61   | 23   | 71   | 67   | 15   |
| BlackRock LifePath Index                  | 52                    | 48   | 20   | 17   | 69   | 49   | —    | —    | —    | —    |
| BlackRock LifePath Smart Beta             | 49                    | 45   | 74   | 74   | 56   | 56   | 31   | 53   | 66   | 26   |
| BMO TargetDate Retirement Funds           | 32                    | 57   | 73   | 21   | —    | —    | —    | —    | —    | —    |
| ClearTrack                                | 77                    | 65   | —    | —    | —    | —    | —    | —    | —    | —    |
| Columbia Adaptive Retirement              | —                     | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| Dimensional Target Date Retirement Income | 54                    | 21   | —    | —    | —    | —    | —    | —    | —    | —    |
| Fidelity Advisor Freedom                  | 32                    | 51   | 38   | 58   | 61   | 71   | 70   | 29   | 34   | 70   |
| Fidelity Flex Freedom                     | —                     | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| Fidelity Freedom Index                    | 47                    | 33   | 34   | 25   | 73   | 86   | 27   | 59   | —    | —    |
| Fidelity Freedom                          | 15                    | 31   | 11   | 38   | 52   | 58   | 66   | 47   | 41   | 53   |
| Franklin LifeSmart                        | 78                    | 96   | 68   | 58   | 33   | 94   | 52   | 31   | 17   | 35   |
| Goldman Sachs Target Date Portfolio       | 97                    | 41   | 25   | 3    | 64   | 89   | 6    | 99   | 33   | 84   |
| Great-West Lifetime Conservative          | 93                    | 25   | 55   | 38   | 86   | 48   | 20   | 69   | —    | —    |

**Exhibit 23** Calendar Year Average Category Ranks by Target-Date Series (All Share Classes)

| Name                                  | Average Category Rank |      |      |      |      |      |      |      |      |      |
|---------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|
|                                       | 2017                  | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 |
| Great-West Lifetime                   | 61                    | 12   | 54   | 28   | 33   | 12   | 57   | 34   | —    | —    |
| Great-West SecureFoundation Lifetime  | 72                    | 13   | 42   | 49   | 35   | 51   | 39   | 97   | —    | —    |
| Guidestone Funds MyDestination        | 45                    | 26   | 92   | 87   | 50   | 36   | 24   | 6    | 45   | 63   |
| Harbor Target Retirement              | 61                    | 73   | 31   | 92   | 70   | 20   | 48   | 53   | —    | —    |
| Invesco Balanced-Risk Retirement      | 98                    | 5    | 93   | 37   | 95   | 92   | 3    | 66   | 80   | 34   |
| Invesco Peak Retirement               | —                     | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| John Hancock Multi-Index Lifetime     | 58                    | 3    | 63   | 13   | —    | —    | —    | —    | —    | —    |
| John Hancock Multi-Index Preservation | 83                    | 38   | 55   | 45   | 83   | 78   | 4    | —    | —    | —    |
| John Hancock Multi-manager Lifetime   | 33                    | 25   | 48   | 52   | 23   | 23   | 83   | 18   | 5    | 83   |
| JPMorgan SmartRetirement Blend        | 54                    | 39   | 35   | 21   | 63   | —    | —    | —    | —    | —    |
| JPMorgan SmartRetirement              | 23                    | 80   | 49   | 12   | 47   | 7    | 72   | 8    | 26   | 21   |
| KP Retirement Path                    | 49                    | 52   | 18   | —    | —    | —    | —    | —    | —    | —    |
| MainStay Retirement                   | 34                    | 86   | 31   | 29   | 9    | 38   | 41   | 57   | 69   | 24   |
| Manning & Napier Target               | 40                    | 95   | 94   | 58   | 26   | 35   | 65   | 52   | 45   | —    |
| MassMutual RetireSMART                | 54                    | 66   | 83   | 84   | 23   | 27   | 60   | 29   | 23   | 59   |
| MFS Lifetime                          | 63                    | 42   | 23   | 84   | 37   | 29   | 46   | 14   | 25   | 54   |
| Nationwide Destination                | 84                    | 17   | 59   | 72   | 31   | 50   | 68   | 41   | 79   | 29   |
| Netixis Sustainable Future            | —                     | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| PIMCO RealPath Blend                  | 59                    | 5    | 91   | —    | —    | —    | —    | —    | —    | —    |
| PIMCO RealPathTM                      | 70                    | 11   | 97   | 69   | 94   | 80   | 12   | 74   | 39   | —    |

Source: Morningstar, Inc. Data as of 12/31/17.

**Exhibit 23 Calendar Year Average Category Ranks by Target-Date Series (All Share Classes) (Continued)**

| Name                           | Average Category Rank |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|
|                                | 2017                  | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
| Principal Lifetime Hybrid      | 56                    | 29   | 11   | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| Principal Lifetime             | 31                    | 89   | 46   | 44   | 44   | 21   | 50   | 21   | 60   | 68   | 68   | 68   |
| Prudential Day One Target Date | 70                    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| Putnam RetirementReady         | 87                    | 89   | 26   | 13   | 42   | 58   | 62   | 84   | 31   | 60   | 60   | 60   |
| Schwab Target Index            | 69                    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| Schwab Target                  | 34                    | 85   | 7    | 23   | 18   | 32   | 15   | 48   | 74   | 18   | 18   | 18   |
| State Farm LifePath            | 65                    | 65   | 70   | 56   | 75   | 70   | 25   | 82   | 76   | 20   | 20   | 20   |
| State Street Target Retirement | 37                    | 26   | 64   | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| T. Rowe Price Retirement       | 14                    | 45   | 17   | 34   | 11   | 7    | 48   | 13   | 7    | 62   | 62   | 62   |
| T. Rowe Price Target Retire    | 54                    | 57   | 13   | 44   | —    | —    | —    | —    | —    | —    | —    | —    |
| TIAA-CREF Lifecycle Index      | 36                    | 32   | 18   | 15   | 21   | 42   | 10   | 62   | —    | —    | —    | —    |
| TIAA-CREF Lifecycle            | 4                     | 47   | 5    | 60   | 11   | 7    | 39   | 30   | 74   | 49   | 49   | 49   |
| USAA Target Retirement Funds   | 72                    | 18   | 81   | 90   | 75   | 59   | 43   | 14   | 29   | —    | —    | —    |
| Vanguard Target Retirement     | 35                    | 30   | 35   | 9    | 25   | 42   | 17   | 35   | 76   | 12   | 12   | 12   |
| Virus DFA Trgt Date Retire Inc | 58                    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| Voya Index Solution            | 59                    | 50   | 42   | 32   | 36   | 45   | 42   | 78   | 90   | —    | —    | —    |
| Voya Solution                  | 39                    | 64   | 14   | 28   | 47   | 49   | 76   | 46   | 66   | 54   | 54   | 54   |
| Voya Target Retirement         | 49                    | 68   | 21   | 28   | 40   | —    | —    | —    | —    | —    | —    | —    |
| Wells Fargo Dynamic Target Ser | 32                    | 65   | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| Wells Fargo Target             | 91                    | 57   | 70   | 66   | 74   | 85   | 27   | 47   | 71   | 12   | 12   | 12   |

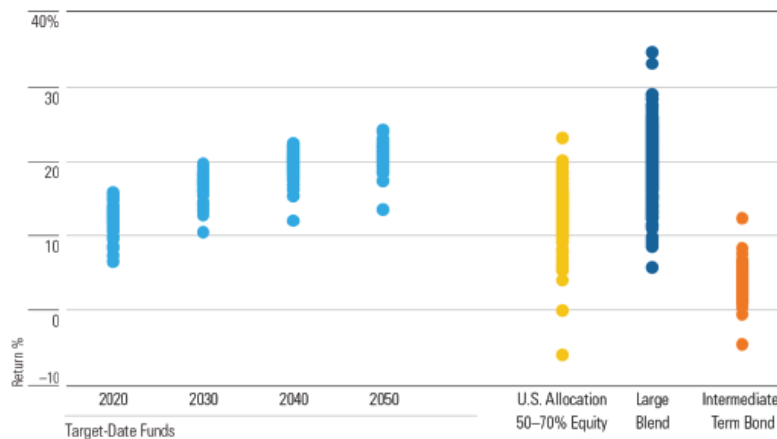
Source: Morningstar, Inc. Data as of 12/31/17.

### A Relatively Tight Pack of Returns

Before drawing conclusions about the performance ranks of various target-date funds, investors should be mindful of the relatively tight dispersion of returns within target-date fund categories. Exhibit 24 shows the one-year return dispersion of target-date series' oldest share class within selected target-date fund Morningstar Categories versus other selected categories.

Despite target-date funds' significant exposure to equities, their return dispersion is more like the intermediate-term bond category than the U.S. large-blend category. Excluding major outliers, the 2050 target-date fund category saw returns range from 17.4% to 24.0% in 2017, and that 6.6 percentage point dispersion in returns was much tighter than the U.S. large-blend's 20.5 percentage points and even tighter than the intermediate-term bond's 8.8 percentage points.

Exhibit 24 Dispersion of Returns Within Target-Date Categories (Oldest Share Class), 1 Year

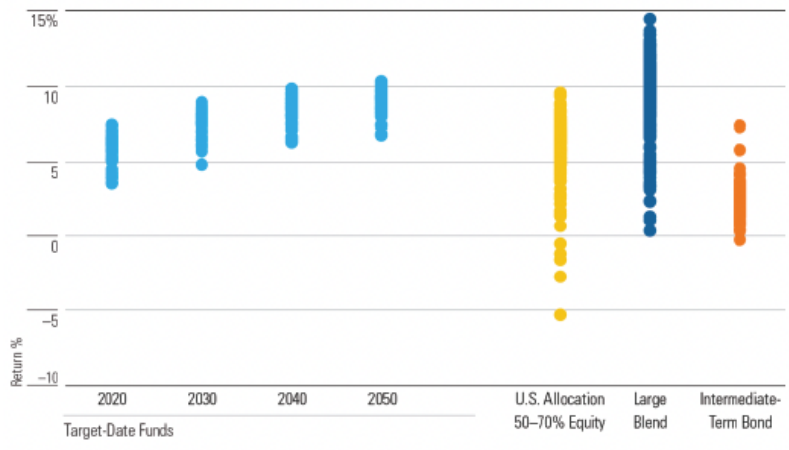


Source: Morningstar, Inc. Data as of 12/31/17.

The same finding holds true over the three-year period through 2017: Target-date funds' returns tend to have

tighter dispersion than other major categories. Exhibit 25 follows the same approach as Exhibit 24 but looks at three-year returns rather than one-year returns. Both exhibits show that the dispersion doesn't shrink within target-date fund categories that hold more in bonds, even though bond categories have tighter return dispersions than equity categories. The increasing variance in asset allocation among target-date series as they approach the target date, which is covered in this report's Process section, can be expected to contribute to higher return dispersion, potentially offsetting the increased bond exposure.

**Exhibit 25** Dispersion of Returns Within Target-Date Categories (Oldest Share Class), 3 Years

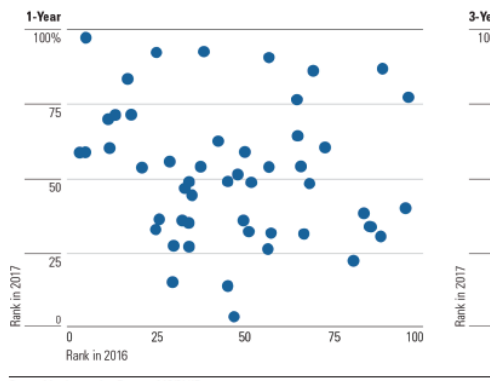


Source: Morningstar, Inc. Data as of 12/31/17.

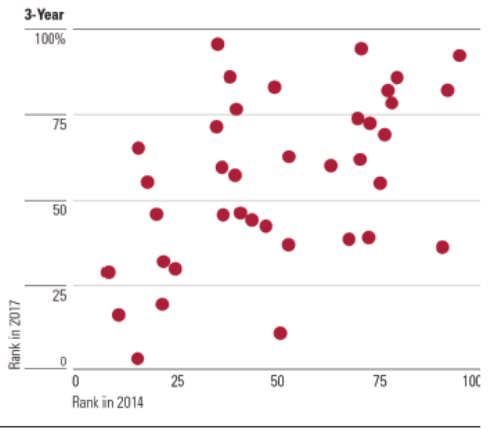
Given their tight dispersion of returns, target-date funds' performance ranks may shift meaningfully in short order. Exhibit 26 shows the instability of target-date series' average performance ranks over the one-year and three-year periods. A clustering of points along a line from the bottom left-hand corner to the upper right-hand corner would suggest stability in performance ranks, but Exhibit 26 doesn't illustrate that pattern.

True, the three-year return ranks show more consistency than the one-year ranks, but there are still sizable shifts. For instance, the Manning & Napier Target series saw its average three-year performance rank go from beating 65% of peers through 2014 to trailing more than 95% of peers through 2017. Conversely, the Fidelity Freedom series went from ranking in the middle of pack, on average, over the three-year period through 2014 to topping nearly 90% of peers through 2017.

Exhibit 26 Change in Target-Date Series' Average One-Year and Three-Year Peer Ranks



Source: Morningstar, Inc. Data as of 12/31/17.

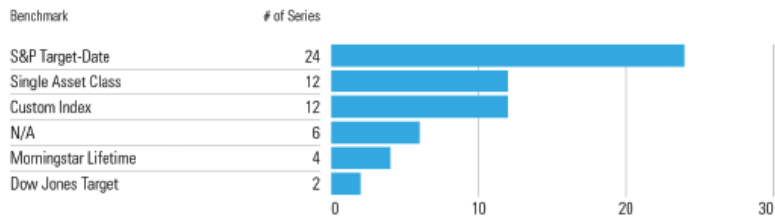


## The Benchmarking Conundrum

In addition to studying peer ranks, investors can judge success by comparing a fund's results versus a benchmark. It can be difficult, however, to identify a suitable benchmark for target-date funds because their asset allocations vary. Exhibit 27 displays the indexes that firms have designated as their primary benchmark in the prospectuses of target-date funds.

While still not a majority, the S&P Target-Date Indexes have emerged as the most-popular benchmark among target-date providers, with 24 of 60 series listing them as the primary benchmark. Single asset-class benchmarks, such as the S&P 500, tied for second. Custom indexes shared second place, and while they may be effective in some instances, they are difficult for the end investor to use as a yardstick. Plus, custom indexes vary by target-date series depending on the asset-allocation approach and they rely on the target-date provider to build the benchmark judiciously.

Exhibit 27 Count of Target-Date Series' Primary Prospectus Benchmarks



Source: Morningstar, Inc. Data as of 12/31/17.

## Newer, Cheaper Not Always Better

As described in this report's Assets, Flows, and Competitive Landscape section, target-date providers have been increasingly willing to offer multiple series to meet investor demand, and while target-date investors may flock to those newer, typically lower-cost offerings,

they haven't always come out ahead from a performance standpoint. Exhibit 28 compares the performance of a common share class of a firm's newest series with its older offerings since the inception of the newest series. This comparison provides a sense of whether an investor was better off moving to the newest series. It shows that 80% of the time the newest series comes with a lower expense ratio—30 basis points cheaper, on average, in those cases—but performance was mixed.

Some of the newer, lower-cost target-date series have delivered better results, on average. Focusing on newest series with at least three years of history, PIMCO RealPath Blend, Principal LifeTime Hybrid, and BlackRock LifePath Index came out notably ahead of their firms' older series on both an absolute and risk-adjusted basis over their respective histories. The older series' underlying active strategies struggled to keep pace with the passive strategies, causing the older series to lag.

In other cases, target-date investors would have received higher returns by staying with a firm's legacy series. Despite higher fees, the Fidelity Freedom series outperformed the Fidelity Freedom Index series by roughly 63 basis points, on average, since the latter's inception while posting a similar Sharpe ratio. Freedom beat Freedom Index with help from solid results from underlying active strategies and the inclusion of distinct asset classes, such as high-yield bond. The legacy JPMorgan SmartRetirement also outpaced the firm's newer blend version on both an absolute and risk-adjusted basis thanks to strong showings from its underlying active strategies, whereas TIAA-CREF Lifecycle bested TIAA-CREF Lifecycle Index by 30 basis points, on average, but came in with slightly lower Sharpe ratios.

**Exhibit 28 Performance Comparison of a Firm's Newest Target-Date Series versus Older Series**

| Newest Series                        | Inception Date | Vs. Older Series                      | Average Excess Since Newest Series' Inception Through 2017 (Newest - Oldest) |              |                  |                       |
|--------------------------------------|----------------|---------------------------------------|--|--------------|------------------|-----------------------|
|                                      |                |                                       | Annualized Return  | Sharpe Ratio | Maximum Drawdown | Current Expense Ratio |
| BlackRock LifePath Index             | 5/31/11        | BlackRock LifePath Dynamic            | 0.37   | 0.05         | 0.06             | -0.33                 |
| BlackRock LifePath Index             | 5/31/11        | BlackRock LifePath Smart Beta         | 0.35   | 0.10         | 1.54             | -0.13                 |
| Fidelity Freedom Index               | 10/2/09        | Fidelity Freedom                      | -0.63  | 0.01         | 2.09             | -0.49                 |
| Great-West SecureFoundation Lifetime | 11/13/09       | Great-West Lifetime                   | -0.79  | 0.00         | 1.55             | -0.25                 |
| Great-West SecureFoundation Lifetime | 11/13/09       | Great-West Lifetime Conservative      | 0.48   | -0.06        | -2.01            | -0.24                 |
| John Hancock Multi-Index Lifetime    | 11/7/13        | John Hancock Multimanager Lifetime    | 0.15   | 0.01         | 0.97             | -0.20                 |
| John Hancock Multi-Index Lifetime    | 11/7/13        | John Hancock Multi-Index Preservation | 1.57   | -0.05        | -2.14            | 0.01                  |
| JPMorgan SmartRetirement Blend       | 7/2/12         | JPMorgan SmartRetirement              | -0.60  | -0.04        | 1.99             | -0.15                 |
| PIMCO RealPath Blend                 | 12/31/14       | PIMCO RealPathTM                      | 1.10   | 0.22         | 3.01             | -0.38                 |
| Principal Lifetime Hybrid            | 9/30/14        | Principal Life Time                   | 0.87   | 0.12         | 1.35             | -0.24                 |
| Schwab Target Index                  | 8/25/16        | Schwab Target                         | -0.85  | 0.06         | 0.28             | -0.53                 |
| T. Rowe Price Target Retire          | 8/20/13        | T. Rowe Price Retirement              | -0.96  | 0.01         | 1.04             | 0.00                  |
| TIAA-CREF Lifecycle Index            | 9/30/09        | TIAA-CREF Lifecycle                   | -0.30  | 0.04         | 1.68             | -0.32                 |
| Voya Index Solution                  | 3/10/08        | Voya Solution                         | 0.16   | 0.07         | 4.34             | -0.40                 |
| Wells Fargo Dynamic Target           | 11/30/15       | Wells Fargo Target                    | 1.11   | 0.08         | -1.43            | 0.40                  |

Source: Morningstar, Inc. Data as of 12/31/17.

## **Parent**

By design, target-date funds have the potential to be a multidecade holding for investors. As such, investors stand to benefit from partnering with firms that have a long-term commitment to their target-date funds. This section provides an overview of the firms that offer target-date funds, highlighting instances where target-date funds could reasonably be expected to be a high priority. It also examines firms' broad areas of emphasis, including active versus passive management, and how that could affect the design of their target-date funds.

### **The Significance of Target-Date Funds**

The importance of target-date funds to a firm depends on the firm's background, capabilities, and outlook. Target-date funds can be expected to have a firm's attention when they represent a sizable amount of assets or recent fund flows. Of the 41 firms that offer a series of target-date mutual funds, Exhibit 29 identifies the 15 firms that had at least 5% of their mutual fund assets in target-date funds at year-end 2017. The list includes firms with hundreds of billions of dollars in assets, such as T. Rowe Price, J.P. Morgan, and Fidelity, as well as smaller firms like GuideStone.

In some instances, target-date funds serve as a firm's primary source of new fund flows. Exhibit 29 shows that American Funds would have experienced net negative flows in 2017 if not for the roughly \$24 billion in positive net flows to its target-date funds. In the cases of J.P. Morgan and Voya, their target-date funds' positive flows served as a bright spot in 2017 when their firms saw net negative flows.

**Exhibit 29 Firms With More Than 5% of Assets in Target-Date Funds**

| Firm                         | 2017 Total Assets |             |             | 2017 Net Flows |           |             | Firm Flows from |             |
|------------------------------|-------------------|-------------|-------------|----------------|-----------|-------------|-----------------|-------------|
|                              | Target-Date       | Firm        | TD Assets % | Target-Date    | Firm      | TD Assets % | Firm            | TD Assets % |
| KP Funds                     | 6,884.0           | 7,276.6     | 94.6        | 676.2          | 1,417.6   | 47.7        |                 |             |
| State Street Global Advisors | 4,417.2           | 10,845.9    | 40.7        | 2,736.2        | 1,103.0   | 248.1       |                 |             |
| Great-West Funds             | 7,467.8           | 19,273.5    | 38.7        | -191.2         | -378.2    | 50.6        |                 |             |
| State Farm                   | 8,278.1           | 21,392.6    | 38.7        | -215.0         | -680.4    | 31.6        |                 |             |
| TIAA Investments             | 43,578.5          | 130,919.6   | 33.3        | 6,075.0        | 8,141.0   | 74.6        |                 |             |
| T. Rowe Price                | 165,573.8         | 592,267.3   | 28.0        | -9,546.0       | -10,859.0 | 87.9        |                 |             |
| GuideStone Funds             | 2,986.6           | 11,919.4    | 25.1        | 307.3          | 189.4     | 162.2       |                 |             |
| Principal Funds              | 26,371.5          | 135,570.3   | 19.5        | -3,503.7       | -3,097.0  | 113.1       |                 |             |
| JPMorgan                     | 53,498.5          | 301,024.0   | 17.8        | 672.7          | -478.0    | (6)         |                 |             |
| American Century Investments | 19,014.5          | 114,982.6   | 16.5        | -362.7         | -6,586.7  | 5.5         |                 |             |
| Fidelity Investments         | 227,532.3         | 1,461,367.3 | 15.6        | -461.8         | 10,506.4  | (L)         |                 |             |
| John Hancock                 | 17,163.2          | 150,834.4   | 11.4        | -1,466.9       | -1,828.5  | 80.2        |                 |             |
| Vanguard                     | 381,489.8         | 3,466,811.6 | 11.0        | 50,617.2       | 207,039.2 | 24.4        |                 |             |
| Voya                         | 6,987.5           | 85,883.4    | 8.1         | 748.7          | -8,502.3  | (G)         |                 |             |
| American Funds               | 88,662.1          | 1,524,349.1 | 5.8         | 24,114.7       | 16,628.8  | 145.0       |                 |             |

Source: Morningstar, Inc. Data as of 12/31/17.

### **Looking at a Firm's Broad Capabilities**

While some tap external strategies, most target-date funds invest in an array of the provider's proprietary funds, so it's critical to consider a firm's available investments. Exhibit 30 displays the breakdown of target-date firms' assets into broad categories, highlighting instances where a category exceeds 30% of the firm's assets. (Most target-date fund assets are excluded from Exhibit 30, as it excludes funds of funds.) The asset breakdown may suggest areas where a firm has developed capabilities and where it may be focused for the long run.

Not surprisingly, U.S. equity is the area with most assets for many firms, but Exhibit 30 reveals the balance of assets within a firm. Only three firms—J.P. Morgan, Mainstay, and Transamerica—have more than 30% of assets in both an equity and bond category. Meanwhile, five firms have less than 10% of their assets in bond categories, including Allianz, American Funds, Harbor, Schwab, and State Street. 1290, Franklin Templeton, and Manning & Napier stand out with more than 30% of firm assets in allocation funds.

**Exhibit 30 Percentage Breakdown of Firm Assets by U.S. Morningstar Category**

| Firm                              | U.S. Equity | Intl Equity | Sector Equity | Taxable Bond | Municipal Bond | Allocation | Alternative | Commodities |
|-----------------------------------|-------------|-------------|---------------|--------------|----------------|------------|-------------|-------------|
| 1230 Funds                        | 11.6        | 16.4        | —             | 40.4         | —              | 31.6       | —           | —           |
| AB                                | 22.5        | 18.4        | 0.6           | 26.7         | 24.8           | 3.6        | 1.5         | —           |
| Allianz Global Investors          | 43.9        | 10.6        | 12.8          | 9.4          | —              | 23.2       | 0.1         | —           |
| American Century                  | 62.7        | 6.5         | 2.2           | 18.4         | 6.1            | 3.2        | 0.9         | —           |
| American Funds                    | 38.2        | 28.1        | —             | 7.2          | 1.8            | 23.7       | —           | —           |
| AXA                               | 60.4        | 12.6        | 1.0           | 20.7         | —              | 5.1        | 0.2         | —           |
| BlackRock                         | 18.8        | 7.6         | 3.4           | 30.8         | 7.4            | 29.0       | 1.9         | 0.1         |
| BMO                               | 23.4        | 15.1        | —             | 24.9         | 35.1           | —          | 1.4         | —           |
| Columbia Threadneedle Investments | 51.6        | 7.1         | 5.8           | 18.1         | 7.9            | 8.1        | 1.2         | 0.3         |
| Dimensional                       | 42.3        | 35.5        | 5.4           | 14.7         | 1.7            | —          | —           | 0.4         |
| Fidelity                          | 57.1        | 11.5        | 6.1           | 16.0         | 2.2            | 6.7        | 0.0         | 0.3         |
| Franklin Templeton                | 14.3        | 16.7        | 2.8           | 18.8         | 17.0           | 30.1       | 0.3         | 0.0         |
| Goldman Sachs                     | 33.8        | 11.3        | 4.5           | 29.1         | 14.4           | 2.6        | 3.9         | 0.5         |
| Great-West                        | 58.6        | 15.4        | 1.9           | 24.1         | —              | —          | —           | —           |
| GuideStone                        | 40.8        | 19.7        | 2.0           | 26.3         | —              | 8.2        | 3.1         | —           |
| Harbor                            | 48.3        | 46.2        | —             | 5.3          | —              | 0.2        | —           | —           |
| Invesco                           | 52.3        | 11.5        | 4.4           | 8.0          | 10.2           | 13.0       | 0.2         | 0.5         |
| John Hancock                      | 40.2        | 15.3        | 3.3           | 27.0         | 0.7            | 8.2        | 5.3         | —           |
| JPMorgan                          | 47.8        | 10.3        | 0.9           | 30.6         | 3.7            | 5.8        | 0.9         | 0.1         |
| KF Funds                          | 52.2        | 23.0        | —             | 24.8         | —              | —          | —           | —           |
| Mainstay Management               | 36.4        | 11.6        | 2.8           | 30.1         | 12.9           | 7.0        | 0.2         | —           |
| Manning & Napier Advisors Inc.    | 3.9         | 29.2        | 4.3           | 18.3         | 6.5            | 37.8       | —           | —           |
| MassMutual                        | 67.5        | 12.3        | 0.0           | 17.4         | —              | 2.0        | —           | —           |
| MFS                               | 44.8        | 29.0        | 2.4           | 11.7         | 5.3            | 6.4        | 0.1         | 0.3         |
| Nationwide                        | 56.8        | 16.9        | 0.8           | 24.1         | 1.3            | —          | 0.2         | —           |

Source: Morningstar, Inc. Data as of 12/31/17.

**Exhibit 30 Percentage Breakdown of Firm Assets by U.S. Morningstar Category (Continued)**

| Firm          | U.S. Equity | Int'l Equity | Sector Equity | Issuable Bond | Municipal Bond | Allocation | Alternative | Commodities |
|---------------|-------------|--------------|---------------|---------------|----------------|------------|-------------|-------------|
| Netixis       | 20.0        | 2.2          | 0.3           | 49.2          | 0.1            | 3.8        | 24.5        | —           |
| PIMCO         | 2.0         | 4.0          | 0.6           | 86.5          | 0.8            | 0.6        | 2.7         | 2.8         |
| Principal     | 43.8        | 15.8         | 4.5           | 20.5          | 0.7            | 12.3       | 2.3         | —           |
| Prudential    | 28.0        | 1.4          | 10.7          | 58.7          | 1.9            | 0.8        | 0.5         | 0.0         |
| Putnam        | 38.5        | 4.5          | 3.1           | 25.7          | 8.0            | 17.2       | 3.1         | —           |
| Schwab        | 81.4        | 10.9         | 1.6           | 4.4           | 1.4            | —          | 0.3         | —           |
| State Farm    | 62.7        | 3.6          | —             | 9.1           | 9.3            | 15.3       | —           | —           |
| State Street  | 44.7        | 51.7         | —             | 3.6           | —              | —          | —           | —           |
| T. Rowe Price | 54.3        | 13.1         | 7.2           | 14.7          | 3.9            | 6.8        | —           | —           |
| TIAA          | 56.4        | 19.5         | 1.6           | 22.3          | 0.2            | —          | —           | —           |
| Transamerica  | 30.7        | 25.4         | 0.9           | 34.4          | 4.0            | 3.4        | 1.1         | —           |
| USAA          | 32.1        | 12.9         | 2.8           | 27.0          | 15.1           | 9.9        | —           | —           |
| Vanguard      | 52.3        | 13.6         | 2.9           | 20.8          | 4.3            | 5.9        | 0.1         | —           |
| Virtus        | 25.1        | 25.6         | 2.8           | 42.5          | 2.2            | 1.6        | 0.2         | —           |
| Voya          | 49.9        | 11.8         | 4.4           | 23.2          | —              | 10.5       | 0.3         | —           |
| Wells Fargo   | 35.2        | 7.5          | 1.2           | 13.9          | 22.6           | 15.4       | 0.2         | —           |

Sources: Morningstar, Inc. Data as of 12/31/17.

A firm's asset breakdown may help explain the design of its target-date funds, as firms may logically lean to their strengths and forgo areas with limited capabilities. Exhibit 31 shows the aggregate asset breakdown by broad categories for the 51 target-date series that invested more than 90% of their assets in mutual funds or ETFs as of

year-end 2017. It reveals that the PIMCO RealPath series had the highest percentage of assets in taxable bonds and second-highest in commodities as of year-end 2017. These allocations align with PIMCO's capabilities—roughly 87% of the firm's assets were in taxable-bond funds and it had the highest percentage of firm assets in commodities of target-date providers.

Considering the breakdowns in Exhibits 30 and 31, American Century One Choice's home-country equity bias, more pronounced than most, agrees with the firm's asset breakdown—nearly 63% of firm assets were in U.S. equity funds versus less than 7% in international equity ones. Conversely, Dimensional Target Date Retirement Income was closer to an even U.S./international equity split, and the firm has more than 35% of fund assets in both of those areas.

Using this framework, investors may also identify areas emphasized in target-date funds that do not fall within a firm's more established capabilities. The inclusion of alternatives within the John Hancock Multimanager Lifetime series doesn't come as a surprise, as the firm had the second-highest percentage of assets in alternatives. However, seven other target-date series also include alternatives, but not all have a meaningful percentage of firm assets in those funds. The MFS Lifetime series lost its alternatives exposure in 2017 when the firm announced plans to liquidate MFS Absolute Return because of lack of demand.

**Exhibit 31 Target-Date Series' Asset Breakdown by U.S. Morningstar Category**

| Target-Date Series                        | Mutual Funds or ETFs | % of Assets in | U.S. Equity | Int'l Equity | Sector Equity | Taxable Bond | Allocation | Alternative | Commodities |
|---|----------------------|----------------|-------------|--------------|---------------|--------------|------------|-------------|-------------|
| 1290 Retirement                           | 100                  |                | 57.6        | 25.3         | —             | 17.1         | —          | —           | —           |
| AB Multi-Manager Select                   | 100                  |                | 39.4        | 23.9         | 3.9           | 20.3         | 1.4        | 7.3         | 3.1         |
| AllianzGI Retirement                      | 93                   |                | 12.1        | 22.7         | 0.4           | 13.5         | 43.9       | —           | 0.6         |
| American Century One Choice               | 94                   |                | 44.4        | 12.4         | 1.6           | 35.3         | —          | —           | —           |
| American Funds Target Retirement          | 100                  |                | 37.3        | 21.9         | —             | 21.2         | 19.7       | —           | —           |
| AXA Target Allocation                     | 100                  |                | 49.6        | 24.6         | —             | 25.3         | —          | —           | —           |
| BlackRock LifePath Index                  | 100                  |                | 40.7        | 23.2         | 8.9           | 26.3         | —          | —           | —           |
| BlackRock LifePath Smart Beta             | 99                   |                | 36.0        | 31.7         | 8.2           | 23.5         | —          | —           | —           |
| BMO Target Date Retirement                | 99                   |                | 48.3        | 25.1         | —             | 20.1         | —          | 5.1         | —           |
| ClearTrack                                | 100                  |                | 31.9        | 26.1         | 4.8           | 37.3         | —          | —           | —           |
| Dimensional Target Date Retirement Income | 100                  |                | 35.4        | 22.7         | —             | 41.3         | —          | —           | —           |
| Fidelity Advisor Freedom                  | 96                   |                | 46.6        | 24.8         | 1.1           | 21.3         | —          | —           | 2.0         |
| Fidelity Flex Freedom                     | 94                   |                | 45.0        | 24.0         | 1.0           | 22.0         | —          | —           | 2.0         |
| Fidelity Freedom Index                    | 96                   |                | 51.0        | 21.9         | —             | 21.3         | —          | —           | 1.3         |
| Fidelity Freedom                          | 94                   |                | 41.0        | 22.4         | 1.0           | 28.0         | —          | —           | 2.0         |
| Franklin LifeSmart                        | 100                  |                | 31.7        | 22.1         | 7.7           | 30.2         | 4.0        | 2.5         | 1.8         |
| Great-West LifeTime Conservative          | 100                  |                | 34.1        | 19.0         | 2.6           | 44.3         | —          | —           | —           |
| Great-West LifeTime                       | 100                  |                | 44.4        | 24.7         | 3.6           | 27.2         | —          | —           | —           |
| Guidestone Funds My Destination           | 98                   |                | 34.7        | 21.9         | 1.2           | 27.2         | 11.3       | 1.5         | —           |
| Harbor Target Retirement                  | 98                   |                | 30.4        | 22.6         | —             | 45.2         | —          | —           | —           |
| John Hancock Multi-Index Lifetime         | 100                  |                | 14.5        | 5.6          | 5.2           | 26.3         | 48.5       | —           | —           |
| John Hancock Multi-Index Preservation     | 100                  |                | 3.3         | 1.8          | 2.9           | 47.0         | 45.0       | —           | —           |

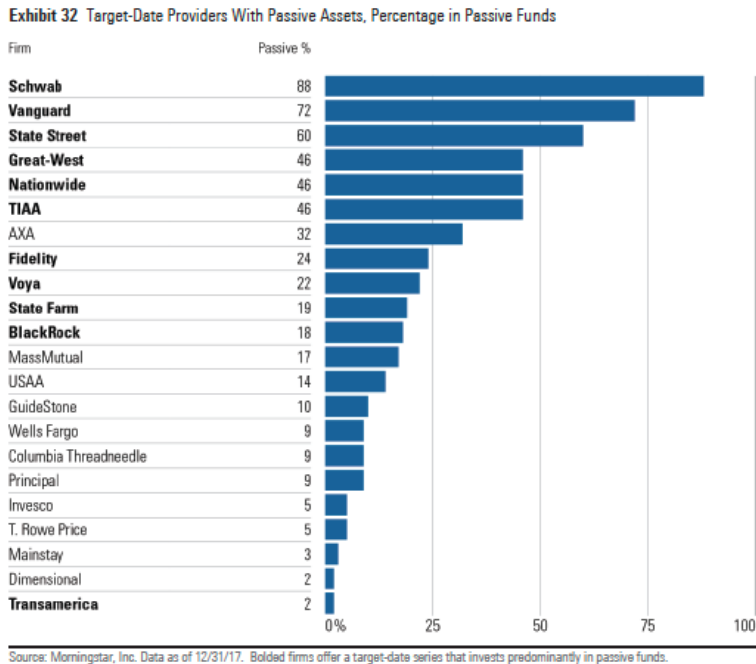
|                                    |     |      |      |     |      |       |      |     |
|------------------------------------|-----|------|------|-----|------|-------|------|-----|
| John Hancock Multimanager Lifetime | 100 | 18.3 | 15.5 | 4.9 | 26.1 | 31.9  | 3.3  | —   |
| JPMorgan SmartRetirement Blend     | 98  | 40.2 | 23.5 | 4.2 | 29.9 | —     | —    | 0.2 |
| JPMorgan SmartRetirement           | 97  | 36.8 | 21.3 | 3.7 | 34.3 | —     | —    | 0.5 |
| KP Retirement Path                 | 100 | 42.6 | 21.4 | 4.1 | 31.1 | —     | —    | 0.8 |
| MainStay Retirement                | 100 | 51.4 | 23.0 | 1.2 | 22.7 | 1.8   | —    | —   |
| Manning & Napier Target            | 100 | —    | —    | —   | —    | 100.0 | —    | —   |
| MassMutual RetireSMART             | 100 | 22.9 | 44.9 | 0.4 | 30.3 | —     | —    | 1.4 |
| MFS LifeTime                       | 100 | 36.5 | 13.4 | 2.2 | 45.3 | —     | —    | 2.6 |
| Nationwide Destination             | 100 | 50.9 | 25.6 | —   | 23.5 | —     | —    | —   |
| PIMCO RealPath Blend               | 100 | 45.1 | 29.9 | —   | 25.0 | —     | —    | —   |
| PIMCO RealPath                     | 100 | 44.2 | —    | 5.0 | 48.1 | —     | —    | 2.8 |
| Principal LifeTime Hybrid          | 100 | 43.7 | 23.2 | 0.9 | 26.9 | 5.2   | —    | —   |
| Principal LifeTime                 | 100 | 41.8 | 26.2 | 0.8 | 22.9 | 5.6   | 2.7  | —   |
| Putnam RetirementReady             | 96  | 3.9  | —    | —   | 13.2 | 56.9  | 21.9 | —   |
| Schwab Target Index                | 99  | 47.7 | 22.1 | 2.4 | 26.4 | —     | —    | —   |
| Schwab Target                      | 99  | 48.9 | 19.6 | 3.3 | 26.8 | —     | —    | —   |
| State Farm LifePath                | 100 | 37.2 | 21.0 | 6.3 | 35.4 | —     | —    | —   |
| State Street Target Retirement     | 100 | 44.0 | 26.1 | 1.3 | 28.6 | —     | —    | —   |
| T. Rowe Price Retirement           | 99  | 46.5 | 22.3 | 1.6 | 28.7 | —     | —    | —   |
| T. Rowe Price Target Retire        | 99  | 37.3 | 18.0 | 1.3 | 42.6 | —     | —    | —   |
| TIAA-CREF Lifecycle Index          | 100 | 49.8 | 21.5 | —   | 28.7 | —     | —    | —   |
| TIAA-CREF Lifecycle                | 100 | 47.9 | 21.2 | —   | 30.8 | —     | —    | —   |
| USAA Target Retirement             | 100 | 27.9 | 34.1 | —   | 25.1 | 12.9  | —    | —   |
| Vanguard Target Retirement         | 100 | 38.5 | 25.9 | —   | 35.6 | —     | —    | —   |
| Virtus DFA Target Date Retire      | 100 | 41.8 | 27.2 | —   | 31.0 | —     | —    | —   |
| Voya Index Solution                | 100 | 45.1 | 22.3 | 2.4 | 28.7 | —     | —    | 1.4 |
| Voya Solution                      | 100 | 42.3 | 23.2 | 2.5 | 23.9 | 6.5   | —    | 1.5 |
| Voya Target Retirement             | 100 | 45.2 | 24.0 | 2.6 | 26.9 | —     | —    | 1.4 |
| Wells Fargo Dynamic Target         | 100 | 52.5 | 22.1 | 1.4 | 19.0 | —     | 4.9  | —   |

Source: Morningstar, Inc. Data as of 12/31/17.

### **Going the Active or Passive Route**

As investors have increasingly migrated to target-date funds that invest predominantly in passively managed index funds, a firm's capabilities may dictate its target-date approach, possibly even more so than a philosophical preference. Exhibit 32 shows the 22 providers of target-date funds that offer passive index funds, along with the percentage of firm assets in passive index funds. Eleven of those 22 firms—bolded in Exhibit 32—offer a passive target-date series, and all six firms with more than one third of their assets in passive index funds offered a passive target-date series.

Despite having proprietary index funds available, some target-date providers have still opted to go the active route. Schwab's passive funds represent 88% of firm assets, topping the list, but it didn't launch Schwab Target Index until 2016, more than a decade after creating Schwab Target. Similarly, TIAA-CREF Lifecycle Index's 2009 launch came five years after TIAA-CREF Lifecycle's inception. Meanwhile, of the target-date providers with the highest percentages in passive funds, Vanguard, State Street, and Nationwide offer only passive target-date series.



## People

While target-date fund investors may seek to partner with a reputable firm, key decision-makers lie beneath every series of target-date funds, and those decision-makers also often rely upon other individuals to run underlying strategies. This section sets out to compare the portfolio manager rosters of the various target-date series, including a summary of target-date managers' willingness and preference to invest in the funds alongside investors. In addition, the section provides both a backward- and forward-looking view of series' lineups of underlying funds.

### Strength in Numbers

A series of target-date funds rarely relies heavily upon a single individual. As displayed in Exhibit 33, of the 59

target-date series shown, only three had one portfolio manager listed—one from MFS and two from Schwab. On average, a target-date series had three portfolio managers at the end of 2017. Notably, target-date managers on the same roster may play very different roles, varying from designing the glide path to researching underlying strategies to simply implementing the approach. While a reasonable starting point, a simple count of managers fails to provide the full picture of a series' dedicated resources; a series-specific evaluation of the managers remains necessary.

A comparison of target-date series' manager tenure may provide investors with insight on the continuity of a prevailing approach, as manager turnover can be expected to result in different philosophies and ideas coming to a series. As seen in Exhibit 33, on average, the longest manager tenure for a target-date series was just over six years. Fifteen series had longest-manager tenures greater than 10 years, but 17 had fewer than three years.

To further the tenure analysis, Exhibit 33 lists target-date series by the figure of a series' longest manager tenure divided by the series' history. This calculation provides investors with a metric of manager continuity over a series' history. (True, a 100% figure is less meaningful for series with short histories.) Of series that have been around for at least five years, 21 series have had the same manager for at least five years. Jerome Clark from T. Rowe Price is the longest-tenured target-date manager, followed by Robert Kea and Robert Schoen from Putnam, and then Joseph Flaherty from MFS. Notably, the two oldest series that date back to 1994—BlackRock LifePath Dynamic and Wells Fargo Target—

had new managers take the helm within the past year or so.

**Exhibit 33 Number of Portfolio Managers and Longest Manager Tenure by Target-Date Series**

| Series Name                           | Series Inception Date | # of Portfolio Managers | Series' Longest Manager Tenure (Years) | Longest Manager Tenure/ Series History % |
|---------------------------------------|-----------------------|-------------------------|--|--|
| T. Rowe Price Retirement              | 9/30/02               | 2                       | 15.3                                   | 100                                      |
| Putnam RetirementReady                | 11/1/04               | 4                       | 13.2                                   | 100                                      |
| MFS Lifetime                          | 9/29/05               | 1                       | 12.3                                   | 100                                      |
| JPMorgan SmartRetirement              | 5/15/06               | 5                       | 11.6                                   | 100                                      |
| Franklin LifeSmart                    | 8/1/06                | 2                       | 11.4                                   | 100                                      |
| AXA Target Allocation                 | 8/31/06               | 4                       | 11.3                                   | 100                                      |
| Guidestone Funds MyDestination        | 12/29/06              | 3                       | 11.0                                   | 100                                      |
| American Funds Trgt Date Rtrmt        | 2/1/07                | 7                       | 10.9                                   | 100                                      |
| MainStay Retirement                   | 6/29/07               | 4                       | 10.5                                   | 100                                      |
| Goldman Sachs Target Date Portfolio   | 10/1/07               | 2                       | 10.3                                   | 100                                      |
| Voya Index Solution                   | 3/10/08               | 3                       | 9.8                                    | 100                                      |
| Manning & Napier Target               | 3/28/08               | 3                       | 9.8                                    | 100                                      |
| USAA Target Retirement Funds          | 7/31/08               | 2                       | 9.4                                    | 100                                      |
| AllianzGI Retirement                  | 12/29/08              | 3                       | 9.0                                    | 100                                      |
| Harbor Target Retirement              | 1/2/09                | 3                       | 9.0                                    | 100                                      |
| TIAA-CREF Lifecycle Index             | 9/30/09               | 2                       | 8.3                                    | 100                                      |
| Fidelity Freedom Index                | 10/2/09               | 2                       | 8.3                                    | 100                                      |
| John Hancock Multi-Index Preservation | 4/30/10               | 3                       | 7.7                                    | 100                                      |
| BlackRock LifePath Index              | 5/31/11               | 3                       | 6.6                                    | 100                                      |
| JPMorgan SmartRetirement Blend        | 7/2/12                | 5                       | 5.5                                    | 100                                      |

**Exhibit 33 Number of Portfolio Managers and Longest Manager Tenure by Target-Date Series (Continued)**

| Series Name                               | Series Inception Date | # of Portfolio Managers | Series' Longest Manager Tenure (Years) | Longest Manager Tenure/ Series History % |
|---|-----------------------|-------------------------|--|--|
| Voya Target Retirement                    | 12/20/12              | 3                       | 5.0                                    | 100                                      |
| T. Rowe Price Target Retire               | 8/20/13               | 2                       | 4.4                                    | 100                                      |
| John Hancock Multi-Index Lifetime         | 11/7/13               | 3                       | 4.2                                    | 100                                      |
| KP Retirement Path                        | 1/10/14               | 2                       | 4.0                                    | 100                                      |
| Principal Lifetime Hybrid                 | 9/30/14               | 3                       | 3.3                                    | 100                                      |
| State Street Target Retirement            | 9/30/14               | 2                       | 3.3                                    | 100                                      |
| AB Multi-Manager Select                   | 12/15/14              | 4                       | 3.0                                    | 100                                      |
| ClearTrack                                | 3/2/15                | 3                       | 2.8                                    | 100                                      |
| Dimensional Target Date Retirement Income | 11/2/15               | 6                       | 2.2                                    | 100                                      |
| Wells Fargo Dynamic Target                | 11/30/15              | 3                       | 2.1                                    | 100                                      |
| Virtus DFA Trgt Date Retire Inc           | 1/11/16               | 5                       | 2.0                                    | 100                                      |
| Schwab Target Index                       | 8/25/16               | 1                       | 1.4                                    | 100                                      |
| Prudential Day One Target Date            | 12/13/16              | 4                       | 1.0                                    | 100                                      |
| 1290 Retirement                           | 2/27/17               | 4                       | 0.8                                    | 100                                      |
| Natixis Sustainable Future                | 2/28/17               | 10                      | 0.8                                    | 100                                      |
| Fidelity Flex Freedom                     | 6/8/17                | 2                       | 0.6                                    | 100                                      |
| Columbia Adaptive Retirement              | 10/24/17              | 3                       | 0.2                                    | 100                                      |
| TIAA-CREF Lifecycle                       | 10/15/04              | 2                       | 11.8                                   | 89                                       |
| MassMutual RetireSMART                    | 12/31/03              | 2                       | 11.8                                   | 84                                       |
| American Century One Choice               | 8/31/04               | 5                       | 11.0                                   | 83                                       |

**Exhibit 33 Number of Portfolio Managers and Longest Manager Tenure by Target-Date Series (Continued)**

| Series Name                          | Series Inception Date | # of Portfolio Managers | Series' Longest Manager Tenure (Years) | Longest Manager Tenure/ Series History % |
|--------------------------------------|-----------------------|-------------------------|--|--|
| Voya Solution                        | 4/29/05               | 3                       | 10.0                                   | 79                                       |
| Invesco Balanced-Risk Retirement     | 1/31/07               | 5                       | 8.3                                    | 76                                       |
| John Hancock Multimanager Lifetime   | 10/30/06              | 3                       | 8.0                                    | 72                                       |
| PIMCO RealPath Blend                 | 12/31/14              | 3                       | 2.0                                    | 68                                       |
| Principal Life Time                  | 3/1/01                | 4                       | 10.6                                   | 63                                       |
| State Farm Lifepath                  | 5/9/03                | 2                       | 8.3                                    | 56                                       |
| BMO Target Date Retirement Funds     | 8/30/13               | 3                       | 2.4                                    | 54                                       |
| Schwab Target                        | 7/1/05                | 1                       | 5.8                                    | 47                                       |
| Great-West SecureFoundation Lifetime | 11/13/09              | 3                       | 3.7                                    | 45                                       |
| Fidelity Advisor Freedom             | 7/24/03               | 2                       | 6.5                                    | 45                                       |
| Great-West Lifetime Conservative     | 5/1/09                | 3                       | 3.7                                    | 42                                       |
| Great-West Lifetime                  | 5/1/09                | 3                       | 3.7                                    | 42                                       |
| Vanguard Target Retirement           | 10/27/03              | 2                       | 4.9                                    | 34                                       |
| Fidelity Freedom                     | 10/17/96              | 2                       | 6.5                                    | 31                                       |
| PIMCO RealPath                       | 3/31/08               | 3                       | 2.0                                    | 21                                       |
| Nationwide Destination               | 8/29/07               | 3                       | 1.1                                    | 11                                       |
| BlackRock LifePath Smart Beta        | 4/20/07               | 3                       | 1.1                                    | 10                                       |
| BlackRock LifePath Dynamic           | 3/1/94                | 2                       | 1.1                                    | 5  |
| Wells Fargo Target                   | 3/1/94                | 3                       | 0.5                                    | 2  |
| <b>Average</b>                       |                       | <b>3.1</b>              | <b>6.2</b>                             | <b>81</b>                                |

Source: Morningstar, Inc. Data as of 12/31/17.

### Managers With Active Conviction

Target-date funds' role as an all-in-one, diversified solution for saving for retirement make them suitable for most, if not all, investors, even target-date managers themselves. However, most target-date managers have not opted to invest significantly alongside investors. Of the roughly 140 distinct target-date managers, only 13

personally invested more than \$1 million in one of the series they manage. Exhibit 34 lists those 13 managers and the series in which they invest more than \$1 million—the highest threshold included in mutual fund filings. Remarkably, all the series invest predominantly in actively managed strategies rather than passive ones.

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**Exhibit 34** Portfolio Managers With Over \$1 Million Personally Invested in Their Target-Date Series

| Manager Name       | Target-Date Series                    |
|--------------------|---------------------------------------|
| Alan N. Berro      | American Funds Target Date Retirement |
| Andrew B. Suzman   | American Funds Target Date Retirement |
| Bradley J. Vogt    | American Funds Target Date Retirement |
| James B. Lovelace  | American Funds Target Date Retirement |
| Jody F. Jonsson    | American Funds Target Date Retirement |
| John H. Smet       | American Funds Target Date Retirement |
| Wesley K. Phoa     | American Funds Target Date Retirement |
| Robert "Bob" Boyda | John Hancock Multimanager Lifetime    |
| Anne Lester        | JPMorgan SmartRetirement              |
| Jonathan B. Swaney | Mainstay Retirement                   |
| Joseph C. Flaherty | MFS LifeTime                          |
| Hans L. Erickson   | TIAA-CREF Lifecycle                   |
| John Cunniff       | TIAA-CREF Lifecycle                   |

Source: Morningstar, Inc. Data as of 12/31/17.

Target-date managers who run multiple series appear more willing to invest in their older, pricier series than the newer, cheaper one despite the increased demand for the latter. Exhibit 35 shows the manager ownership level for all managers that invest in at least one of their multiple target-date series. Of the 17 target-date managers, only one doesn't own more in the legacy series. (James Fennessey from Principal invests in the same threshold for his two series.) In most instances, the managers have chosen an active target-date series over a passive one. This counters investors' massive flight to passive series in recent years, suggesting that target-date investors may be moving to target-date managers' lower-conviction offering, though managers may feel compelled to invest in their active series.

**Exhibit 35 Portfolio Manager Ownership Levels of Firms With Multiple Target-Date Series**

| Manager and Target-Date Series Name   | Inception Date | Active/<br>Passive | Ownership Level |                  |                       |                        |                         |                           |                     |
|---------------------------------------|----------------|--------------------|-----------------|------------------|-----------------------|------------------------|-------------------------|---------------------------|---------------------|
|                                       |                |                    | None            | \$1-<br>\$10,000 | \$10,001-<br>\$50,000 | \$50,001-<br>\$100,000 | \$100,001-<br>\$500,000 | \$500,001-<br>\$1,000,000 | Over<br>\$1,000,000 |
|                                       |                |                    |                 |                  |                       |                        |                         |                           |                     |
| <b>Andrew Dierdorf</b>                |                |                    |                 |                  |                       |                        |                         |                           |                     |
| Fidelity Freedom                      | 10/17/96       | Active             | —               | —                | —                     | —                      | ■                       | ■                         | —                   |
| Fidelity Advisor Freedom              | 7/24/03        | Active             | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| Fidelity Freedom Index                | 10/2/09        | Passive            | —               | —                | —                     | ■                      | —                       | —                         | —                   |
| Fidelity Flex Freedom                 | 6/8/17         | Active             | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| <b>Brett F. Sumsion</b>               |                |                    |                 |                  |                       |                        |                         |                           |                     |
| Fidelity Freedom                      | 10/17/96       | Active             | —               | —                | —                     | —                      | —                       | ■                         | —                   |
| Fidelity Advisor Freedom              | 7/24/03        | Active             | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| Fidelity Freedom Index                | 10/2/09        | Passive            | —               | —                | —                     | —                      | —                       | —                         | —                   |
| Fidelity Flex Freedom                 | 6/8/17         | Active             | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| <b>Robert "Bob" Boyda</b>             |                |                    |                 |                  |                       |                        |                         |                           |                     |
| John Hancock Multimanager Lifetime    | 10/30/06       | Active             | —               | —                | —                     | —                      | —                       | —                         | ■                   |
| John Hancock Multi-Index Preservation | 4/29/10        | Passive            | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| John Hancock Multi-Index Lifetime     | 11/7/13        | Passive            | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| <b>Marcelle Daher</b>                 |                |                    |                 |                  |                       |                        |                         |                           |                     |
| John Hancock Multimanager Lifetime    | 10/30/06       | Active             | —               | —                | —                     | —                      | —                       | ■                         | —                   |
| John Hancock Multi-Index Preservation | 4/29/10        | Passive            | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| John Hancock Multi-Index Lifetime     | 11/7/13        | Passive            | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| <b>Nathan Thooft</b>                  |                |                    |                 |                  |                       |                        |                         |                           |                     |
| John Hancock Multimanager Lifetime    | 10/30/06       | Active             | —               | —                | —                     | —                      | —                       | ■                         | —                   |
| John Hancock Multi-Index Preservation | 4/29/10        | Passive            | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| John Hancock Multi-Index Lifetime     | 11/7/13        | Passive            | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| <b>Anne Lester</b>                    |                |                    |                 |                  |                       |                        |                         |                           |                     |
| JPMorgan SmartRetirement              | 5/15/06        | Active             | —               | —                | —                     | —                      | —                       | —                         | ■                   |
| JPMorgan SmartRetirement Blend        | 7/2/12         | Active             | —               | —                | —                     | ■                      | —                       | —                         | —                   |
| <b>Daniel Oldroyd</b>                 |                |                    |                 |                  |                       |                        |                         |                           |                     |
| JPMorgan SmartRetirement              | 5/15/06        | Active             | —               | —                | —                     | —                      | ■                       | —                         | —                   |
| JPMorgan SmartRetirement Blend        | 7/2/12         | Active             | —               | —                | —                     | ■                      | —                       | —                         | —                   |
| <b>Eric J. Bernbaum</b>               |                |                    |                 |                  |                       |                        |                         |                           |                     |
| JPMorgan SmartRetirement              | 5/15/06        | Active             | —               | ■                | —                     | —                      | —                       | —                         | —                   |
| JPMorgan SmartRetirement Blend        | 7/2/12         | Active             | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| <b>Mihir P. Worah</b>                 |                |                    |                 |                  |                       |                        |                         |                           |                     |
| PIMCO RealPathTM                      | 3/31/08        | Active             | —               | —                | —                     | —                      | ■                       | —                         | —                   |
| PIMCO RealPath Blend                  | 12/31/14       | Active             | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| <b>Randy Welch</b>                    |                |                    |                 |                  |                       |                        |                         |                           |                     |
| Principal LifeTime                    | 3/1/01         | Active             | —               | —                | —                     | —                      | ■                       | —                         | —                   |
| Principal Lifetime Hybrid             | 9/30/14        | Active             | ■               | —                | —                     | —                      | —                       | —                         | —                   |
| <b>James W. Fennessey</b>             |                |                    |                 |                  |                       |                        |                         |                           |                     |
| Principal LifeTime                    | 3/1/01         | Active             | —               | —                | ■                     | —                      | —                       | —                         | —                   |
| Principal Lifetime Hybrid             | 9/30/14        | Active             | —               | —                | ■                     | —                      | —                       | —                         | —                   |

Source: Morningstar, Inc. Data as of 12/31/17. Only includes portfolio managers that personally invest in at least one of their target-date funds.

Exhibit 35 Portfolio Manager Ownership Levels of Firms With Multiple Target-Date Series (Continued)

| Manager and Target-Date Series Name | Inception Date | Active/<br>Passive | Ownership Level |                  |                       |                        |                         |                                   |
|-------------------------------------|----------------|--------------------|-----------------|------------------|-----------------------|------------------------|-------------------------|-----------------------------------|
|                                     |                |                    | None            | \$1-<br>\$10,000 | \$10,001-<br>\$50,000 | \$50,001-<br>\$100,000 | \$100,001-<br>\$500,000 | \$500,001-<br>Over<br>\$1,000,000 |
| <b>Zifan Tang</b>                   |                |                    |                 |                  |                       |                        |                         |                                   |
| Schwab Target                       | 7/1/05         | Active             | —               | —                | ■                     | —                      | —                       | —                                 |
| Schwab Target Index                 | 8/25/16        | Passive            | ■               | —                | —                     | —                      | —                       | —                                 |
| <b>Wyatt A. Lee</b>                 |                |                    |                 |                  |                       |                        |                         |                                   |
| T. Rowe Price Retirement            | 9/30/02        | Active             | —               | —                | ■                     | —                      | ■                       | —                                 |
| T. Rowe Price Target Retire         | 8/20/13        | Active             | ■               | —                | —                     | —                      | —                       | —                                 |
| <b>Hans L. Erickson</b>             |                |                    |                 |                  |                       |                        |                         |                                   |
| TIAA-CREF Lifecycle                 | 10/15/04       | Active             | —               | —                | —                     | —                      | —                       | ■                                 |
| TIAA-CREF Lifecycle Index           | 9/30/09        | Passive            | —               | —                | —                     | ■                      | —                       | —                                 |
| <b>John Cunniff</b>                 |                |                    |                 |                  |                       |                        |                         |                                   |
| TIAA-CREF Lifecycle                 | 10/15/04       | Active             | —               | —                | —                     | —                      | —                       | ■                                 |
| TIAA-CREF Lifecycle Index           | 9/30/09        | Passive            | —               | —                | —                     | ■                      | —                       | —                                 |
| <b>Paul Zemsky</b>                  |                |                    |                 |                  |                       |                        |                         |                                   |
| Voya Solution                       | 4/29/05        | Active             | —               | —                | ■                     | —                      | ■                       | —                                 |
| Voya Index Solution                 | 3/10/08        | Passive            | ■               | —                | —                     | —                      | —                       | —                                 |
| Voya Target Retirement              | 12/20/12       | Active             | ■               | —                | —                     | —                      | —                       | —                                 |
| <b>Halvard Kvaale</b>               |                |                    |                 |                  |                       |                        |                         |                                   |
| Voya Solution                       | 4/29/05        | Active             | —               | —                | —                     | ■                      | —                       | —                                 |
| Voya Index Solution                 | 3/10/08        | Passive            | ■               | —                | —                     | —                      | —                       | —                                 |
| Voya Target Retirement              | 12/20/12       | Active             | ■               | —                | —                     | —                      | —                       | —                                 |

Source: Morningstar, Inc. Data as of 12/31/17. Only includes portfolio managers that personally invest in at least one of their target-date funds.

## Underlying Funds: Looking Back and Forward

In addition to target-date managers' decisions, the results of target-date funds often depend upon the effectiveness of underlying portfolio managers because many target-date series employ a fund-of-funds structure. This warrants an examination of underlying funds. The Morningstar Rating provides a backward-looking view of a fund's risk-adjusted results relative to category peers. Ratings range from a 5-star rating, which indicates superior risk-adjusted results, to the subpar results of a 1-star rating. On the other hand, the Morningstar Analyst Rating gives investors a fund's forward-looking opinion of a fund's prospects based on the assessment of Morningstar manager research analysts. This takes into consideration several aspects that a backward-looking metric fails to capture, such as manager turnover, changes

to an approach, and performance expectations, among others.

Looking back, most target-date series generally have lineups of underlying funds with respectable, though not stellar, performance records. Exhibit 36 lists the weighted-average Morningstar Rating for target-date series with at least 50% of their assets with a Morningstar Rating as of year-end 2017. The average Morningstar Rating of 3.54 suggests that the funds generally had better-than-average performance records.

Plus, 47 of the 52 target-date series shown landed between 3- and 4-star ratings, on average. Only the Putnam RetirementReady and the PIMCO RealPath series posted an average Morningstar Rating greater than 4 stars. Meanwhile, only three series—BlackRock LifePath Index, AXA Target Allocation, and Invesco Balanced-Risk Retirement—had a weighted-average Morningstar Rating of less than 3 stars.

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**Exhibit 36** Underlying Funds: Weighted-Average Morningstar Rating

| Target-Date Series                        | Weighted<br>Average<br>Morningstar<br>Rating | Coverage<br>Percentage |
|---|--|------------------------|
| Putnam RetirementReady                    | 4.06   | 96                     |
| PIMCD RealPathTM                          | 4.02   | 71                     |
| PIMCD RealPath Blend                      | 3.99   | 94                     |
| American Funds Trgt Date Rtrmt            | 3.93   | 100                    |
| AllianceBernstein Multi-Manager<br>Select | 3.90   | 100                    |
| 1290 Retirement                           | 3.86   | 100                    |
| JPMorgan SmartRetirement                  | 3.82   | 92                     |
| MassMutual RetireSMART                    | 3.82   | 58                     |

|  |      |     |
|--|------|-----|
| John Hancock Multimanager<br>Lifetime    | 3.78 | 96  |
| Schwab Target                            | 3.75 | 84  |
| <hr/>                                    |      |     |
| TIAA-CREF Lifecycle                      | 3.73 | 91  |
| AllianzGI Retirement                     | 3.73 | 81  |
| Guidestone Funds MyDestination           | 3.72 | 89  |
| KP Retirement Path                       | 3.70 | 100 |
| BMD Target Date Retirement<br>Funds      | 3.68 | 96  |
| <hr/>                                    |      |     |
| Great-West Lifetime                      | 3.67 | 97  |
| Principal Lifetime Hybrid                | 3.67 | 99  |
| Fidelity Flex Freedom                    | 3.67 | 90  |
| Fidelity Freedom                         | 3.67 | 92  |
| ClearTrack                               | 3.66 | 99  |
| <hr/>                                    |      |     |
| JPMorganSmartRetirement Blend            | 3.64 | 98  |
| T. Rowe Price Retirement                 | 3.62 | 99  |
| Virtus DFA Trgt Date Retire Inc          | 3.62 | 100 |
| John Hancock Multi-Index Lifetime        | 3.61 | 100 |
| FranklinLifeSmart                        | 3.60 | 86  |
| <hr/>                                    |      |     |
| Principal LifeTime                       | 3.60 | 99  |
| Harbor Target Retirement                 | 3.59 | 91  |
| Goldman Sachs Target Date<br>Portfolio   | 3.59 | 96  |
| Great-West Lifet"lmeConservative         | 3.58 | 95  |
| Voya Solution                            | 3.58 | 96  |
| <hr/>                                    |      |     |
| State Farm Lifepath                      | 3.56 | 98  |
| John Hancock Multi-Index<br>Preservation | 3.54 | 100 |
| Great-West SecureFoundation<br>Lifetime  | 3.53 | 96  |
| T. Rowe Price Target Retire              | 3.53 | 99  |
| Wells Fargo Dynamic Target               | 3.52 | 100 |
| <hr/>                                    |      |     |
| TIAA-CREF Lifecycle Index                | 3.51 | 98  |

|   |      |     |
|---|------|-----|
| Vanguard Target Retirement                | 3.50 | 100 |
| Nationwide Destination                    | 3.50 | 95  |
| Schwab Target Index                       | 3.49 | 97  |
| USAA Target Retirement Funds              | 3.48 | 86  |
| Fidelity Advisor Freedom                  | 3.45 | 92  |
| State Street Target Retirement            | 3.45 | 89  |
| Dimensional Target Date Retirement Income | 3.45 | 100 |
| MFS Lifetime                              | 3.41 | 78  |
| Voya Target Retirement                    | 3.36 | 99  |
| Fidelity Freedom Index                    | 3.31 | 95  |
| American Century One Choice               | 3.15 | 80  |
| Voya Index Solution                       | 3.13 | 99  |
| MainStay Retirement                       | 3.08 | 82  |
| BlackRock LifePath Index                  | 2.88 | 91  |
| AXA Target Allocation                     | 2.37 | 100 |
| Invesco Balanced-Risk Retirement          | 2.00 | 67  |

Source: Morningstar, Inc. Data as of 12/31/17. Excludes target-date series with less than 50% coverage.

Looking forward, Morningstar manager analysts generally have favorable views of rated funds within target-date series, but many series mostly hold funds not covered by Morningstar analysts. Exhibit 37 shows the 23 target-date series where at least 50% of assets received a Morningstar Analyst Rating at year-end 2017. On average, those series posted a Morningstar Analyst Rating of 3.82, which lands closer to a Silver rating than a Bronze. Only one series—Invesco Balanced-Risk Retirement—had a weighted-average Morningstar Analyst Rating lower than Bronze, but Morningstar analysts upgraded the main driver of that outcome to Bronze from Neutral in January 2018. Still, most target-date series did not meet the 50% coverage threshold,

leaving the prospects of those target-date series' underlying funds relatively unknown.

Of the three target-date series that landed in the Gold-rating territory, only the BMO Target Date Retirement series invests mostly in active funds, and that series barely reached the 50% coverage threshold to be considered. That series holds topnotch, externally managed strategies like Dodge & Cox International Stock and Metropolitan West Total Return Bond, but also includes several BMO funds that did not have Morningstar Analyst Ratings. While being classified as active, the BMO series also holds some highly rated index funds.

**Exhibit 37** Underlying Funds: Weighted-Average Morningstar Analyst Rating

| Target-Date Series                        | Active/Passive | Weighted Average | Morningstar Analyst Rating | Coverage Percentage |
|---|----------------|------------------|----------------------------|---------------------|
| Manning & Napier Target                   | Active         | 3.00             | Bronze                     | 100                 |
| American Funds Trgt Date Rtrmt            | Active         | 4.13             | Silver                     | 94                  |
| Schwab Target Index                       | Passive        | 4.44             | Silver                     | 92                  |
| ClearTrack                                | Passive        | 4.08             | Silver                     | 92                  |
| T. Rowe Price Retirement                  | Active         | 3.19             | Bronze                     | 92                  |
| State Farm Lifepath                       | Passive        | 3.91             | Silver                     | 92                  |
| PIMCO RealPath Blend                      | Active         | 4.35             | Silver                     | 89                  |
| JPMorgan SmartRetirement Blend            | Active         | 4.18             | Silver                     | 88                  |
| 1290 Retirement                           | Passive        | 4.16             | Silver                     | 86                  |
| T. Rowe Price Target Retire               | Active         | 3.01             | Bronze                     | 84                  |
| Goldman Sachs Target Date Portfolio       | Passive        | 4.18             | Silver                     | 75                  |
| Vanguard Target Retirement                | Passive        | 4.96             | Gold                       | 75                  |
| AllianceBernstein Multi-Manager Select    | Active         | 3.52             | Silver                     | 73                  |
| Invesco Balanced-Risk Retirement          | Active         | 2.00             | Neutral                    | 67                  |
| PIMCO RealPath                            | Active         | 3.40             | Bronze                     | 61                  |
| Harbor Target Retirement                  | Active         | 3.87             | Silver                     | 60                  |
| Virtus DFA Trgt Date Retire Inc           | Active         | 4.11             | Silver                     | 59                  |
| JPMorgan SmartRetirement                  | Active         | 3.27             | Bronze                     | 58                  |
| BlackRock LifePath Smart Beta             | Passive        | 3.54             | Silver                     | 57                  |
| Franklin LifeSmart                        | Active         | 3.04             | Bronze                     | 57                  |
| Dimensional Target Date Retirement Income | Active         | 4.05             | Silver                     | 52                  |
| Fidelity Freedom Index                    | Passive        | 5.00             | Gold                       | 51                  |
| BMO Target Date Retirement Funds          | Active         | 4.51             | Gold                       | 51                  |

Gold >4.50; Silver 3.5–4.5; Bronze 2.5–3.5; Neutral 1.5–2.5; Negative <1.5

Source: Morningstar, Inc. Data as of 12/31/17. Excludes target-date series with less than 50% coverage.

## **Process**

Portfolio managers of any target-date series—active or passive—make several asset-allocation decisions as they build portfolios across the different stages of an investor's career. This section examines the output of those decisions by looking at both target-date series' strategic equity glide path and sub-asset-class glide path to identify general shifts, the range of approaches, and the difference between active and passive series.

### **Two Glide Paths to Consider**

Target-date funds' distinguishing feature is their shifting asset allocation as an investor approaches retirement. Looking at a target-date series strategic equity glide path, which indicates the anticipated equity stake at different points before and after the target retirement date, is the simplest way to follow the shifts. While serving as a practicable starting point, the strategic equity glide path does not provide insight into the equity or bond portfolios.

In addition to the stock/bond split, target-date managers must decide on the mix of subasset classes. Morningstar introduced the industry average sub-asset-class glide path for target-date funds in its 2015 Target-Date Fund Landscape report. The industry average sub-asset-class glide path incorporates 11 observations for each series, ranging from the 2060 to the 2010 vintages. If a series did not offer a 2060 vintage, the 2055 allocation extended to the 2060 vintage. If a series did not have a 2015 or 2010 fund, the series' retirement fund stretched to those vintages. For series that only offer vintages in 10-year increments, midpoints between the existing funds were used as extrapolated observations. The result is a collection of more than 5,000 data points to calculate the industry average sub-asset-class glide path.

This year's average glide path, shown in Exhibit 38, was constructed using the observations of 49 target-date series. Series that tend to make heavy use of derivatives were excluded, as their sub-asset-class allocations don't accurately reflect their exposures. Other series were omitted because of incomplete or inaccurate holdings. (Exhibit 39 shows the target-date series that were included and excluded from the industry average sub-asset-class glide path.)

**Exhibit 39** Sub-Asset-Class Glide-Path Constituents and Exclusions

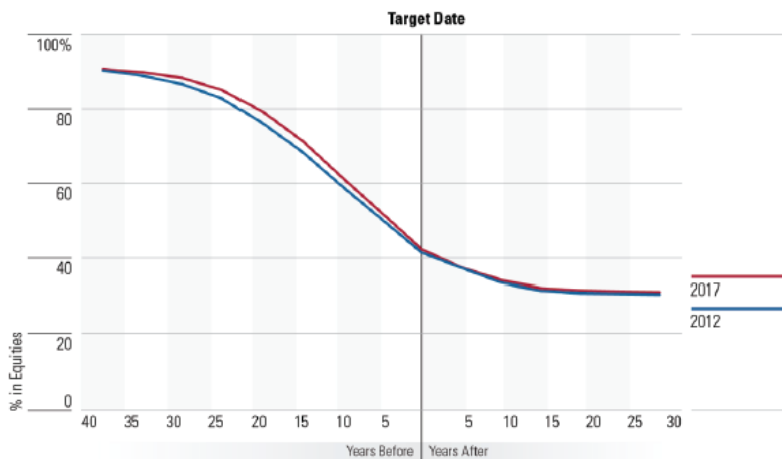
| Constituents                              |                                 | Exclusions                       |
|---|---------------------------------|----------------------------------|
| 1290 Retirement                           | Manning & Napier Target         | Columbia Adaptive Retirement     |
| AB Multi-Manager Select                   | MassMutual RetireSMART          | Invesco Balanced-Risk Retirement |
| AllianzGI Retirement                      | MFS Lifetime                    | Invesco Peak Retirement          |
| American Century One Choice               | Nationwide Destination          | Natixis Sustainable Future       |
| American Funds Trgt Date Rtrmt            | PIMCO RealPath Blend            | PIMCO RealPath                   |
| AXA Target Allocation                     | Principal Lifetime Hybrid       | Putnam RetirementReady           |
| BlackRock LifePath Dynamic                | Principal LifeTime              |                                  |
| BlackRock LifePath Index                  | Prudential Day One Target Date  |                                  |
| BlackRock LifePath Smart Beta             | Schwab Target Index             |                                  |
| BMO Target Date Retirement Funds          | Schwab Target                   |                                  |
| ClearTrack                                | State Farm Lifepath             |                                  |
| Dimensional Target Date Retirement Income | State Street Target Retirement  |                                  |
| Fidelity Advisor Freedom                  | T. Rowe Price Retirement        |                                  |
| Fidelity Flex Freedom                     | T. Rowe Price Target Retire     |                                  |
| Fidelity Freedom Index                    | TIAA-CREF Lifecycle Index       |                                  |
| Fidelity Freedom                          | TIAA-CREF Lifecycle             |                                  |
| Franklin LifeSmart                        | USAA Target Retirement Funds    |                                  |
| Goldman Sachs Target Date Portfolio       | Vanguard Target Retirement      |                                  |
| Great-West Lifetime Conservative          | Virtus DFA Trgt Date Retire Inc |                                  |
| Great-West Lifetime                       | Voya Index Solution             |                                  |
| Great-West SecureFoundation Lifetime      | Voya Solution                   |                                  |
| Guidestone Funds MyDestination            | Voya Target Retirement          |                                  |
| Harbor Target Retirement                  | Wells Fargo Dynamic Target      |                                  |
| John Hancock Multi-Index Lifetime         | Wells Fargo Target              |                                  |
| John Hancock Multi-Index Preservation     |                                 |                                  |
| John Hancock Multimanager Lifetime        |                                 |                                  |
| JPMorgan SmartRetirement Blend            |                                 |                                  |
| JPMorgan SmartRetirement                  |                                 |                                  |
| KP Retirement Path                        |                                 |                                  |
| MainStay Retirement                       |                                 |                                  |

Source: Morningstar, Inc. Data as of 12/31/17.

## Change in Average

On average, target-date series' strategic equity glide paths haven't changed significantly in recent years, but when they did, it was usually an increase in equity exposure. Exhibit 40 illustrates how the average strategic equity glide path—based on strategic targets, not actual holdings—changed from 2012 to 2017. It includes new entrants to the space and excludes those that have been shuttered. The biggest change—3.1 percentage points—occurred 20 years before an investor reached the target date. The average equity glide path remained relatively unchanged—less than 1 percentage point—for those in the retirement phase.

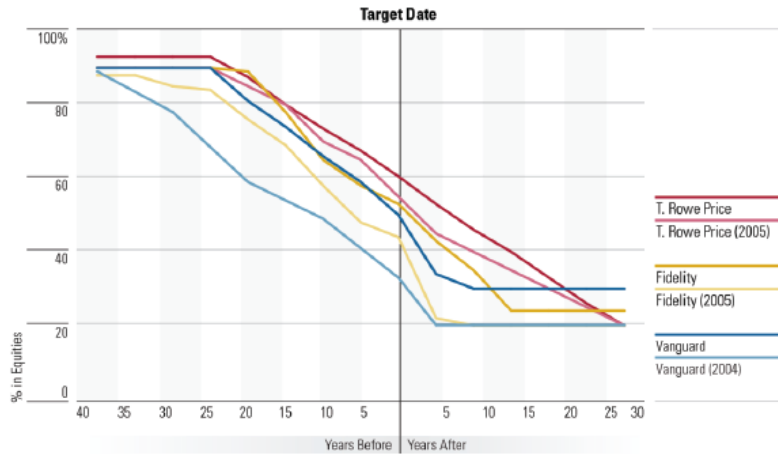
Exhibit 40 Average Strategic Equity Glide Path, 2017 versus 2012



Source: Morningstar, Inc. Data as of 12/31/17.

While the average strategic equity glide path hasn't changed much over the past five years, a look further back reveals that more meaningful changes have been made. Exhibit 41 displays the 2017 strategic equity glide path of the three largest target-date providers' flagship series—Vanguard Target Retirement, Fidelity Freedom, and T.

Exhibit 41 Change in Strategic Equity Glide Path for the "Big Three", 2017 versus 2004/2005



Source: Morningstar, Inc. Data as of 12/31/17.

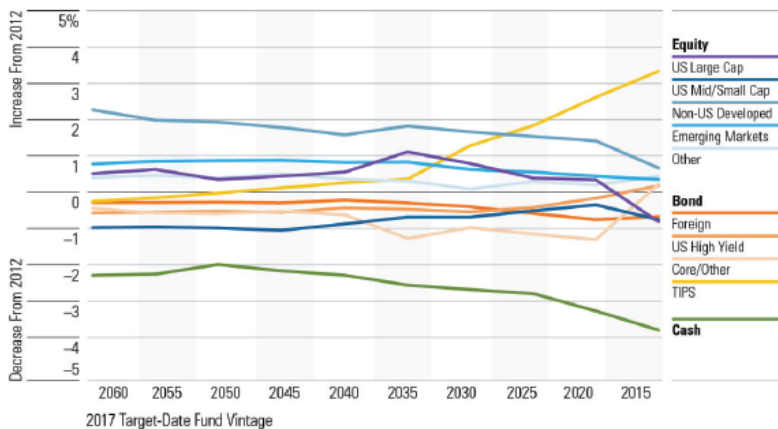
Rowe Price Retirement—as well those series' strategic equity glide path as of 2004/2005. It shows that Vanguard and Fidelity both significantly increased their equity exposure, by more than 20 percentage points at some point along the glide path. Meanwhile, T. Rowe Price trimmed equity exposure by as much as 8 percentage points for the T. Rowe Price Retirement series, which initially stood out for its equity-heavy approach compared with peers. As a result, the three strategic equity glide paths now vary less, staying within 11 percentage points of each other across the glide path.

A comparison of the 2017 and 2012 industry average sub-asset-class glide paths also shows only modest changes over the past five years. (The 2012 and 2017 industry average asset allocation was compared by shifting the portfolios five years to align investment horizons.) Exhibit 42 shows the 2017 average glide path compared with the 2012 one. Lines above zero indicate

increased exposure in 2017 from 2012, whereas lines below zero indicate a decline over that time.

The biggest change over the past five years was an increased allocation to Treasury Inflation-Protected Securities, which appears to come at the expense of cash and core/other bond. The launch of the TIPS-heavy Dimensional Target Date Retirement Income series contributed to the increase. The next-biggest change was higher exposure to non-U.S. developed equity, particularly for investors early in their careers. Consistent with the comparison of strategic equity glide paths, the average sub-asset-class glide paths showed higher equity exposure in 2017 than in 2012.

Exhibit 42 Changes in Industry Average Sub-Asset-Class Glide Path, 2017 versus 2012



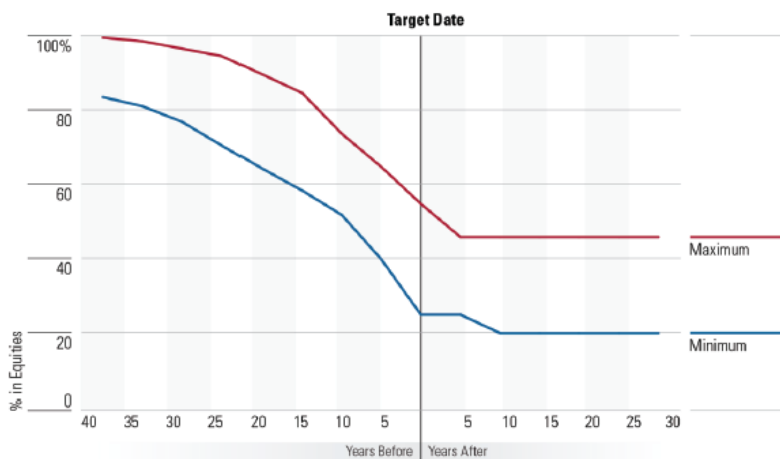
Source: Morningstar, Inc. Data as of 12/31/17.

### Still a Variety of Glide Paths

Target-date investors should be aware that a wide range of approaches still exists when it comes to constructing portfolios for target-date funds. Exhibit 43 shows that strategic equity glide paths still vary significantly even when excluding the significant outliers. (Thirteen series with an average strategic equity

allocation more than 1 standard deviation from the industry average were excluded.) Across the 70-year horizon, the average difference between the maximum and minimum equity stakes was nearly 24 percentage points. The target date, when investors' retirement savings can be expected to be at or near their peak, had the widest range of 30 percentage points.

Exhibit 43 Range of Strategic Equity Glide Paths Excluding Outliers

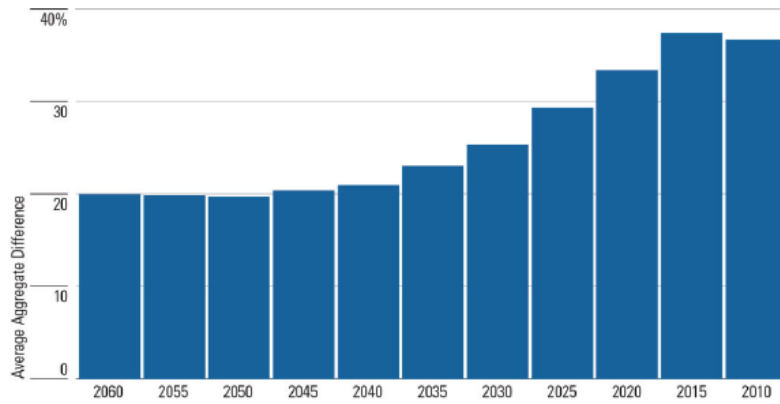


Source: Morningstar, Inc. Data as of 12/31/17.

Similarly, a look at sub-asset-class paths shows that target-date series tended to deviate further from the norm near the target date. Exhibit 44 illustrates the sums of the absolute value of differences relative to the industry average for each vintage to capture this trend. (For example, if a series' 2050 fund's exposure to Foreign Bond was 2 percentage points higher than the norm and its exposure to Emerging Markets Equity was 4 percentage points below the norm, those deviations would combine to contribute 6 points to the difference score.) The difference scores increase as funds near retirement, indicating that target-date funds aimed at the youngest investors were

the most similar with one another, but the differences became more pronounced in the portfolios of investors near retirement.

**Exhibit 44** Average Aggregate Differences From Industry Average Sub-Asset-Class Glide Path, by Target Year

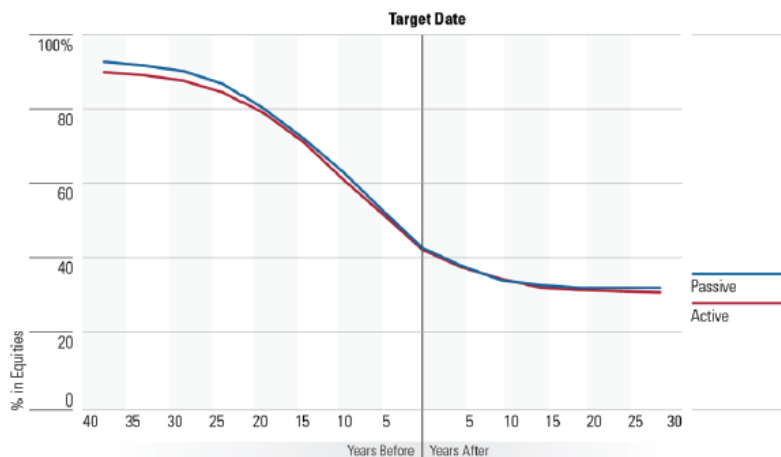


Source: Morningstar, Inc. Data as of 12/31/17.

## The Active/Passive Difference

At a high level, the asset allocation of passive target-date series generally doesn't appear much different than active ones. Exhibit 45 compares the average strategic equity glide path for active and passive target-date series as of year-end 2017. On average, the two average glide paths stayed within 1.5 percentage points of each other, with the biggest difference being that passives series generally held more in equities for investors early in their career.

Exhibit 45 Average Strategic Equity Glide Path, Active versus Passive



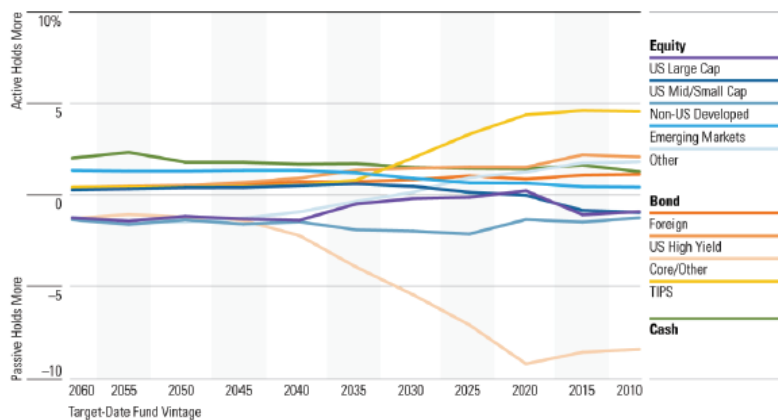
Source: Morningstar, Inc. Data as of 12/31/17.

The comparison of sub-asset-class exposures of active and passive target-date series reveals bigger differences between the two. Exhibit 46 shows that passive target-date series, on average, placed more assets in core/other bond than their active peers, particularly near or into the retirement phase. This relative overweighting came at the expense of high-yield bonds, foreign bonds, and TIPS. The limited availability of index funds in those asset classes

may deter passive target-date series from gaining exposure.

Active target-date series had a higher cash stake than passive ones across the glide path. While underlying index funds can be expected to stay fully invested, active funds commonly maintain a small cash position for transactions.

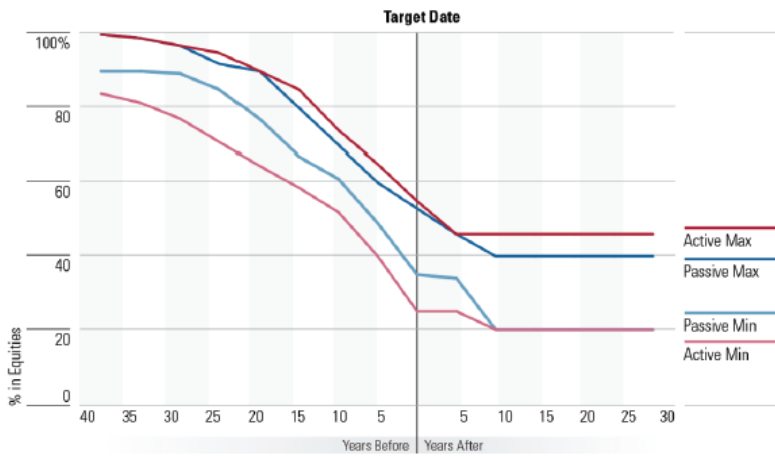
**Exhibit 46** Differences in Average Sub-Asset-Class Glide Path, Active versus Passive



Source: Morningstar, Inc. Data as of 12/31/17.

The portfolios of passive target-date series are far from identical to each other. Exhibit 47 displays the ranges of strategic equity glide paths, excluding outliers, for both active and passive series. Passive series typically stayed within 14 percentage points of each other and never got closer than 7 percentage points, reflecting the significant portfolio differences that exist even between passive series. Active series displayed an even wider range of strategic equity glide paths, averaging a range of 24 percentage points and differing by as much as 30 percentage points at the target year.

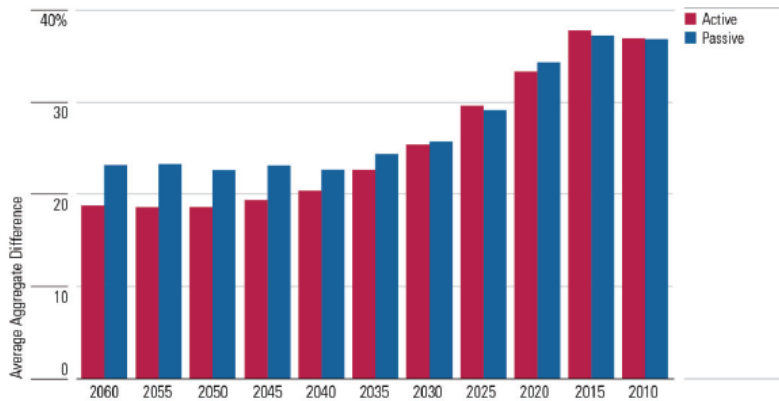
**Exhibit 47** Range of Strategic Equity Glide Paths Excluding Outliers, Active versus Passive



Source: Morningstar, Inc. Data as of 12/31/17.

Conversely, from a sub-asset-class viewpoint, passive target-date series tended to be more different from one another than active ones. Exhibit 48 shows the average aggregate difference of active and passive target-date series compared with their respective industry average sub-asset-class glide paths.

**Exhibit 48** Average Aggregate Difference From Industry Average Sub-Asset-Class Glide Path, Active versus Passive



Source: Morningstar, Inc. Data as of 12/31/17.

## Appendix

**Appendix 1** Morningstar Analyst Ratings for Target-Date Fund Series

| Target-Date Series                    | Morningstar Analyst Rating | Pillars ( ⊕ Positive ● Neutral ⊖ Negative ) |        |             |       |        |
|---------------------------------------|----------------------------|---|--------|-------------|-------|--------|
|                                       |                            | Process                                     | People | Performance | Price | Parent |
| American Century One Choice           | Neutral                    | ⊕   | ●      | ⊕           | ⊕     | ●      |
| American Funds Trgt Date Rtrmt        | Silver                     | ●   | ⊕      | ⊕           | ⊕     | ⊕      |
| BlackRock LifePath Dynamic            | Neutral                    | ●   | ●      | ●           | ●     | ⊕      |
| BlackRock LifePath Index              | Gold                       | ⊕   | ⊕      | ●           | ⊕     | ⊕      |
| Fidelity Advisor Freedom              | Bronze                     | ⊕   | ⊕      | ●           | ●     | ⊕      |
| Fidelity Freedom                      | Silver                     | ⊕   | ⊕      | ●           | ●     | ⊕      |
| Fidelity Freedom Index                | Bronze                     | ●   | ⊕      | ●           | ⊕     | ⊕      |
| John Hancock Multi-Index Preservation | Neutral                    | ●   | ⊕      | ●           | ⊕     | ⊕      |
| John Hancock Multimanager Lifetime    | Bronze                     | ⊕   | ⊕      | ●           | ⊕     | ⊕      |
| JPMorgan SmartRetirement              | Gold                       | ⊕   | ⊕      | ⊕           | ⊕     | ⊕      |
| MFS Lifetime                          | Bronze                     | ●   | ⊕      | ⊕           | ⊕     | ⊕      |
| Principal LifeTime                    | Neutral                    | ●   | ⊕      | ●           | ⊖     | ●      |
| Schwab Target                         | Neutral                    | ●   | ⊕      | ⊕           | ●     | ⊕      |
| State Farm Lifepath                   | Negative                   | ●   | ●      | ⊖           | ⊖     | ●      |
| T. Rowe Price Retirement              | Silver                     | ⊕   | ⊕      | ⊕           | ●     | ⊕      |
| TIAA-CREF Lifecycle                   | Bronze                     | ⊕   | ⊕      | ⊕           | ⊕     | ●      |
| TIAA-CREF Lifecycle Index             | Bronze                     | ●   | ⊕      | ⊕           | ⊕     | ●      |
| Vanguard Target Retirement            | Gold                       | ⊕   | ⊕      | ⊕           | ⊕     | ⊕      |
| Voya Solution                         | Neutral                    | ●   | ●      | ●           | ⊖     | ●      |
| Wells Fargo Target                    | Neutral                    | ●   | ●      | ●           | ⊕     | ●      |

Source: Morningstar, Inc. Data as of 5/7/18.

**Appendix 2 Strategic Equity Glide Path by Target-Date Fund Series**

| Target-Date Series                    | Landing Point<br>(Yrs to Target) | Years to Target |    |    |    |    |    |    |    |    |    |     |     |     |     |     |
|---------------------------------------|----------------------------------|-----------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
|                                       |                                  | 40              | 35 | 30 | 25 | 20 | 15 | 10 | 5  | 0  | -5 | -10 | -15 | -20 | -25 | -30 |
| 1290 Retirement                       | -10 YTT                          | 100             | 95 | 90 | 85 | 80 | 75 | 70 | 60 | 50 | 40 | 20  | 20  | 20  | 20  | 20  |
| AllianceBernstein Multi-Mgr Select    | -15 YTT                          | 91              | 91 | 90 | 90 | 83 | 73 | 63 | 54 | 45 | 38 | 34  | 27  | 27  | 27  | 27  |
| AllianzGI Retirement                  | -5 YTT                           | 93              | 93 | 93 | 90 | 85 | 75 | 65 | 53 | 40 | 30 | 30  | 30  | 30  | 30  | 30  |
| American Century One Choice           | 0 YTT                            | 84              | 81 | 77 | 71 | 65 | 59 | 53 | 48 | 45 | 45 | 45  | 45  | 45  | 45  | 45  |
| American Funds Trgt Date Rtrmt        | -30 YTT                          | 88              | 88 | 88 | 87 | 86 | 81 | 86 | 57 | 47 | 45 | 41  | 39  | 35  | 30  | 29  |
| AXA Target Allocation                 | -10 YTT                          | 100             | 95 | 91 | 85 | 81 | 75 | 70 | 60 | 50 | 40 | 20  | 20  | 20  | 20  | 20  |
| BlackRock LifePath Dynamic            | 0 YTT                            | 99              | 99 | 97 | 91 | 82 | 72 | 61 | 49 | 40 | 40 | 40  | 40  | 40  | 40  | 40  |
| BlackRock LifePath Smart Beta         | 0 YTT                            | 99              | 99 | 97 | 91 | 82 | 72 | 61 | 49 | 40 | 40 | 40  | 40  | 40  | 40  | 40  |
| BlackRock LifePath Index              | 0 YTT                            | 99              | 99 | 97 | 91 | 82 | 72 | 61 | 49 | 40 | 40 | 40  | 40  | 40  | 40  | 40  |
| BMO Target Date Retirement Funds      | -5 YTT                           | 90              | 90 | 90 | 90 | 88 | 85 | 74 | 64 | 48 | 36 | 36  | 36  | 36  | 36  | 36  |
| ClearTrack                            | -10 YTT                          | 94              | 94 | 94 | 87 | 77 | 67 | 63 | 56 | 53 | 45 | 33  | 33  | 33  | 33  | 33  |
| Dimensional Target Date Ret Income    | -15 YTT                          | 95              | 95 | 95 | 90 | 78 | 64 | 51 | 38 | 25 | 25 | 25  | 20  | 20  | 20  | 20  |
| Fidelity Advisor Freedom              | -15 YTT                          | 90              | 90 | 90 | 90 | 89 | 78 | 65 | 58 | 53 | 43 | 35  | 24  | 24  | 24  | 24  |
| Fidelity Flex Freedom                 | -15 YTT                          | 90              | 90 | 90 | 90 | 90 | 80 | 65 | 59 | 52 | 43 | 34  | 24  | 24  | 24  | 24  |
| Fidelity Freedom                      | -15 YTT                          | 90              | 90 | 90 | 90 | 89 | 78 | 65 | 58 | 53 | 43 | 35  | 24  | 24  | 24  | 24  |
| Fidelity Freedom Index                | -15 YTT                          | 90              | 90 | 90 | 90 | 90 | 80 | 65 | 59 | 52 | 43 | 34  | 24  | 24  | 24  | 24  |
| Franklin LifeSmart                    | 0 YTT                            | 85              | 84 | 83 | 82 | 80 | 74 | 70 | 50 | 35 | 35 | 35  | 35  | 35  | 35  | 35  |
| Goldman Sachs Target Date Portfolio   | -30 YTT                          | 85              | 80 | 75 | 70 | 65 | 60 | 55 | 37 | 20 | 20 | 20  | 20  | 20  | 20  | 20  |
| Great-West Lifetime                   | -30 YTT                          | 93              | 93 | 92 | 90 | 85 | 76 | 65 | 55 | 48 | 42 | 38  | 35  | 34  | 34  | 34  |
| Great-West Lifetime Conservative      | -30 YTT                          | 84              | 83 | 81 | 75 | 65 | 54 | 45 | 38 | 32 | 28 | 25  | 23  | 23  | 23  | 23  |
| Great-West SecureFoundation Lifetime  | -30 YTT                          | 91              | 90 | 89 | 87 | 78 | 68 | 58 | 58 | 58 | 58 | 58  | 58  | 58  | 58  | 58  |
| Guidestone Funds MyDestination        | -15 YTT                          | 95              | 95 | 94 | 89 | 85 | 78 | 70 | 61 | 54 | 48 | 43  | 38  | 38  | 38  | 38  |
| Harbor Target Retirement              | -5 YTT                           | 93              | 93 | 84 | 74 | 65 | 55 | 44 | 38 | 32 | 20 | 20  | 20  | 20  | 20  | 20  |
| Invesco Balanced-Risk Retirement      | 0 YTT                            | 53              | 53 | 53 | 53 | 53 | 53 | 53 | 44 | 34 | 34 | 34  | 34  | 34  | 34  | 34  |
| Invesco Peak Retirement               | -5 YTT                           | 95              | 90 | 85 | 80 | 73 | 65 | 52 | 41 | 38 | 38 | 38  | 38  | 38  | 38  | 38  |
| John Hancock Multi-Index Lifetime     | -20 YTT                          | 94              | 94 | 94 | 94 | 91 | 82 | 72 | 61 | 52 | 47 | 38  | 32  | 25  | 25  | 25  |
| John Hancock Multi-Index Preservation | 0 YTT                            | 82              | 82 | 82 | 80 | 75 | 66 | 49 | 31 | 8  | 8  | 8   | 8   | 8   | 8   | 8   |
| John Hancock Multimanager Lifetime    | -20 YTT                          | 93              | 93 | 93 | 93 | 90 | 82 | 70 | 61 | 52 | 43 | 39  | 30  | 25  | 25  | 25  |
| JPMorgan SmartRetirement              | 0 YTT                            | 86              | 86 | 86 | 86 | 79 | 72 | 62 | 53 | 38 | 38 | 38  | 38  | 38  | 38  | 38  |
| JPMorgan SmartRetirement Blend        | 0 YTT                            | 86              | 86 | 86 | 86 | 79 | 72 | 62 | 53 | 38 | 38 | 38  | 38  | 38  | 38  | 38  |
| KP Retirement Path                    | -5 YTT                           | 84              | 84 | 82 | 79 | 74 | 67 | 59 | 50 | 41 | 36 | 36  | 36  | 36  | 36  | 36  |
| MainStay Retirement                   | -10 YTT                          | 90              | 89 | 85 | 83 | 78 | 72 | 63 | 54 | 50 | 35 | 30  | 30  | 30  | 30  | 30  |
| Manning & Napier Target               | -5 YTT                           | 82              | 82 | 82 | 76 | 70 | 60 | 50 | 45 | 40 | 30 | 30  | 30  | 30  | 30  | 30  |
| MassMutual RetireSMART                | -15 YTT                          | 95              | 95 | 90 | 88 | 85 | 80 | 73 | 62 | 50 | 44 | 40  | 35  | 35  | 35  | 35  |
| MFS Lifetime                          | 0 YTT                            | 95              | 95 | 95 | 95 | 88 | 81 | 81 | 41 | 29 | 29 | 29  | 29  | 29  | 29  | 29  |
| Nationwide Destination                | -20 YTT                          | 94              | 93 | 91 | 87 | 81 | 76 | 67 | 59 | 50 | 40 | 40  | 40  | 40  | 40  | 40  |
| Natixis Sustainable Future            | -10 YTT                          | 92              | 92 | 90 | 86 | 80 | 72 | 63 | 56 | 49 | 40 | 32  | 32  | 32  | 32  | 32  |
| PIMCO RealPath Blend                  | 0 YTT                            | 85              | 85 | 85 | 81 | 77 | 72 | 62 | 53 | 46 | 46 | 46  | 46  | 46  | 46  | 46  |
| PIMCO RealPathTM                      | 0 YTT                            | 84              | 84 | 83 | 81 | 75 | 70 | 56 | 53 | 40 | 40 | 40  | 40  | 40  | 40  | 40  |
| Principal LifeTime                    | -15 YTT                          | 93              | 91 | 89 | 85 | 80 | 73 | 66 | 57 | 47 | 38 | 29  | 20  | 20  | 20  | 20  |
| Principal Lifetime Hybrid             | -15 YTT                          | 93              | 91 | 89 | 85 | 80 | 73 | 66 | 57 | 47 | 39 | 30  | 20  | 20  | 20  | 20  |
| Prudential Day One Target Date        | -10 YTT                          | 94              | 93 | 91 | 85 | 79 | 68 | 52 | 46 | 42 | 38 | 35  | 35  | 35  | 35  | 35  |
| Putnam RetirementReady                | 0 YTT                            | 95              | 91 | 87 | 81 | 72 | 64 | 50 | 40 | 25 | 25 | 25  | 25  | 25  | 25  | 25  |
| Schwab Target                         | -20 YTT                          | 95              | 92 | 90 | 86 | 80 | 72 | 64 | 54 | 40 | 38 | 35  | 31  | 25  | 25  | 25  |
| Schwab Target Index                   | -20 YTT                          | 95              | 92 | 89 | 85 | 79 | 72 | 63 | 52 | 40 | 38 | 35  | 30  | 25  | 25  | 25  |

Source: Morningstar, Inc. Data as of 12/31/17.

**Appendix 2 Strategic Equity Glide Path by Target-Date Fund Series (Continued)**

| Target-Date Series              | Landing Point<br>(Yrs to Target) | Years to Target |    |    |    |    |    |    |    |    |    |     |     |     |     |     |
|---------------------------------|----------------------------------|-----------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
|                                 |                                  | 40              | 35 | 30 | 25 | 20 | 15 | 10 | 5  | 0  | -5 | -10 | -15 | -20 | -25 | -30 |
| State Farm LifePath             | 0 YTT                            | 99              | 99 | 95 | 91 | 81 | 72 | 66 | 50 | 40 | 40 | 40  | 40  | 40  | 40  | 40  |
| State Street Target Retirement  | -5 YTT                           | 90              | 90 | 90 | 86 | 83 | 77 | 69 | 58 | 46 | 35 | 35  | 35  | 35  | 35  | 35  |
| T. Rowe Price Retirement        | -30 YTT                          | 90              | 90 | 90 | 85 | 80 | 70 | 65 | 55 | 45 | 40 | 35  | 30  | 25  | 20  |     |
| T. Rowe Price Target Retire     | -30 YTT                          | 90              | 87 | 83 | 78 | 72 | 65 | 58 | 50 | 43 | 37 | 36  | 34  | 31  | 26  | 20  |
| TIAA-CREF Lifecycle             | -30 YTT                          | 99              | 98 | 97 | 96 | 86 | 77 | 68 | 60 | 50 | 45 | 40  | 40  | 40  | 40  | 40  |
| TIAA-CREF Lifecycle Index       | -30 YTT                          | 94              | 93 | 93 | 92 | 83 | 75 | 68 | 59 | 52 | 46 | 40  | 40  | 40  | 40  | 40  |
| USAA Target Retirement Funds    | 0 YTT                            | 88              | 87 | 86 | 82 | 76 | 68 | 57 | 47 | 35 | 35 | 35  | 35  | 35  | 35  | 35  |
| Vanguard Target Retirement      | -10 YTT                          | 90              | 90 | 90 | 90 | 81 | 74 | 66 | 59 | 50 | 34 | 30  | 30  | 30  | 30  | 30  |
| Virtus DFA Ttgt Date Retire Inc | -15 YTT                          | 95              | 95 | 95 | 92 | 80 | 65 | 53 | 40 | 25 | 25 | 25  | 20  | 20  | 20  | 20  |
| Voya Index Solution             | 0 YTT                            | 95              | 95 | 95 | 88 | 80 | 72 | 62 | 50 | 35 | 35 | 35  | 35  | 35  | 35  | 35  |
| Voya Solution                   | 0 YTT                            | 95              | 95 | 95 | 88 | 80 | 72 | 63 | 50 | 35 | 35 | 35  | 35  | 35  | 35  | 35  |
| Voya Target Retirement          | 0 YTT                            | 95              | 95 | 95 | 88 | 80 | 72 | 62 | 50 | 35 | 35 | 35  | 35  | 35  | 35  | 35  |
| Wells Fargo Dynamic Target      | -10 YTT                          | 96              | 96 | 96 | 95 | 91 | 87 | 79 | 72 | 64 | 58 | 51  | 51  | 51  | 51  | 51  |
| Wells Fargo Target              | -10 YTT                          | 90              | 90 | 87 | 82 | 75 | 66 | 56 | 47 | 39 | 34 | 30  | 30  | 30  | 30  | 30  |

Source: Morningstar, Inc. Data as of 12/31/17.

## About Morningstar Manager Research

Morningstar Manager Research provides independent, fundamental analysis on managed investment strategies. Analyst views are expressed in the form of Analyst Ratings, which are derived through research of five key pillars—Process, Performance, Parent, People, and Price. A global research team issues detailed analyst reports on strategies that span vehicle, asset class, and geography.

## About Morningstar Manager Research Services

Morningstar Manager Research Services combines the firm's fund research reports, ratings, software, tools, and proprietary data with access to Morningstar's manager research analysts. It complements internal due-diligence functions for institutions such as banks, wealth managers, insurers, sovereign wealth funds, pensions, endowments, and foundations.

## For More Information

Michael Breen

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EXHIBIT 20

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FACT SHEET

Retirement 2015 Fund

*As of March 31, 2020*

| Portfolio Manager:       | Managed Fund Since: | Joined Firm: |
|--------------------------|---------------------|--------------|
| Wyatt Lee                | 2015                | 1999         |
| Jerome Clark             | 2002                | 1992         |
| Kim DeDominicis          | 2019                | 2000         |
| Andrew Jacobs van Merlen | 2020                | 2000         |

**FUND INFORMATION**

|  |                            |
|--|----------------------------|
| Symbol   | TRR GX                     |
| CUSIP  | 74149P796                  |
| Inception Date of Fund                                 | February 27, 2004          |
| Benchmark  | S&P Target Date 2015 Index |
| Expense Information (as of the most recent Prospectus) | 0.56%                      |
| Fiscal Year End  | May 31                     |
| Total Annual Operating Expenses per \$1,000            | \$5.60                     |

|                                  |                 |
|----------------------------------|-----------------|
| 12B-1 Fee                        | —               |
| Portfolio Holdings               | 13.3%           |
| Turnover †                       |                 |
| Total Assets (all share classes) | \$5,003,395,481 |

† Portfolio Turnover represents 1 year period ending 12/31/19.

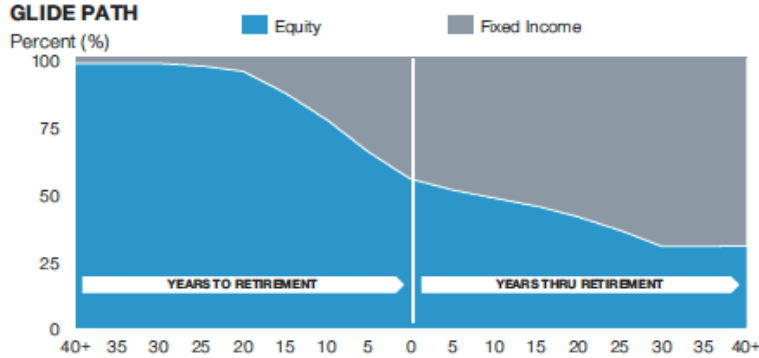
### **INVESTMENT OBJECTIVE AND STRATEGY**

The fund seeks the highest total return over time consistent with an emphasis on both capital growth and income.

- The fund invests in a diversified portfolio of other T. Rowe Price stock and bond funds that represent various asset classes and sectors.
- The fund's allocation between T. Rowe Price stock and bond funds will change over time in relation to its target retirement date.

### **BENEFITS AND RISKS**

- The fund provides a simplified option for retirement investing, including professional management, broad-based diversification, and low-cost management fees.
- The asset allocations are based on what T. Rowe Price considers broadly appropriate to investors at specific stages of their retirement planning.



**IMPORTANT CHANGES TO THE TARGET DATE FUND:** T. Rowe Price is making changes to the glide path of our target date Fund. The glide path will be transitioning to the allocations shown above. Specifically, beginning in the second quarter of 2020, the glide path will gradually change to increase its overall equity allocation at certain points and accordingly decrease its bond allocation. Note that there will be no change to the allocation at the target retirement date. For example, the equity allocation at the beginning of the enhanced glide path will be increasing from the original 90% allocation and will be increasing from the original 20% allocation at the end of the glide path. Adjustments to equity and bond allocations will be made incrementally, and we expect the transition to the enhanced glide path to be completed in the second quarter of 2022, depending on market conditions. Please see the prospectus for additional details.

## PERFORMANCE

|                            | <b>Three Months</b> | <b>One Year</b>   |                  |                      |
|----------------------------|---------------------|-------------------|------------------|----------------------|
| Retirement 2015 Fund       | -12.48%             | -4.73%            |                  |                      |
| Combined Index Portfolio*  | -9.49               | -1.26             |                  |                      |
| S&P Target Date 2015 Index | -9.16               | -1.93             |                  |                      |
|                            | Annualized          |                   |                  |                      |
|                            | <b>Three Years</b>  | <b>Five Years</b> | <b>Ten Years</b> | <b>Fifteen Years</b> |
|                            | 2.30%               | 3.13%             | 5.99%            | 5.57%                |
|                            | 3.63                | 3.80              | 6.26             | 5.48                 |
|                            | 2.90                | 3.21              | 5.54             | 4.97                 |

Performance data quoted represents past performance and is not a reliable indicator of future performance. Investment return and principal value will fluctuate so that an investor's shares, when

redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data quoted. To obtain the most recent month-end performance, visit [troweprice.com](http://troweprice.com). Consider the investment objectives, risks, and charges and expenses carefully before investing. For a prospectus or, if available, a summary prospectus containing this and other information, call 1-855-405-6488 or visit [troweprice.com](http://troweprice.com). Read it carefully. The average annual total return figures reflect the reinvestment of dividends and capital gains, if any. The fund(s) may have other share classes available that offer different investment minimums and fees. See the prospectus for details.

\*The Combined Index Portfolio is composed of 33.60% Russell 3000 Index, 14.40% MSCI All Country World Index ex USA Net, 38% Bloomberg Barclays U.S. Aggregate Bond Index, and 14% Bloomberg Barclays U.S. 1-5 Year TIPS Index. Each index is weighted at the appropriate strategic neutral allocation of its respective asset class, which is predetermined and changes over time. Historical benchmark representations were not restated to reflect the component benchmark changes.

## HOLDINGS

| Equity Holdings                | % of Fund | Fixed Income Holdings                   | % of Fund |
|--------------------------------|-----------|---|-----------|
| TRP Equity Index 500           | 22.4%     | TRP New Income                          | 16.4%     |
| TRP International Value Equity | 4.1       | TRP Limited Duration Infl Focused Bd Fd | 12.8      |
| TRP Overseas Stock             | 4.0       | TRP International Bond (USD Hgd)        | 5.6       |
| TRP International Stock        | 3.6       | TRP Emerging Markets Bond               | 4.0       |
| TRP Growth Stock               | 3.0       | TRP Dynamic Global Bond                 | 3.7       |
| TRP Value                      | 2.8       | TRP High Yield                          | 3.3       |
| TRP Emerging Markets Stock     | 2.4       | TRP US Treasury Long-Term               | 1.7       |
| TRP Mid-Cap Growth             | 1.9       | TRP Floating Rate                       | 1.3       |
| TRP Mid-Cap Value              | 1.7       |   |           |
| TRP New Horizons               | 1.4       |   |           |
| TRP Small-Cap Stock            | 1.2       |   |           |
| TRP Real Assets                | 1.1       |   |           |

**MORNINGSTAR™**

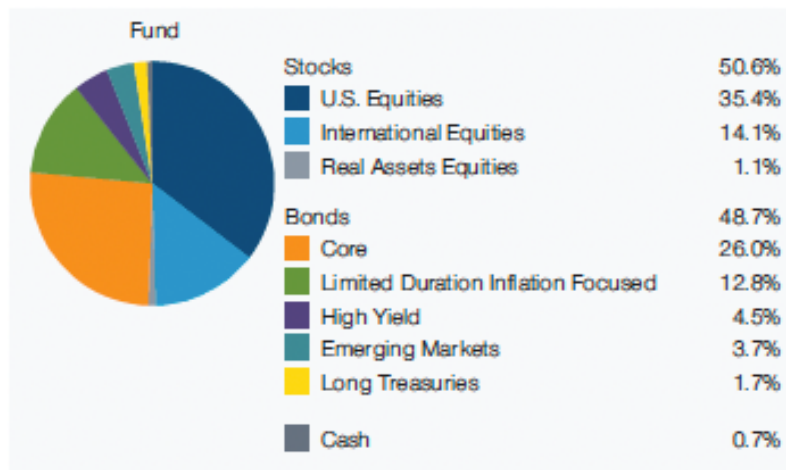
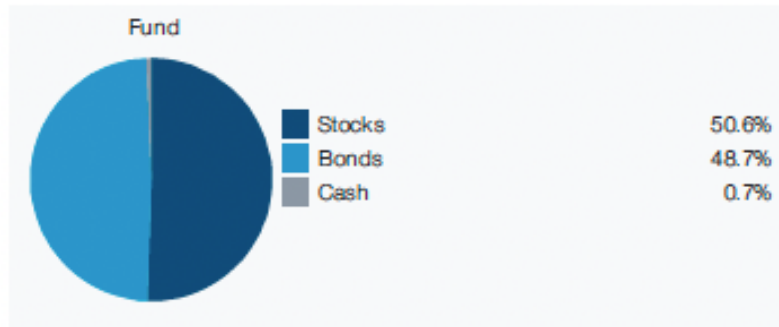
Overall Morningstar Rating™

★★★

Morningstar Category™

Target-Date 2015

## ASSET DIVERSIFICATION



## MANAGEMENT

The Retirement Funds are managed by Wyatt Lee, Jerome Clark, Kim DeDominicis and Andrew Jacobs van Merlen. The portfolio managers are responsible for the strategic design and day-to-day management of the Fund. This includes portfolio design, positioning, performance, and risk-management oversight. The Fund's tactical asset allocation decisions are made by the firm's Asset Allocation Committee. The Committee is co-chaired by Rob Sharps and Charles Shriver, and includes some of the

firm's most senior investment management professionals across major asset classes. Wyatt and Jerome are members of the firm's Asset Allocation Committee. Individual security selection is made by portfolio managers of the Fund's component strategies drawing on the fundamental insights of T. Rowe Price's team of around 200 global research analysts.

### **Additional Disclosures**

The principal value of the Retirement Funds is not guaranteed at any time, including at or after the target date, which is the approximate year an investor plans to retire (assumed to be age 65) and likely stop making new investments in the fund. If an investor plans to retire significantly earlier or later than age 65, the funds may not be an appropriate investment even if the investor is retiring on or near the target date. The funds' allocations among a broad range of underlying T. Rowe Price stock and bond funds will change over time. The funds emphasize potential capital appreciation during the early phases of retirement asset accumulation, balance the need for appreciation with the need for income as retirement approaches, and focus on supporting an income stream over a long-term postretirement withdrawal horizon. The funds are not designed for a lump-sum redemption at the target date and do not guarantee a particular level of income. The funds maintain a substantial allocation to equities both prior to and after the target date, which can result in greater volatility over shorter time horizons.

Morningstar rated the fund 2, 3, and 4 stars among 99, 74 and 47 Target-Date 2015 funds for the 3-, 5-, and 10-year periods (as applicable) ending 3/31/2020, respectively. The Morningstar Rating™ for funds, or "star rating", is calculated for funds with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess

performance, placing more emphasis on downward variations and rewarding consistent performance. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. Source for Morningstar data: © 2020 Morningstar, Inc. All Rights Reserved. The information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information. **Past performance is no guarantee of future results.**

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For any equity benchmarks shown, returns are shown with gross dividends reinvested, unless otherwise noted. The information shown does not reflect any ETFs that may be held in the portfolio.

T. Rowe Price uses a custom structure for diversification reporting on this product. Diversification exhibits may not add to 100% due to exclusion or inclusion of cash.

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T. Rowe Price Investment Services, Inc., Distributor. 202003-1121456

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EXHIBIT 21

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Fidelity Freedom® Funds  
**Fidelity Freedom® 2035 Fund**

**Class/Ticker**

**Fidelity Freedom® 2035 Fund/FFTHX**

In this summary prospectus, the term “shares” (as it relates to the fund) means the class of shares offered through this summary prospectus.

**Summary Prospectus**

**May 30, 2020**

Before you invest, you may want to review the fund’s prospectus, which contains more information about the fund and its risks. You can find the fund’s prospectus, reports to shareholders, and other information about the fund (including the fund’s SAI) online at [www.fidelity.com/funddocuments](http://www.fidelity.com/funddocuments). You can also get this information at no cost by calling 1-800-FIDELITY or by sending an e-mail request to [fidfunddocuments@fidelity.com](mailto:fidfunddocuments@fidelity.com). The fund’s prospectus and SAI dated May 30, 2020 are incorporated herein by reference.

See the inside front cover for important information about access to your fund's shareholder reports.



245 Summer Street, Boston, MA 02210

Beginning on January 1, 2021, as permitted by regulations adopted by the Securities and Exchange Commission, paper copies of a fund's shareholder reports will no longer be sent by mail, unless you specifically request paper copies of the reports from the fund or from your financial intermediary, such as a financial advisor, broker-dealer or bank. Instead, the reports will be made available on a website, and you will be notified by mail each time a report is posted and provided with a website link to access the report.

If you already elected to receive shareholder reports electronically, you will not be affected by this change and you need not take any action. You may elect to receive shareholder reports and other communications from a fund electronically, by contacting your financial intermediary. For Fidelity customers, visit Fidelity's web site or call Fidelity using the contact information listed below.

You may elect to receive all future reports in paper free of charge. If you wish to continue receiving paper copies of your shareholder reports, you may contact your financial intermediary or, if you are a Fidelity customer, visit Fidelity's website, or call Fidelity at the applicable

toll-free number listed below. Your election to receive reports in paper will apply to all funds held with the fund complex/your financial intermediary.

| <b>Account Type</b>   | <b>Website</b>  | <b>Phone Number</b>                        |
|---|---|--|
| Brokerage, Mutual Fund, or Annuity Contracts:                       | fidelity.com/<br>mailpreferences  | 1-800-343-3548                             |
| Employer Provided Retirement Accounts:                              | netbenefits.fidelity.com/<br>preferences<br>(choose 'no' under Required Disclosures to continue to print) | 1-800-343-0860                             |
| Advisor Sold Accounts Serviced Through Your Financial Intermediary: | Contact Your Financial Intermediary   | Your Financial Intermediary's phone number |
| Advisor Sold Accounts Serviced by Fidelity:                         | institutional.fidelity.com  | 1-877-208-0098                             |

## **Fund Summary**

**Fund/Class:**

Fidelity Freedom® 2035 Fund/**Fidelity Freedom® 2035 Fund**

## **Investment Objective**

The fund seeks high total return until its target retirement date. Thereafter the fund's objective will be to seek high current income and, as a secondary objective, capital appreciation.

### **Fee Table**

The following table describes the fees and expenses that may be incurred when you buy and hold shares of the fund.

#### **Shareholder fees**

**(fees paid directly from your investment)**      None

#### **Annual Operating Expenses**

**(expenses that you pay each year as a  
% of the value of your investment)**

|   |              |
|---|--------------|
| Management fee <sup>(a)</sup>             | 0.72%        |
| Distribution and/or Service (12b-1) fees  | None         |
| Other expenses                            | <u>0.00%</u> |
| <b>Total annual operating expenses(a)</b> | <b>0.72%</b> |

*(a) Adjusted to reflect current fees.*

This **example** helps compare the cost of investing in the fund with the cost of investing in other funds.

Let's say, hypothetically, that the annual return for shares of the fund is 5% and that your shareholder fees and the annual operating expenses for shares of the fund are exactly as described in the fee table. This example

illustrates the effect of fees and expenses, but is not meant to suggest actual or expected fees and expenses or returns, all of which may vary. For every \$10,000 you invested, here's how much you would pay in total expenses if you sell all of your shares at the end of each time period indicated:

|          |       |
|----------|-------|
| 1 year   | \$74  |
| 3 years  | \$229 |
| 5 years  | \$393 |
| 10 years | \$850 |

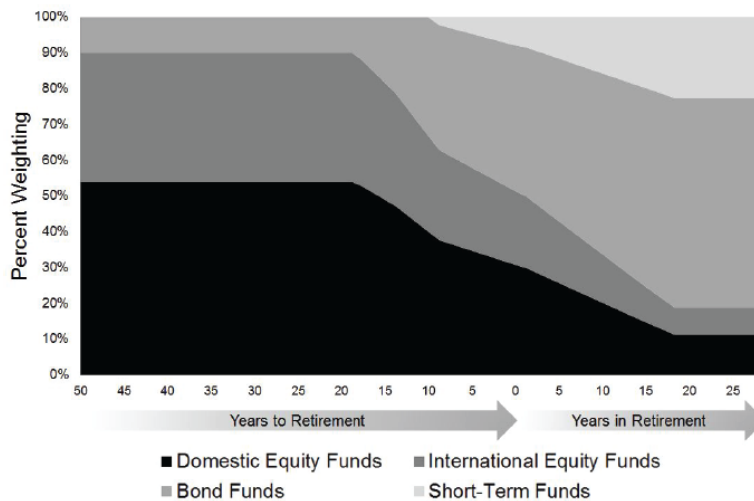
### **Portfolio Turnover**

The fund will not incur transaction costs, such as commissions, when it buys and sells shares of underlying Fidelity® funds (or “turns over” its portfolio), but it could incur transaction costs if it were to buy and sell other types of securities directly. If the fund were to buy and sell other types of securities directly, a higher portfolio turnover rate could indicate higher transaction costs and could result in higher taxes when fund shares are held in a taxable account. Such costs, if incurred, would not be reflected in annual operating expenses or in the example and would affect the fund's performance. During the most recent fiscal year, the fund's portfolio turnover rate was 31% of the average value of its portfolio.

### **Principal Investment Strategies**

- Investing primarily in a combination of Fidelity® domestic equity funds, international equity funds, bond funds, and short-term funds (underlying Fidelity® funds).

- Allocating assets according to a neutral asset allocation strategy shown in the glide path below that adjusts over time until it reaches an allocation similar to that of the Fidelity Freedom® Income Fund, approximately 10 to 19 years after the year 2035. Fidelity Management & Research Company LLC (the Adviser) may modify the fund's neutral asset allocations from time to time when in the interests of shareholders.



- Buying and selling futures contracts (both long and short positions) in an effort to manage cash flows efficiently, remain fully invested, or facilitate asset allocation.
- The neutral asset allocation shown in the glide path depicts the allocation to domestic equity funds, international equity funds, bond funds (including investment grade debt, inflation-protected debt, and long-term treasury debt), and short-term funds.
- The Adviser, under normal market conditions, will make investments that are consistent with seeking

high total return for several years beyond the fund's target retirement date in an effort to achieve the fund's overall investment objective.

- As of April 1, 2020, the fund's neutral asset allocation to underlying Fidelity® funds and futures was approximately:

|  |                                |     |
|--|--------------------------------|-----|
|  | Domestic Equity Funds          | 49% |
|  | International Equity Funds     | 33% |
|  | Investment Grade Bond Funds    | 15% |
|  | Long-Term Treasury Bond Funds  | 3%  |
|  | Inflation-Protected Bond Funds | 0%  |
|  | Short-Term Funds               | 0%  |



\* The Adviser may change these percentages over time. As a result of the active asset allocation strategy (discussed below), actual allocations may differ from the neutral allocations above. The allocation percentages may not add to 100% due to rounding.

- The Adviser, under normal market conditions, will use an active asset allocation strategy to increase or

decrease asset class exposures relative to the neutral asset allocations reflected above by up to 10% for equity funds, bond funds and short-term funds to reflect the Adviser's market outlook, which is primarily focused on the intermediate term. The asset allocations in the glide path and pie chart above are referred to as neutral because they do not reflect any decisions made by the Adviser to overweight or underweight an asset class.

- The Adviser may also make active asset allocations within other asset classes (such as commodities, high yield debt (also referred to as junk bonds), floating rate debt, real estate debt, international debt, and emerging markets debt) from 0% to 10% of the fund's total assets individually, but no more than 25% in aggregate within those other asset classes. Such asset classes are not reflected in the neutral asset allocations reflected in the glide path and pie chart above.
- Designed for investors who anticipate retiring in or within a few years of 2035 (target retirement date) at or around age 65.

### **Principal Investment Risks**

*Shareholders should consider that no target date fund is intended as a complete retirement program and there is no guarantee that any single fund will provide sufficient retirement income at or through your retirement. The fund's share price fluctuates, which means you could lose money by investing in the fund, including losses near, at or after the target retirement date.*

- **Asset Allocation Risk.** The fund is subject to risks resulting from the Adviser's asset allocation decisions. The selection of underlying funds and the allocation of

the fund's assets among various asset classes could cause the fund to lose value or its results to lag relevant benchmarks or other funds with similar objectives. In addition, the fund's active asset allocation strategy may cause the fund to have a risk profile different than that portrayed above from time to time and may increase losses.

- ***Investing in Other Funds.*** The fund bears all risks of investment strategies employed by the underlying funds, including the risk that the underlying funds will not meet their investment objectives.
- ***Stock Market Volatility.*** The Adviser will continue to invest the fund's assets in equity funds in the years following the fund's target retirement date in an effort to achieve the fund's overall investment objective. Stock markets are volatile and can decline significantly in response to adverse issuer, political, regulatory, market, or economic developments. Different parts of the market, including different market sectors, and different types of securities can react differently to these developments.
- ***Interest Rate Changes.*** Interest rate increases can cause the price of a debt or money market security to decrease.
- ***Foreign Exposure.*** Foreign markets, particularly emerging markets, can be more volatile than the U.S. market due to increased risks of adverse issuer, political, regulatory, market, or economic developments and can perform differently from the U.S. market. Emerging markets can be subject to greater social, economic, regulatory, and political uncertainties and can be extremely volatile. Foreign exchange rates also can be extremely volatile.

- ***Geographic Concentration in China.*** Because an underlying fund concentrates its investments in China, the underlying fund's performance is expected to be closely tied to social, political, and economic conditions in China and to be more volatile than the performance of more geographically diversified funds. In addition, because the underlying fund may invest a significant percentage of assets in certain industries, the underlying fund's performance could be affected to the extent that the particular industry or industries in which the underlying fund invests are sensitive to adverse social, political, economic, currency, or regulatory developments.
- ***Industry Exposure.*** Market conditions, interest rates, and economic, regulatory, or financial developments could significantly affect a single industry or group of related industries.
- ***Prepayment.*** The ability of an issuer of a debt security to repay principal prior to a security's maturity can cause greater price volatility if interest rates change.
- ***Issuer-Specific Changes.*** The value of an individual security or particular type of security can be more volatile than, and can perform differently from, the market as a whole. A decline in the credit quality of an issuer or a provider of credit support or a maturity-shortening structure for a security can cause the price of a security to decrease. Lower-quality debt securities (those of less than investment-grade quality, also referred to as high yield debt securities or junk bonds) and certain types of other securities involve greater risk of default or price changes due to changes in the credit quality of the issuer. The value of lower-quality debt securities and certain types of other securities can be more volatile due to increased sensitivity to

adverse issuer, political, regulatory, market, or economic developments.

- **Leverage Risk.** Leverage can increase market exposure, magnify investment risks, and cause losses to be realized more quickly.
- **"Growth" Investing.** "Growth" stocks can perform differently from the market as a whole and other types of stocks and can be more volatile than other types of stocks.
- **"Value" Investing.** "Value" stocks can perform differently from the market as a whole and other types of stocks and can continue to be undervalued by the market for long periods of time.
- **Commodity-Linked Investing.** The value of commodities and commodity-linked investments may be affected by the performance of the overall commodities markets as well as weather, political, tax, and other regulatory and market developments. Commodity-linked investments may be more volatile and less liquid than the underlying commodity, instruments, or measures.

An investment in the fund is not a deposit of a bank and is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. You could lose money by investing in the fund.

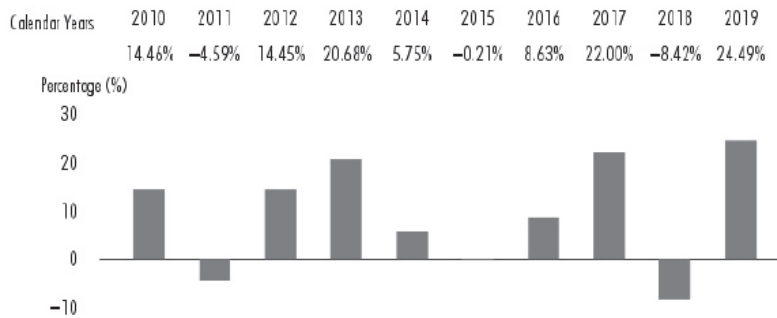
## **Performance**

The following information is intended to help you understand the risks of investing in the fund. The information illustrates the changes in the performance of the fund's shares from year to year and compares the performance of the fund's shares to the performance of a securities market index and a hypothetical composite of

market indexes over various periods of time. The indexes have characteristics relevant to the fund's investment strategies. Index descriptions appear in the “Additional Index Information” section of the prospectus. Prior to June 1, 2017, the fund operated under a different pricing structure. The fund’s historical performance prior to June 1, 2017 does not reflect the fund’s current pricing structure. Past performance (before and after taxes) is not an indication of future performance.

Visit [www.fidelity.com](http://www.fidelity.com) for more recent performance information.

**Year-by-Year Returns**



*During the periods shown in the chart:*

|                               | <i>Returns</i>  | <i>Quarter ended</i>      |
|-------------------------------|-----------------|---------------------------|
| <i>Highest Quarter Return</i> | <i>11.27%</i>   | <i>September 30, 2010</i> |
| <i>Lowest Quarter Return</i>  | <i>(14.77)%</i> | <i>September 30, 2011</i> |
| <i>Year-to-Date Return</i>    | <i>(19.14)%</i> | <i>March 31, 2020</i>     |

**Average Annual Returns**

After-tax returns are calculated using the historical highest individual federal marginal income tax rates, but do not reflect the impact of state or local taxes. Actual

after-tax returns may differ depending on your individual circumstances. The after-tax returns shown are not relevant if you hold your shares in a retirement account or in another tax-deferred arrangement, such as an employee benefit plan (profit sharing, 401(k), or 403(b) plan). Return After Taxes on Distributions and Sale of Fund Shares may be higher than other returns for the same period due to a tax benefit of realizing a capital loss upon the sale of fund shares.

| <b>For the periods ended December 31, 2019</b>  | <b>Past 1 year</b> | <b>Past 5 years</b> | <b>Past 10 years</b> |
|---|--------------------|---------------------|----------------------|
| <b>Fidelity Freedom® 2035 Fund</b>  |                    |                     |                      |
| Return Before Taxes   | 24.49%             | 8.56%               | 9.17%                |
| Return After Taxes on Distributions   | 22.40%             | 7.05%               | 7.76%                |
| Return After Taxes on Distributions and Sale of Fund Shares   | 15.70%             | 6.45%               | 7.07%                |
| S&P 500® Index<br>(reflects no deduction for fees, expenses, or taxes)                              | 31.49%             | 11.70%              | 13.56%               |
| Fidelity Freedom 2035 Composite Index <sup>SM</sup><br>(reflects no deduction for fees or expenses) | 25.21%             | 8.88%               | 10.23%               |

### **Investment Adviser**

Fidelity Management & Research Company LLC (FMR) (the Adviser) is the fund's manager.

### **Portfolio Manager(s)**

Andrew Dierdorf (co-manager) has managed the fund since June 2011. Brett Sumsion (co-manager) has managed the fund since January 2014.

## **Purchase and Sale of Shares**

You may buy or sell shares through a Fidelity® brokerage or mutual fund account, through a retirement account, or through an investment professional. You may buy or sell shares in various ways:

**fidelity.com**

### **Phone**

**Fidelity Automated Service Telephone (FAST®) 1-800-544-5555**

**To reach a Fidelity representative 1-800-544-6666**

### **Mail**

#### **Additional purchases:**

**Fidelity Investments**

**P.O. Box 770001**

**Cincinnati, OH 45277-0003**

#### **Redemptions:**

**Fidelity Investments**

**P.O. Box 770001**

**Cincinnati, OH 45277-0035**

**TDD- Service for the Deaf and Hearing Impaired  
1-800-544-0118**

The price to buy one share is its net asset value per share (NAV). Shares will be bought at the NAV next calculated after an order is received in proper form.

The price to sell one share is its NAV. Shares will be sold at the NAV next calculated after an order is received in proper form. The fund is open for business each day the New York Stock Exchange (NYSE) is open.

There is no purchase minimum for fund shares.

**Tax Information**

Distributions you receive from the fund are subject to federal income tax and generally will be taxed as ordinary income or capital gains, and may also be subject to state or local taxes, unless you are investing through a tax-advantaged retirement account (in which case you may be taxed later, upon withdrawal of your investment from such account).

**Payments to Broker-Dealers and Other Financial Intermediaries**

The fund, the Adviser, Fidelity Distributors Company LLC (FDC), and/or their affiliates may pay intermediaries, which may include banks, broker-dealers, retirement plan sponsors, administrators, or service-providers (who may be affiliated with the Adviser or

FDC), for the sale of fund shares and related services. These payments may create a conflict of interest by influencing your intermediary and your investment professional to recommend the fund over another investment. Ask your investment professional or visit your intermediary's web site for more information.

Current regulations allow Fidelity to send a single copy of shareholder documents for Fidelity® funds, such as prospectuses, annual and semi-annual reports, and proxy materials, to certain mutual fund customers whom we believe are members of the same family who share the same address. For certain types of accounts, we will not send multiple copies of these documents to you and members of your family who share the same address. Instead, we will send only a single copy of these documents. This will continue for as long as you are a shareholder, unless you notify us otherwise. If at any time you choose to receive individual copies of any documents, please call 1-800-544-8544. We will begin sending individual copies to you within 30 days of receiving your call.

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