

Changes in Asset Allocations Over the Past 30 Years:

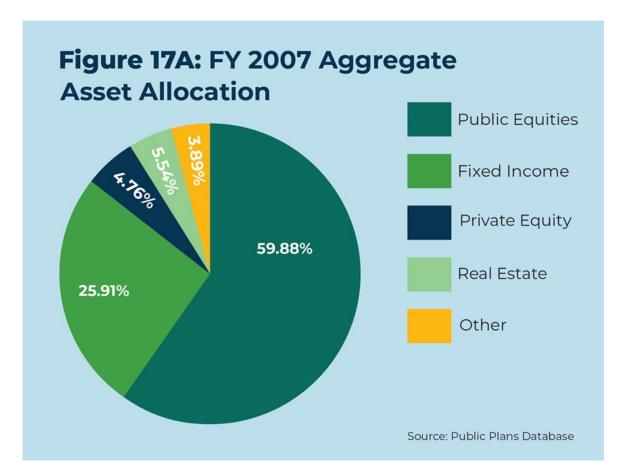
A Study of the Interaction Between Financial Markets and Public Plans

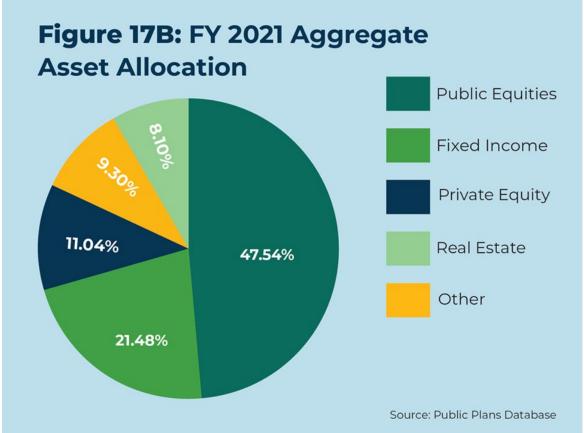
January 27, 2025





Public Plan Asset Allocations Have Changed Significantly in Recent Years

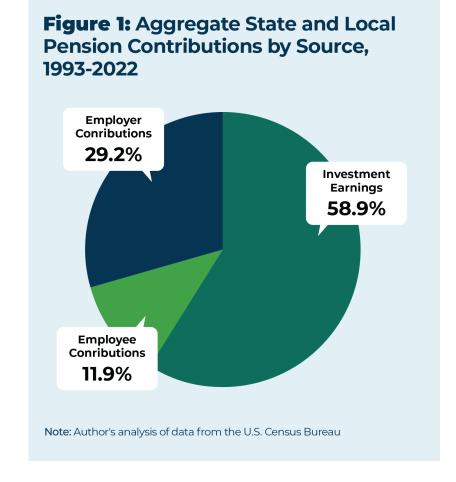




Source: Examining the Experiences of Public Pension Plans Since the Great Recession

Investment Earnings Generate the Majority of Public Pension Revenue

Investing in financial markets with a diversified asset allocation has allowed public pension funds to generate more than half their revenues through investment earnings.

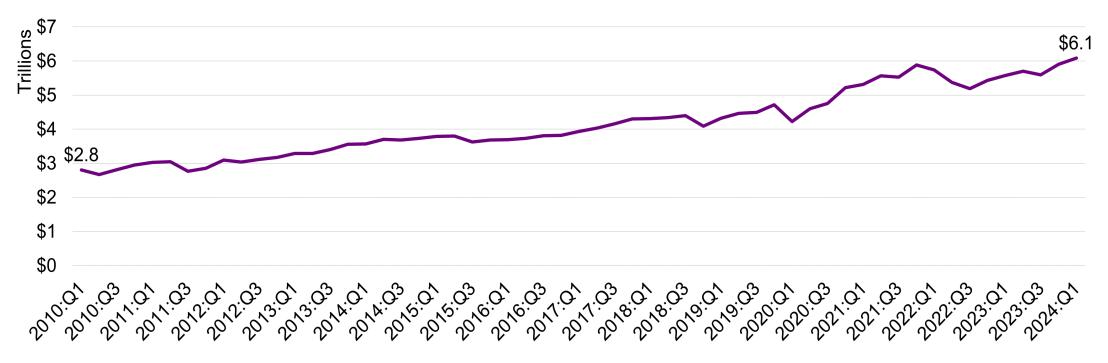


Source: Pensionomics 2025

Growth in Public Pension Assets Since GFC

Public pension assets have more than doubled since 2010

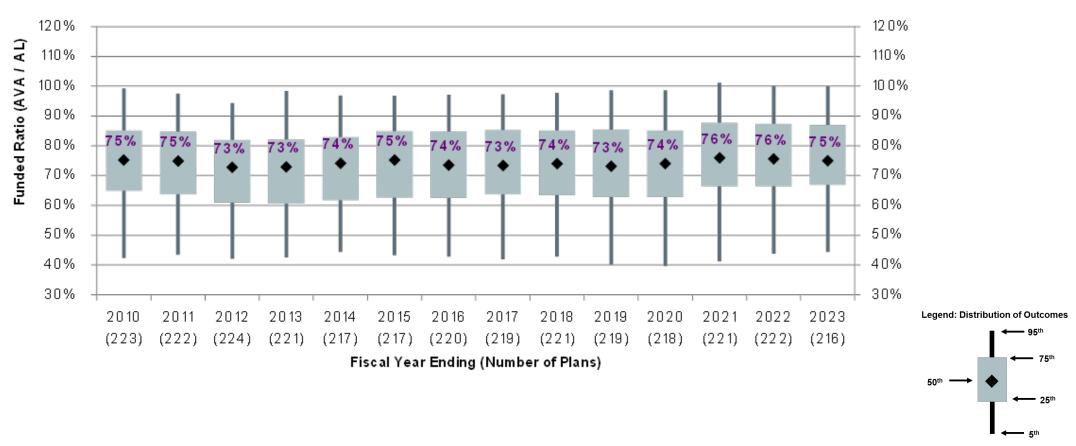
Public Pension Assets (as reported by the Federal Reserve)



Source: Federal Reserve Board (https://www.federalreserve.gov/releases/z1/default.htm) as of July 2024; assets determined from L.120.b by subtracting line 16 (unfunded liabilities) from line 18 (liabilities)

Distribution of U.S. Public Pension Plans Funded ratio (based on actuarial value of assets) versus peers¹

Distribution of U.S. Public Pension Funded Ratios

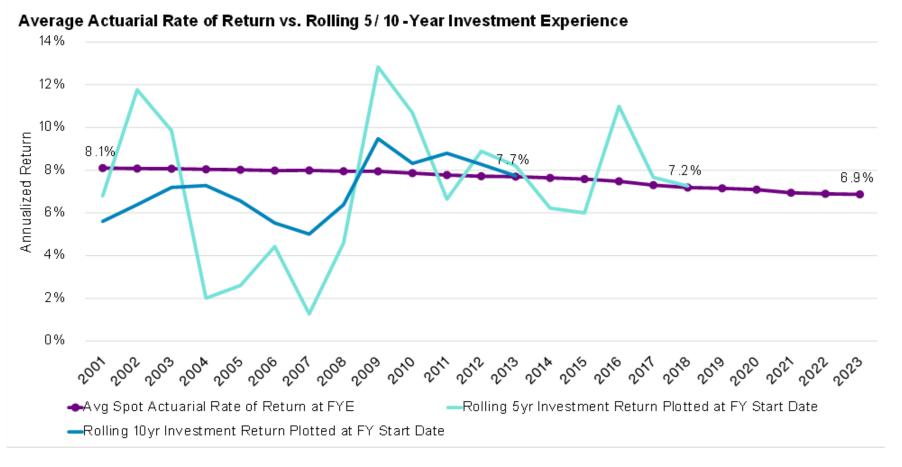


Source: Public Plans Data (publicplansdata.org) as of June 2024

¹ Peers defined as public funds published within publicplansdata.org as of June 2024; Number of plans per year are shown in parentheses

Actuarial Rate of Return vs. Investment Performance

Actuarial assumed rates of return have declined over the period while investment experience, though volatile, has largely met expectations over the long-term for the subset studied

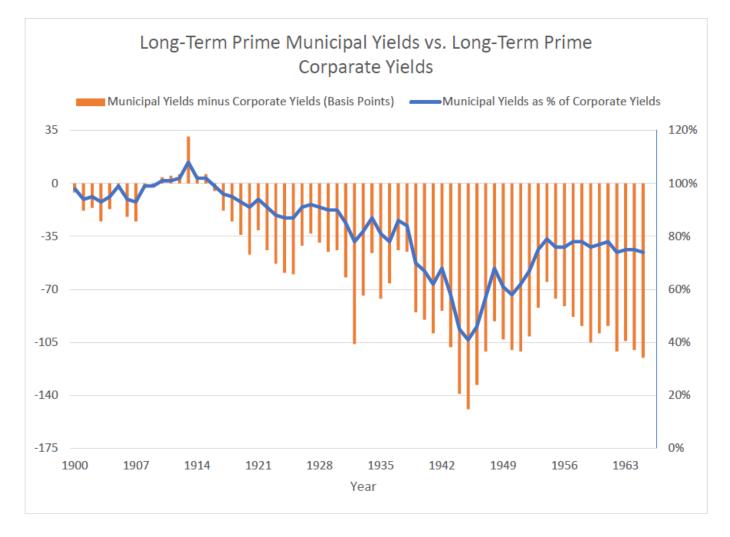


Source: Public Plans Data (publicplansdata.org) as of June 2024; specifically, 45 plans with Fiscal Year Ending June 30

The Decline of Fiscal Mutualism

Fiscal mutualism was an investing philosophy according to which public pension plans almost exclusively invested in municipal bonds. This was seen as being mutually beneficial to the plan itself and the plan sponsor.

Fiscal mutualism dominated public plan investing during the 1920s and 1930s.



Source: Sidney Homer, "Factors Determining Municipal Bond Yields," in *State and Local Public Facility Needs and Financing: Volume 2, Public Facility Financing* (Washington, DC: Government Printing Office, 1966), 269-298 (Glass & Vanatta, 2021, p. 438).

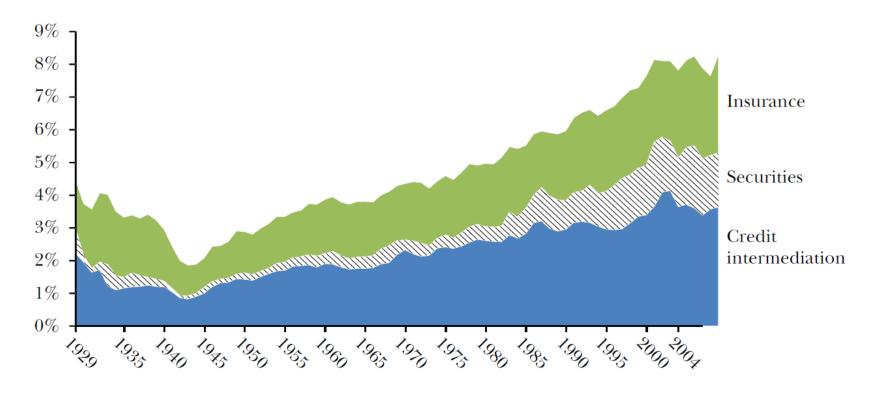
The Prudent Investor Takes Charge

A fiduciary should manage a portfolio 'with the care, skill, prudence, and diligence, under the circumstances then prevailing, that a prudent man 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.'

- Employee Retirement Income Security Act (ERISA) of 1974

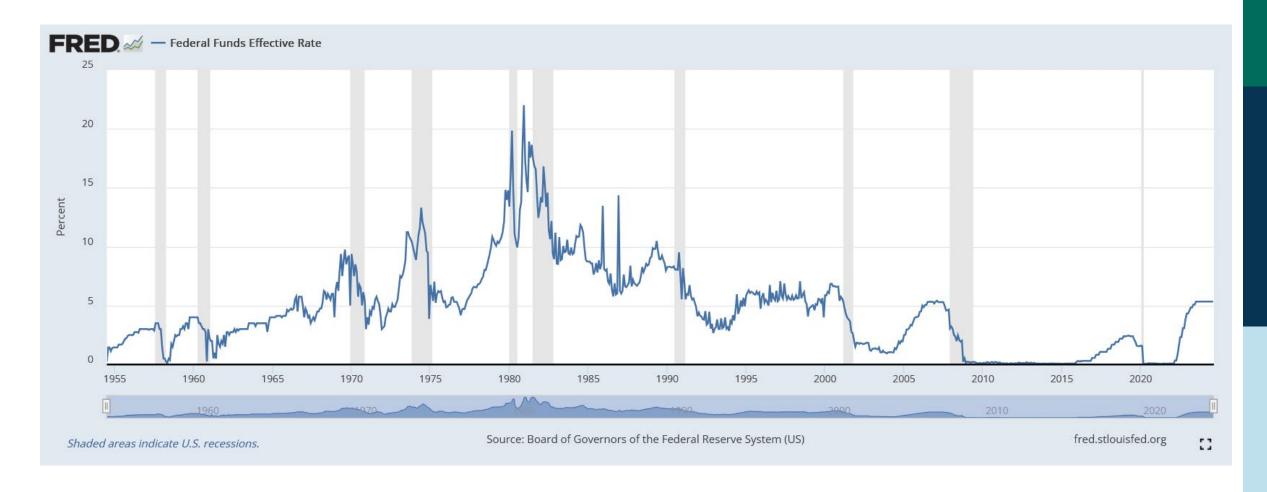
The Financial Sector Grows

Figure 1
The Growth of Financial Services
(value added share of GDP)

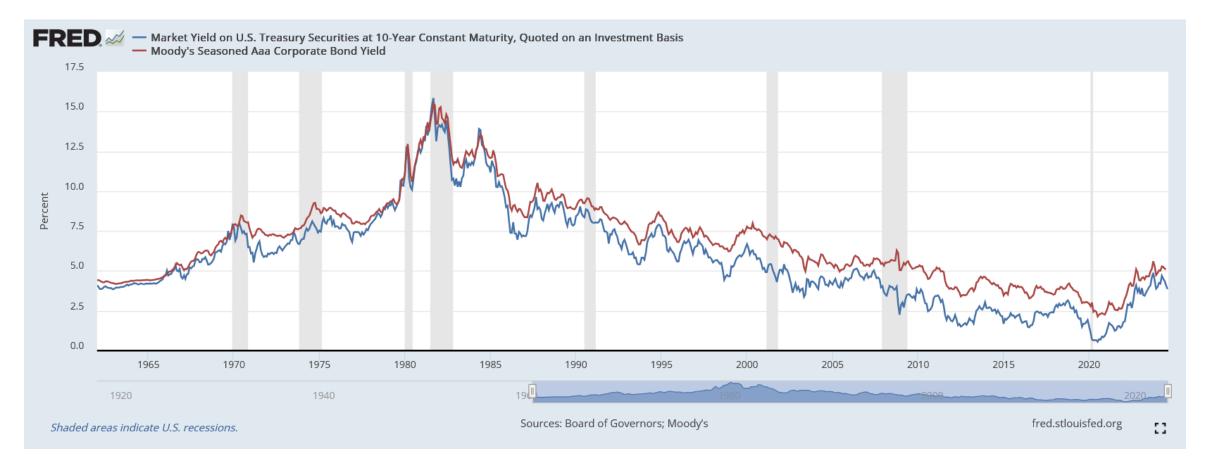


Source: Authors' calculations using data from National Income and Product Accounts (1947–2009) and the National Economic Accounts (1929 –1947). From: Robin Greenwood and David Scharfstein, "The Growth of Finance", *Journal of Economic Perspectives*—Volume 27, Number 2—Spring 2013—Pages 3–28.

Declining Interest Rates Contributed to Lower Yields from Bonds...



...And The Decline of Bond Yields Has Had a Major Impact on Pension Investing

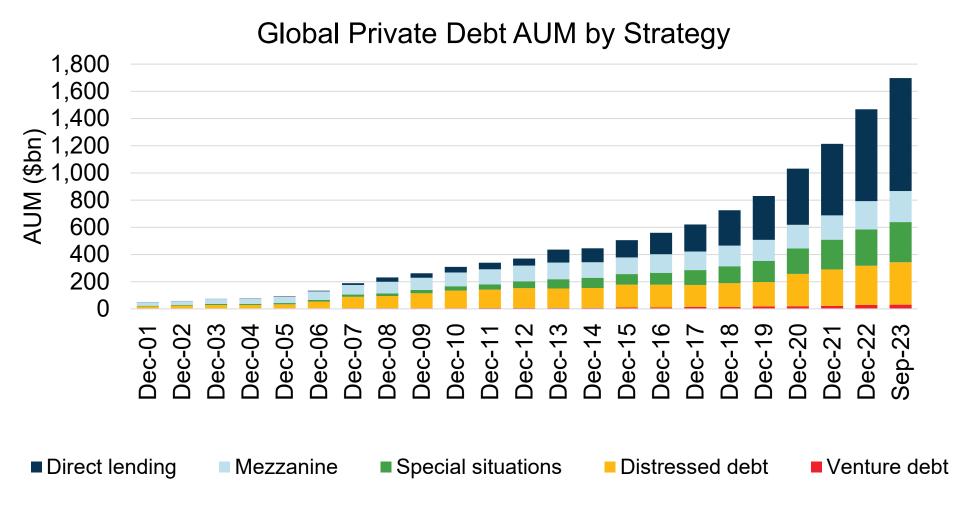


Investors Looked Elsewhere to Lend and Earn Interest

"The emergence of interest to incentivize lending is the most significant of all innovations in the history of finance."

- William Goetzmann, *Money Changes Everything:*How Finance Made Civilization Possible

Private Credit Took Off in the 21st Century

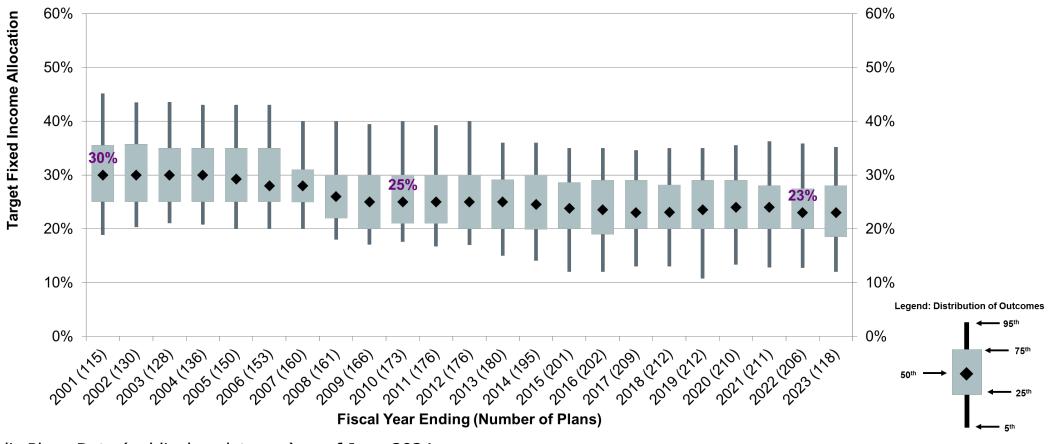


Source: Pregin Pro

Distribution of U.S. Public Pension Plans

Fixed Income target allocations versus peers¹

Distribution of U.S. Public Pension Target Fixed Income Allocations

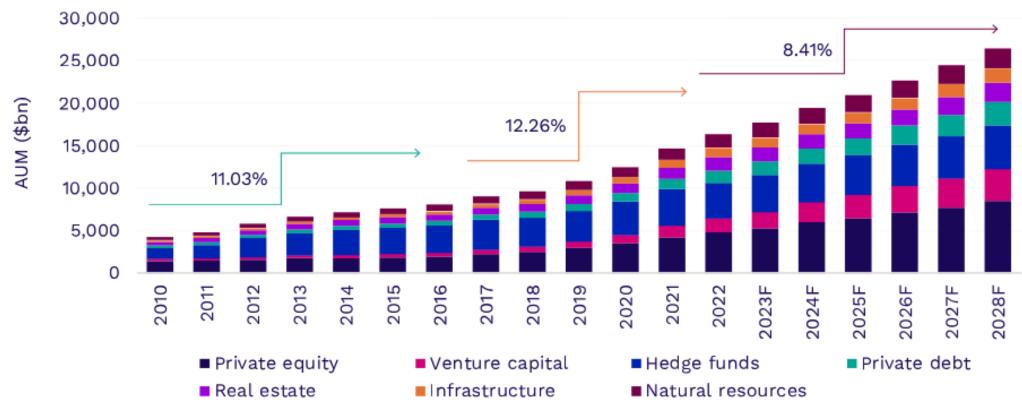


Source: Public Plans Data (publicplansdata.org) as of June 2024

¹ Peers defined as public funds published within publicplansdata.org as of June 2024; Number of plans per year are shown in parentheses

Alternative Asset Classes Have Grown Significantly Since the GFC

Alternative AUM* by asset class, 2010-2028F



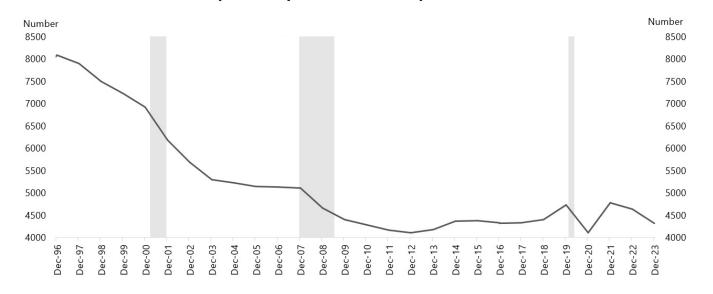
*AUM figures excludes funds denominated in Yuan Renminbi

Source: Pregin

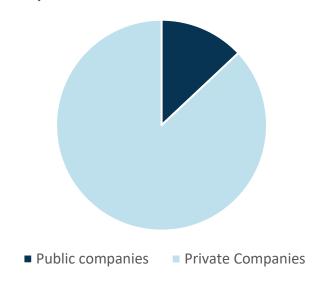
Shift From Public to Private Companies

Number of publicly listed companies has declined 50% since the mid-1990s

Number of publicly Listed companies in the U.S.



Share of U.S. public and private companies with revenue >\$100M



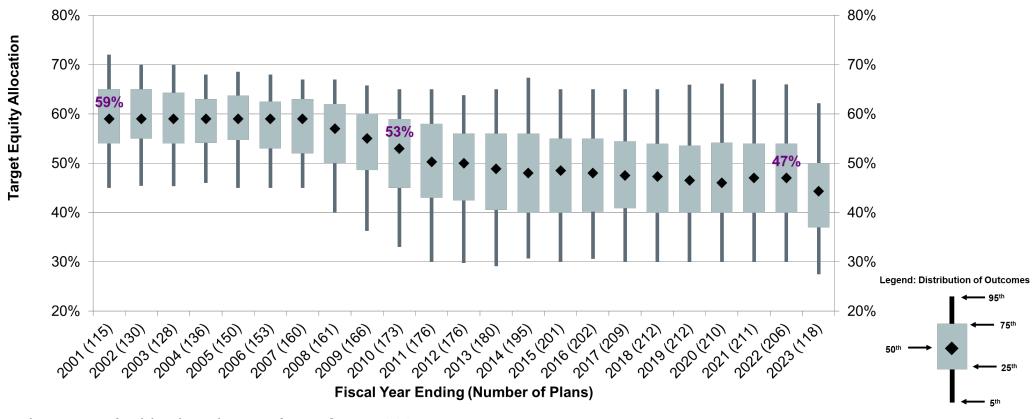
Source: PublicMarketsAreASmallPartOfTheEconomy-051924 v2.pdf (apolloacademy.com): WDI, Apollo Chief Economist.

Source: S&P CapitaliQ, Apollo Chief Economist. Note: For companies with last 12-month revenue greater then \$100mn by count

Distribution of U.S. Public Pension Plans

Public equity target allocations versus peers¹

Distribution of U.S. Public Pension Target Equity Allocations



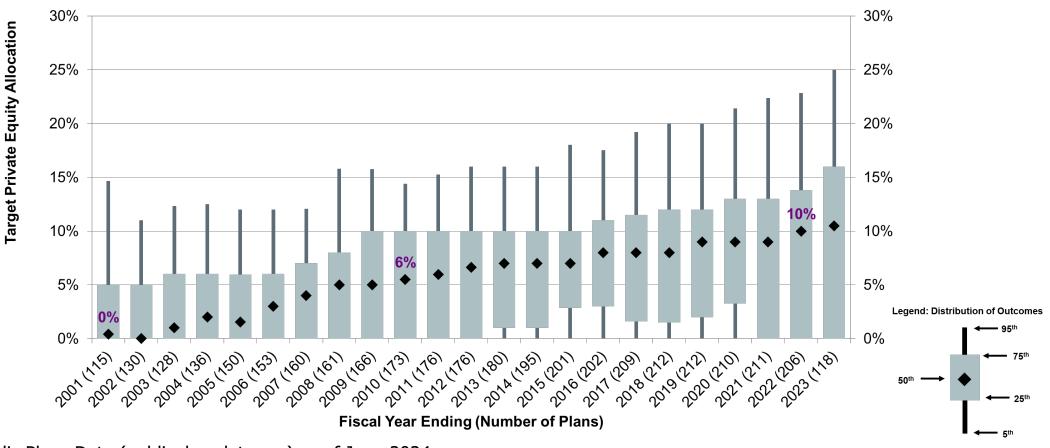
Source: Public Plans Data (publicplansdata.org) as of June 2024

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Distribution of U.S. Public Pension Plans

Private equity target allocations versus peers¹

Distribution of U.S. Public Pension Target Private Equity Allocations

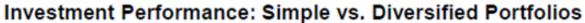


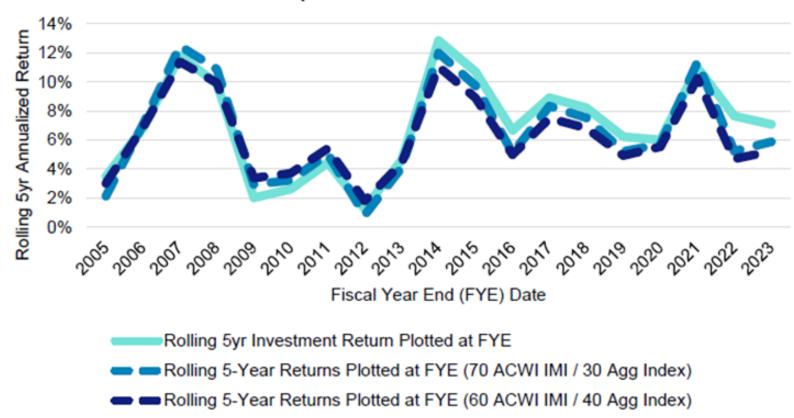
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Investment Performance: Simple vs. Diversified

Diversified portfolio returns have offered superior results versus more simplified portfolios over recent years





Source: Public Plans Data (publicplansdata.org) as of June 2024; specifically, 45 plans with Fiscal Year Ending June 30

Public Pension Plan Investing Matters for the Broader Economy

- Does the investing activity of public pension funds in financial markets matter for the broader economy? Yes!
- The growth in the financial sector -> growth in pension fund assets -> greater pension benefit security -> stronger downstream economic impact of pension spending -> positive impact on jobs and wages
- Pension benefit spending is also counter-cyclical:
 - Benefits are still paid, regardless of economic scenario making the sequence of returns important
 - Pensions generally have a long-term focus, so they continue to invest and pay benefits while markets recover
- The evolution of pension investing with capital markets has improved investment performance

Questions



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