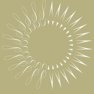
A chartbook from  THE PEW CHARITABLE TRUSTS | Sept 2018

State Public Pension Funds' Investment Practices and Performance: 2016 Data Update

Substantial investment in complex and risky assets exposes funds to market volatility and high fees

The Pew Charitable Trusts

Susan K. Urahn, *executive vice president and chief program officer*
Greg Mennis, *director, strengthening public sector retirement systems*

Project team

Susan Banta, *project director*
David Draine, *senior officer*
Aleena Oberthur, *associate manager*
Keith Sliwa, *senior associate*
David Frazier, *senior associate*
Jonathan Jackson, *senior associate*

Acknowledgments

This work is funded in part by The Pew Charitable Trusts with additional support from the Laura and John Arnold Foundation.

Wilshire Trust Universe Comparison Service and Wilshire TUCS are service marks of Wilshire Associates Inc. and have been licensed for use by The Pew Charitable Trusts. All content of TUCS is © 2018 Wilshire Associates Inc., all rights reserved.

Overview

State and local public retirement systems held $3.8 trillion in assets in 2016, the most recent year for which comprehensive data are available. With the retirement security of 19 million current and former state and local employees at stake, sound and transparent investment strategies are essential.

In a bid to boost investment returns and diversify portfolios, plans in recent decades have shifted away from low-risk, fixed-income vehicles in favor of stocks and alternatives such as private equity, hedge funds, real estate, and commodities. In 2016, half of plan assets were invested in equities, a quarter in alternative investments, and another quarter in bonds and cash.

Investment performance over the last five to six years has, for the most part, tracked plan target rates, with average returns of about 7 percent. However, during the same time frame the fiscal position of public funds has not improved, and in most cases has declined. And while equities and alternatives can provide higher financial returns, they also leave funds vulnerable to market volatility and the risk of shortfalls. Furthermore, as our population ages and the number of retirees grows, cash outflows increase, adding more pressure to pension fund balance sheets.

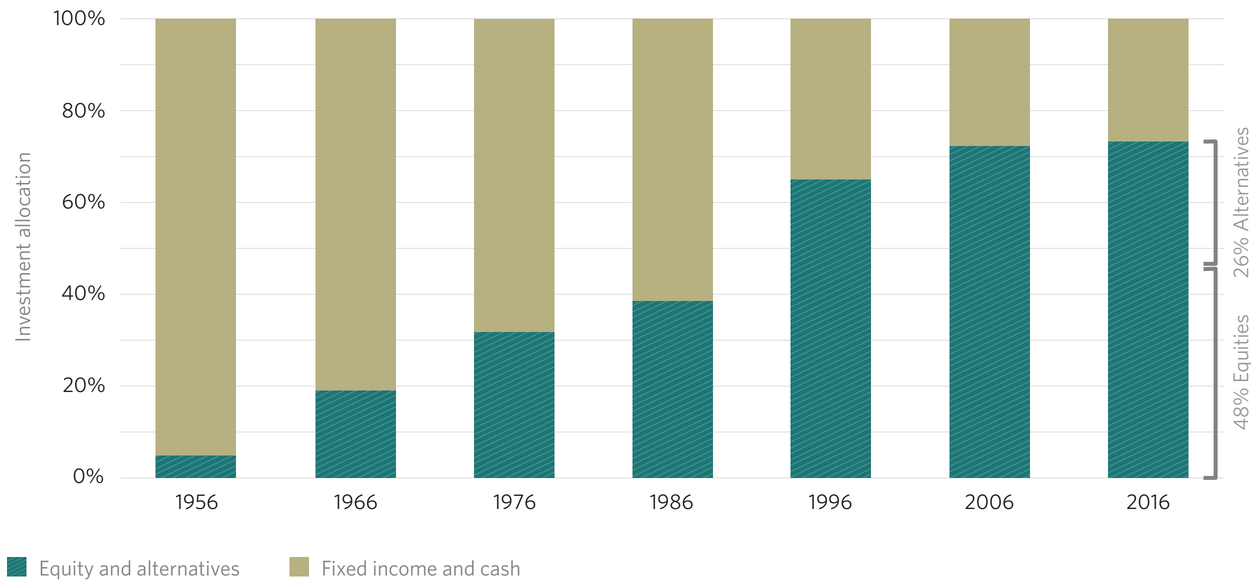
Because earnings on these investments are expected to pay for about 50 to 60 percent of promised retirement benefits for public workers and retirees, careful attention to reporting and transparency has become increasingly important. In particular, understanding the impact of market volatility on public plans and their sponsoring governments' budgets is critical for policymakers and stakeholders. Mandatory stress test reporting and full disclosure of asset allocation, performance, and fee details are therefore essential to determining whether public pension plans have the ability to pay promised retirement benefits.

This chartbook serves as an update to a 2017 report from The Pew Charitable Trusts, titled "State Public Pension Funds Increase Use of Complex Investments," and uses data collected from the 73 largest state-sponsored pension funds, which collectively have assets under management of more than $2.8 trillion (or 95 percent of all state pension fund investments). Based on 2016 financial reports, the most recent year for which comprehensive data are available, this chartbook provides a snapshot of trends in investment allocations, plan performance, reporting practices, and management fees for state public retirement systems.

Figure 1

Public Pension Investments, 1956-2016

Allocations to equities and alternative investments have increased, while those to fixed-income investments have declined



Sources: U.S. Board of Governors of the Federal Reserve System, Financial Accounts of the United States, 1956 to 2016; Pew analysis of state financial reports

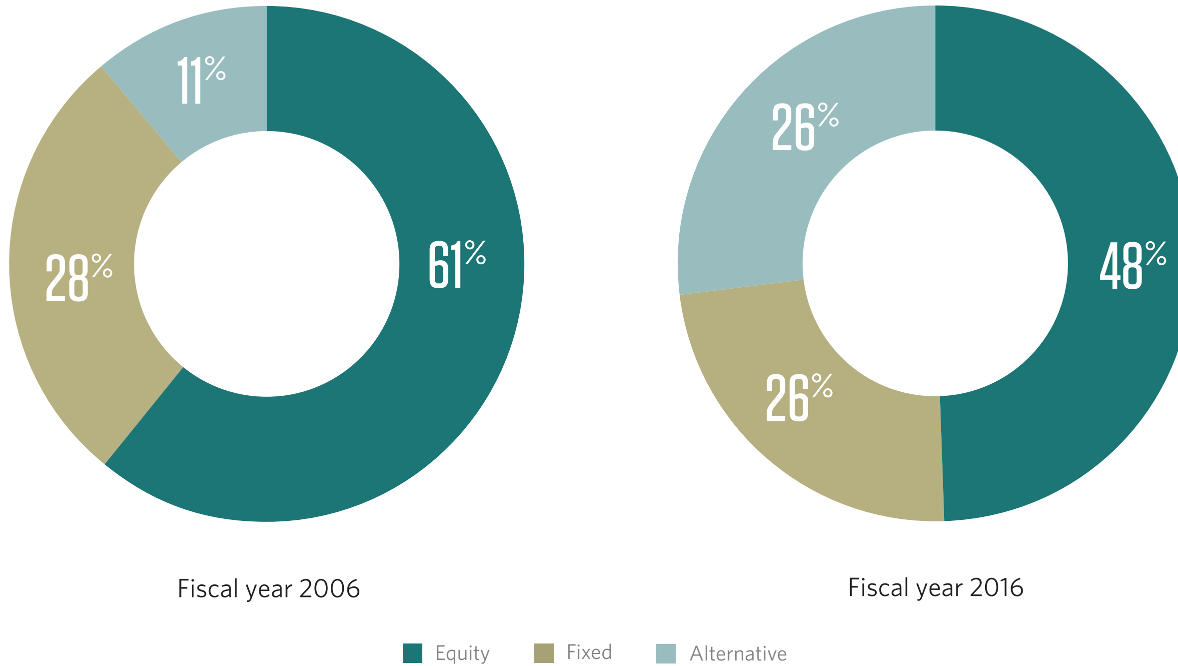
© 2018 The Pew Charitable Trusts

In a bid to boost investment returns and diversify investment portfolios, public pension plans in recent decades have shifted funds away from low-risk, fixed-income investments. During the 1980s and 1990s, plans significantly increased their reliance on stocks, also known as equities. And over the past decade, funds have increasingly turned to alternative investments to achieve investment return targets.

Figure 2

Average Public Pension Asset Allocation, 2006 and 2016

Funds have more than doubled their allocation to alternative investments



Sources: Comprehensive Annual Financial Reports, 2006 and 2016; quarterly investment reports; and plan responses to data inquiries

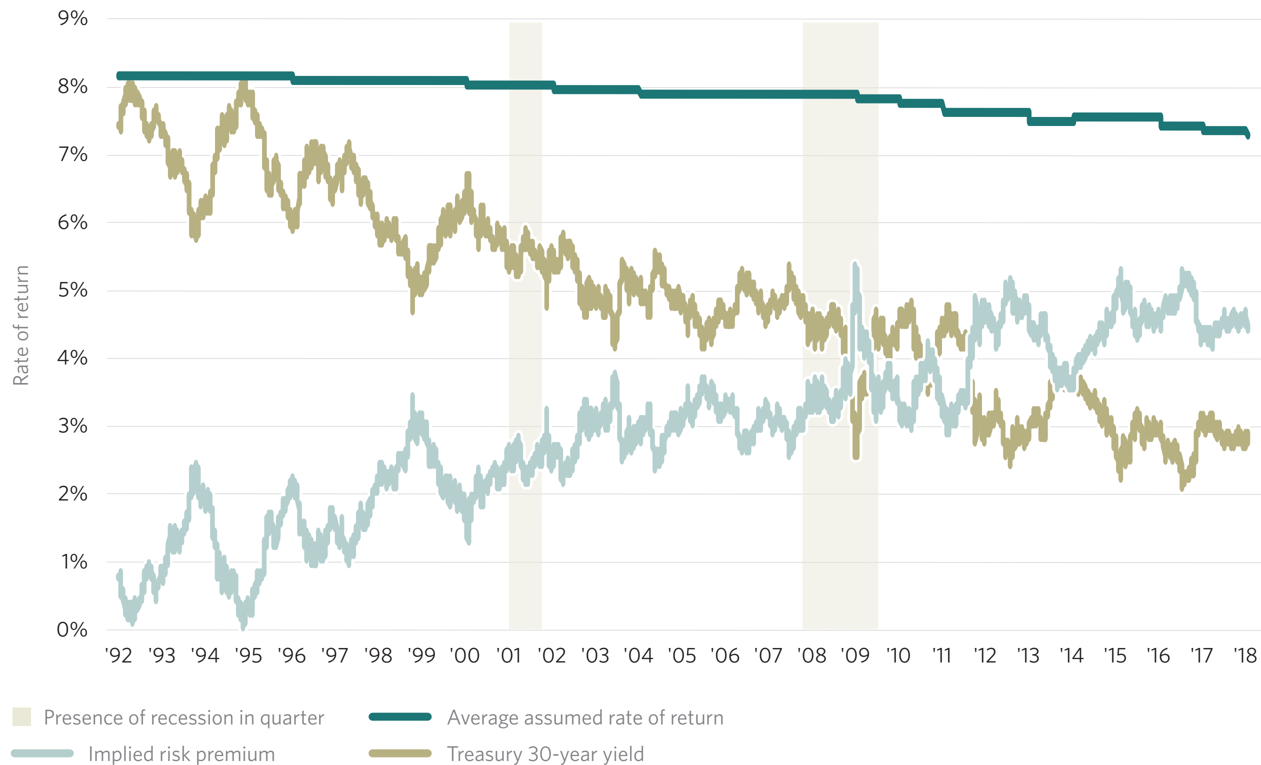
© 2018 The Pew Charitable Trusts

While the proportion of risky assets and safe assets has stayed consistent between 2006 and 2016, there have been significant changes in asset composition within the risky class. For example, 61 percent of plan portfolios in 2006 were made up primarily of equities, with only 11 percent allocated to alternative investments. A decade later, allocations to alternative investments had more than doubled to 26 percent of the average plan portfolio. Equity investments in the average pension plan declined to 48 percent, while fixed-income investments over the 10-year period remained relatively stable and declined by only 2 percent.

Figure 3

Increasing Risk Premium for U.S. Public Pension Funds

Plans' average assumed rates of return remain relatively stable, while bond yields have declined significantly



Sources: Analysis by The Pew Charitable Trusts of Comprehensive Annual Financial Reports, actuarial valuations, and related reports from states; U.S. Treasury data; and Center for Retirement Research at Boston College, Center for State and Local Government Excellence, and National Association of State Retirement Administrators, Public Plans Data

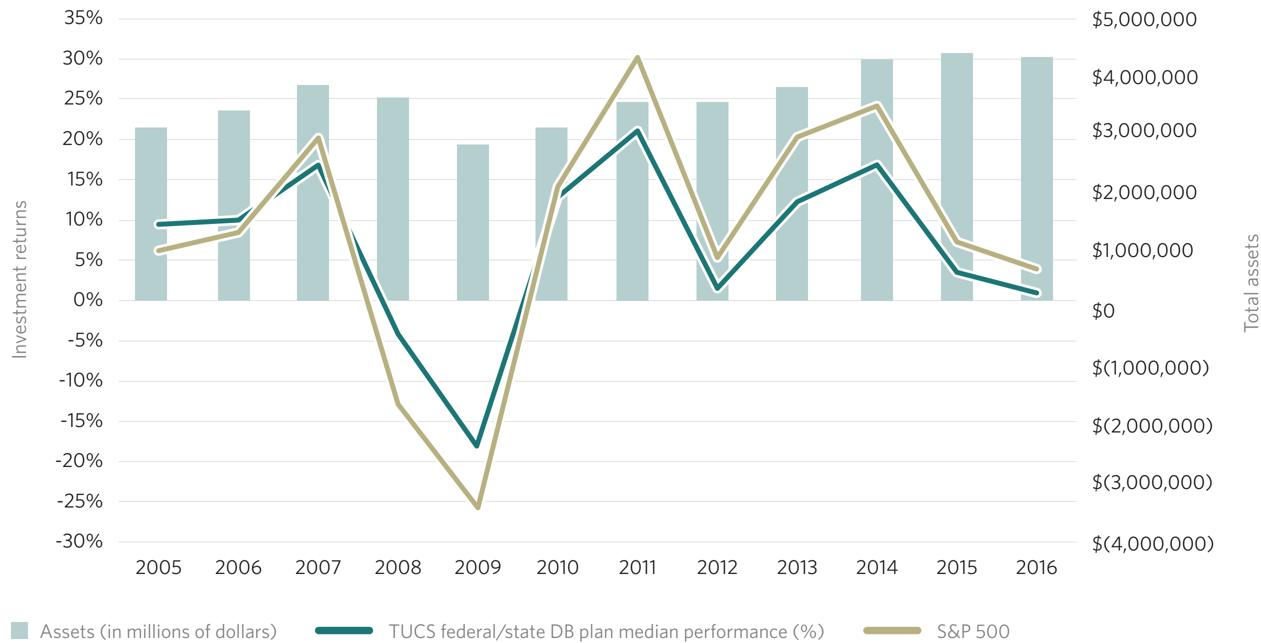
© 2018 The Pew Charitable Trusts

One common measure—the equity risk premium—illustrates a dramatic increase in U.S. public pension plans' exposure to financial market uncertainty over the past 25 years. As Figure 3 shows, between 1992 and 2016, the expected equity risk premium for public funds—the difference between U.S. bond yields and the average plan's assumed return—increased from less than 1 percent to more than 4 percent, as bond yields declined and the assumed rates of return remained relatively stable. In other words, plans' equity premium has grown by over 3 percentage points—more than fourfold over the period.

Figure 4

Average Annual Stock Market and Pension Fund Returns, 2005 to 2016

Equity investments and pension fund yields track closely and are highly volatile, resulting in asset value fluctuations



Sources: Wilshire Trust Universe Comparison Service; Federal Reserve, Financial Accounts of the United States

© 2018 The Pew Charitable Trusts

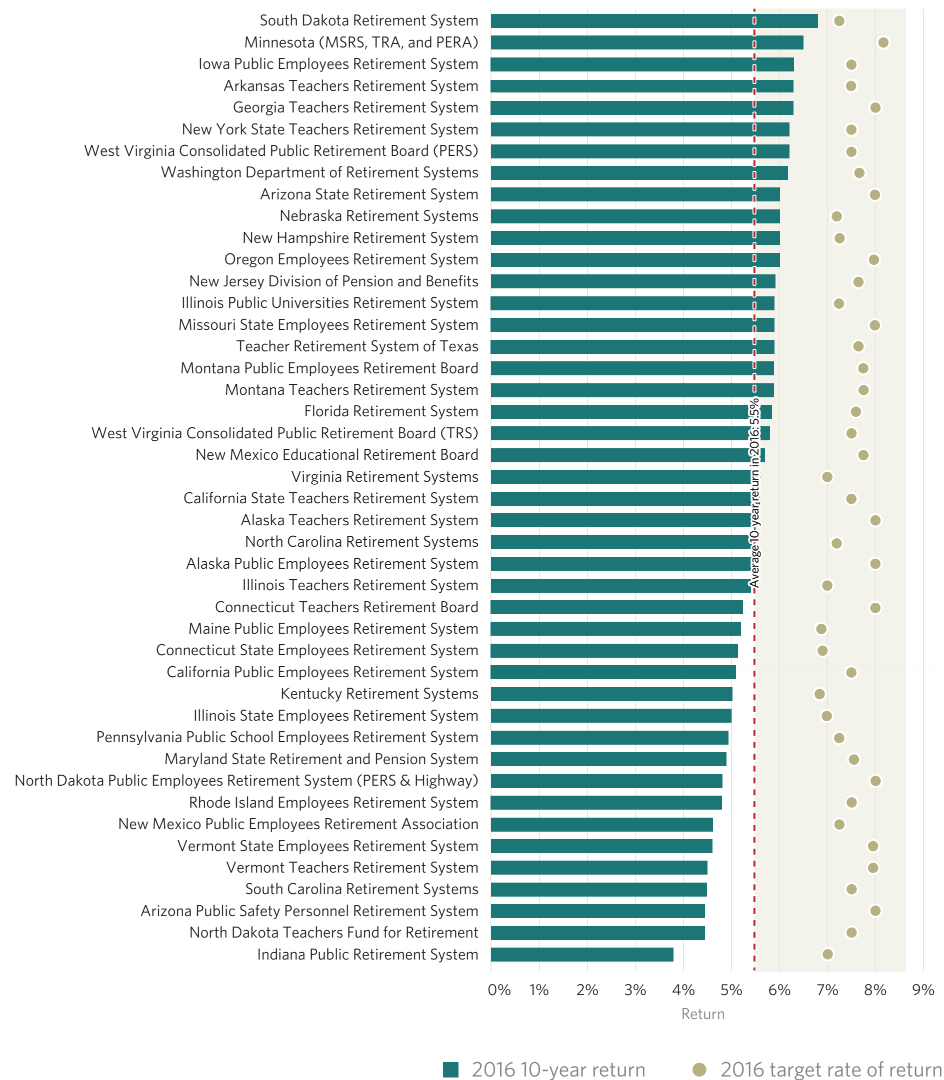
Increased allocations to stocks and alternatives can result in greater financial returns but also heighten volatility and the risk of losses. As Figure 4 illustrates, pension fund yields are highly correlated with the volatile swings in stock returns; even relatively small differences can have a major effect on asset values. For example, a 1 percentage point difference in annual returns on $3.8 trillion equates to a $38 billion impact on pension assets.

Figure 5

10-Year Returns Reporting Net of Fees on a June 30 Fiscal Year Basis, 2016

Returns ranged from 3.8 percent to 6.8 percent, and no fund met its return target

Ten-year total investment returns for the 44 funds in our study that report performance net of fees as of June 30, 2016, ranged from 3.8 percent to 6.8 percent, with an average yield of 5.5 percent. Given that the average target return for these plans was 7.5 percent, the long-term variability is significant. Notably, none of these plans met or exceeded investment return targets over the 10-year period ending in 2016.



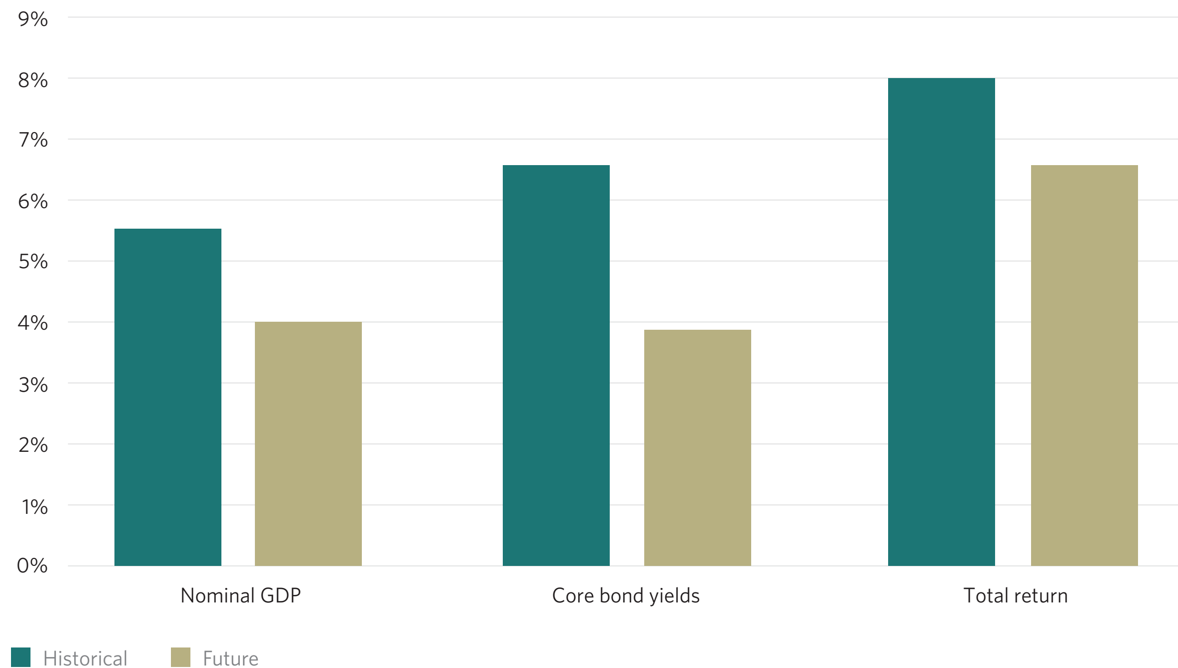
Sources: Comprehensive Annual Financial Reports, 2016; quarterly investment reports; and plan responses to data inquiries

© 2018 The Pew Charitable Trusts

Figure 6

Returns Over the Next 20 Years Are Expected to Lag Returns Preceding the Great Recession

Projected nominal GDP growth and bond yields are at historic lows



Sources: Historical GDP based on annualized growth from 1988 to 2007. Future GDP based on Pew's capital market analysis (CMA). Core bond yields represent Barclays aggregate yield to worst index. Historical bond yields from January 1988 to December 2007. Future bond yields based on Pew's CMA. Total return based on Wilshire Trust Universe Comparison Service (TUCS) 20-year return from July 1995 to June 2015. Future return based on Pew's CMA.

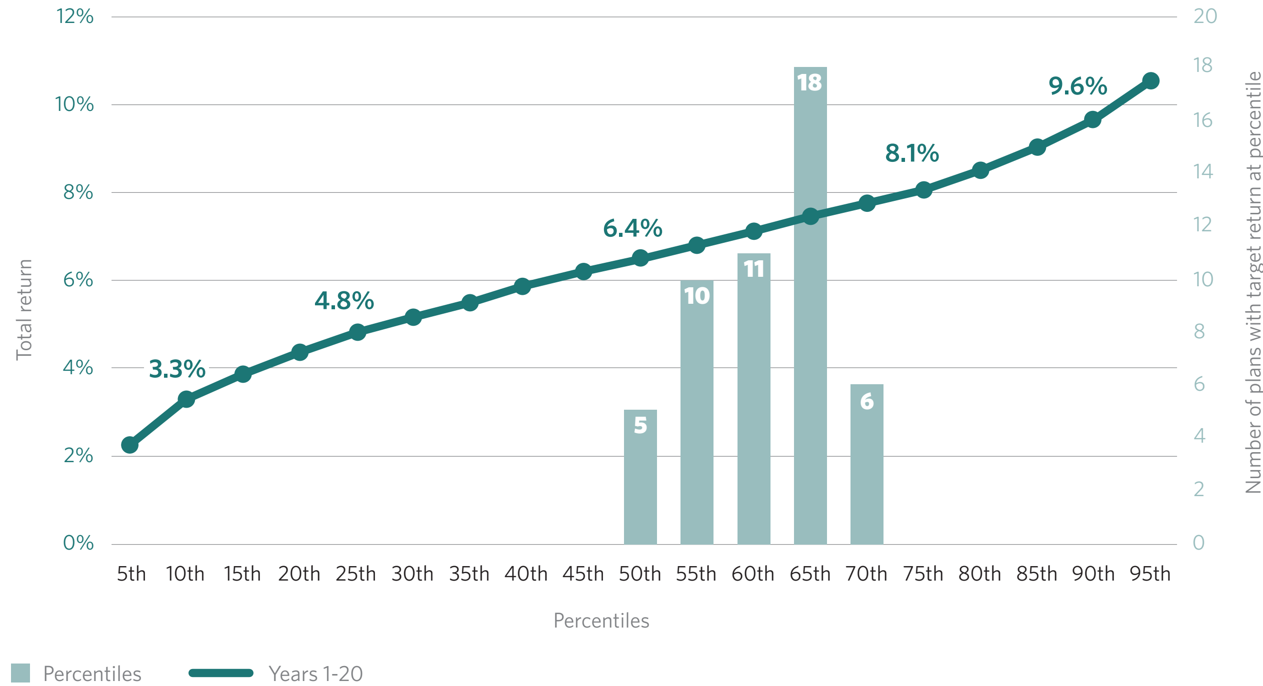
© 2018 The Pew Charitable Trusts

Growth in gross domestic product (GDP) and bond yields form the building blocks of investment returns, and most economists, wealth managers, and other specialists expect both to lag historical averages over the next 20 years. For example, the U.S. experienced GDP growth of more than 5.5 percent in the 20 years leading up to the Great Recession, more than 1.5 percent higher than projections for the next two decades. Similarly, while yields for investment-grade bonds averaged about 6.5 percent between 1988 and 2007, they are not projected to reach those levels again. Pew forecasts that lower GDP growth and interest rates will yield total returns of only 6.5 percent from a diversified portfolio.

Figure 7

Distribution of 20-Year Returns for a Typical Portfolio

Median expected return of 6.4 percent is lower than nearly all funds' targets



Note: Labels are for returns at the 10th, 25th, 50th, 75th, and 90th percentiles.

Sources: Terry Group and The Pew Charitable Trusts

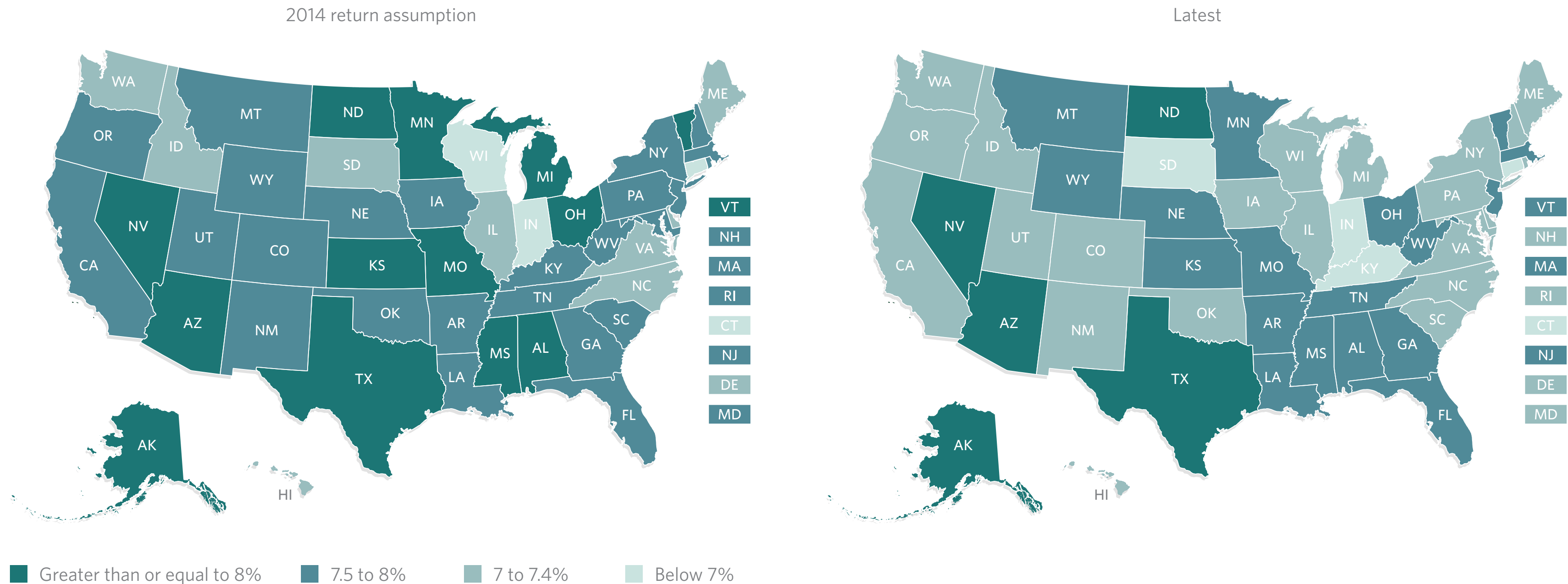
© 2018 The Pew Charitable Trusts

Pew's capital market assessment is mirrored by other analysts, who expect total fund investment performance to be a full percentage point lower than the average assumed rate of 7.5 percent. Further, examining the distribution of probable long-term returns reveals that there is a 1 in 4 chance that returns may not top 5 percent over the next 20 years. Only Kentucky has an assumed rate of return below the calculated 6.4 percent median, although South Dakota's is the closest, at 6.5 percent. In other words, virtually all of the funds studied expect to earn returns in the top half of the distribution.

Figure 8

Plans Have Lowered Their Return Assumptions Due to Decreasing Market Trends

33 states have lowered their assumed rates of return since 2014



Note: Maps above reflect changes to state employee pension plans only. While not large enough to be captured in the ranges above, state plans in Arkansas, Florida, Illinois, Massachusetts, New Jersey, and North Carolina have all lowered their return assumptions.

Sources: Comprehensive Annual Financial Reports; news articles; and plan responses to data inquiries

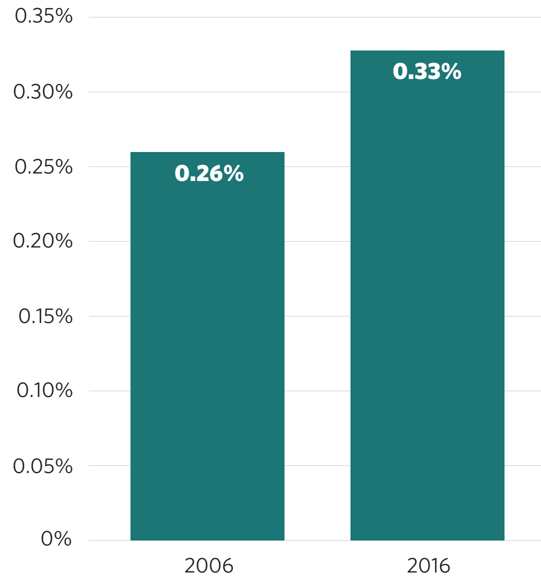
© 2018 The Pew Charitable Trusts

Many states have proactively begun to lower public plans' assumed rates of return in recognition of these downward market trends. For example, while only nine funds in this study had an expected rate below 7.5 percent in 2014, over half of funds' target returns are under 7.5 percent today. In the past year, 20 states (California, Colorado, Connecticut, Florida, Hawaii, Iowa, Kansas, Kentucky, Maryland, Minnesota, New Hampshire, New Jersey, North Carolina, Ohio, Oklahoma, Oregon, Rhode Island, South Carolina, South Dakota, and Vermont) have adjusted their assumed rates for at least one plan to better account for lower investment returns.

Figure 9

External Management Fees as a Percentage of Assets

Reported fees increased by around 30% from 2006 to 2016



> Reported fees have increased by about 30 percent over the past decade but vary widely across funds. In 2016, reported fees ranged from 2.23% for Arizona's Public Safety Personnel Retirement System to 0.04% for the Georgia Teachers Retirement System.

Sources: Comprehensive Annual Financial Reports, 2006 and 2016; quarterly investment reports; and plan responses to data inquiries

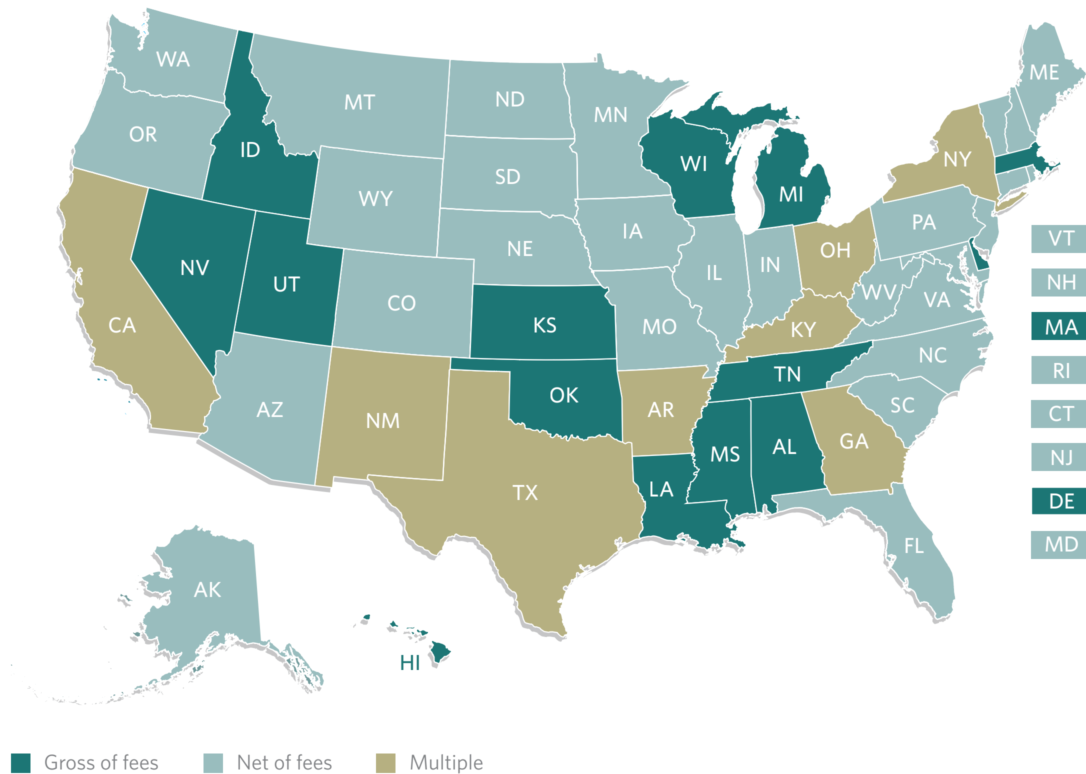
© 2018 The Pew Charitable Trusts

Increased reliance on alternative investments has coincided with a substantial increase in fees. State pension funds reported investment fees equal to approximately 0.33 percent of assets in 2016, up from an estimated 0.26 percent in 2006. Although the increase may seem small, it equates to more than $2 billion in total annual investment fees for the 73 plans examined.

Figure 10

Most States Report Pension Investment Performance After Fees

In some states, reporting practices differ by plans



Notes: South Dakota discloses performance as both net and gross of fees. The states marked as having multiple reporting methods have two funds included in the list of 73 that reported performance differently from each other. Pew's classification for Ohio has changed from a previous publication from "net of fees" to "multiple." Ohio's State Teachers Retirement System reports returns net of fees for its alternative and real estate investments but gross of fees for all other assets.

Sources: State Comprehensive Annual Financial Reports, 2016; state treasury reports; quarterly investment reports; and state responses to data inquiries

© 2018 The Pew Charitable Trusts

State funds paid more than $9.2 billion in fees and investment expenses in 2016, their largest; however, more than one-third of the funds in the study report 10-year performance results before deducting the cost of investment management—referred to as "gross of fees reporting." Pew's analysis showed wide variation in the disclosure practices of public funds, and in many cases found policies that make it difficult for policymakers, stakeholders, and the public to gauge actual fund performance.

Conclusion

Public retirement systems continued to move assets from lower-risk fixed-income investments to higher-risk alternative and equity investments in 2016, resulting in greater vulnerability to market volatility and higher fees. Despite the greater risk incurred, public sector plans continue to see real returns underperform against actuarial assumptions. At the same time, some plans have proactively addressed plan underperformance by lowering their assumed rates of return, and this trend is expected to grow as expert projections converge around lower long-term rates of return. Policymakers can further prepare for the next economic downturn by adopting comprehensive annual stress testing, which will show how plans will perform under various economic scenarios. Plans that move to more complex investments also need to be prepared to adopt greater transparency requirements. Stakeholders would be better informed of the effectiveness of current investment policy decisions if plans reported returns both net and gross of fees, as well as by asset class. Finally, plans should offer greater disclosure of investment management fees.

Data sources

To examine these changing investment practices across the 50 states, The Pew Charitable Trusts used three sources covering the 73 largest state-sponsored pension funds, which collectively have assets under management of over $2.8 trillion (about 95 percent of all state pension fund investments):

- Data collected from state-sponsored plans' Comprehensive Annual Financial Reports, actuarial valuations, and other relevant documents published by individual public pension plans from 1992 to 2016, with a primary focus on asset allocation, performance, and fees from 2006 to 2016.
- The U.S. Federal Reserve Financial Accounts of the United States data, which include aggregate economic and investment data on public pensions from 1954 to 2016.
- The Wilshire Trust Universe Comparison Service (TUCS) performance comparison data, reported quarterly from 1991 to 2016.

Together, these data sets provide a 60-year picture of aggregate investment trends and a detailed look at investment practices from 2006 to 2016 across the vast majority of state public pension funds.

For further information, please visit:

pewtrusts.org/pensions

Contact: Sarah Jones, officer, communications
Email: sjones@pewtrusts.org
Phone: 202-540-6568
Project website: pewtrusts.org/pensions

The Pew Charitable Trusts is driven by the power of knowledge to solve today's most challenging problems. Pew applies a rigorous, analytical approach to improve public policy, inform the public, and invigorate civic life.