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# Evaluating Public Pension Funding and Financial Risk

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# Critical Risk Factors for Stress Testing

- **Investment Risk:** The potential that investment returns will be different than expected.\*
- **Contribution Risk:** The potential of actual future contributions deviating from expected future contributions.\*\*

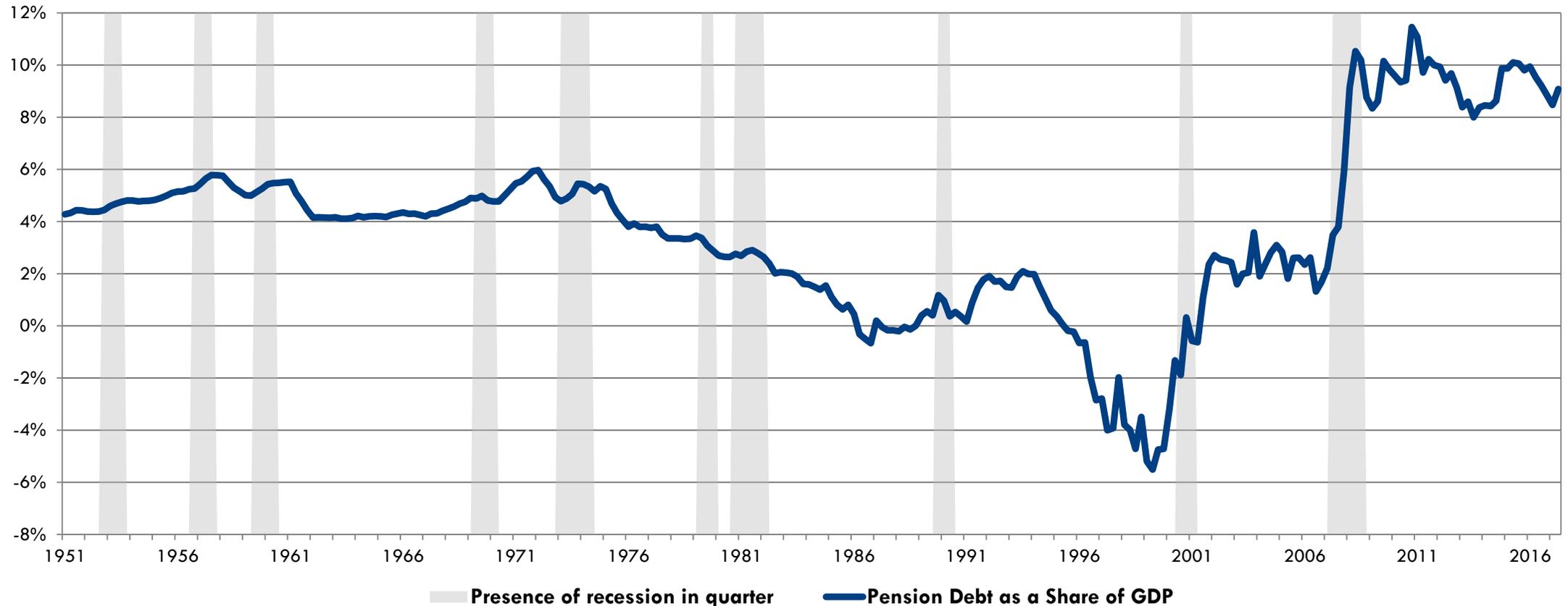
Notes:

\*See §3.2 *Areas of Risk to be Assessed Item a. Investment risks* in *ASOP No. 51*. Other areas of risks identified in §3.2 include: *Asset/liability mismatch risk, Interest rate risk*, and, *Longevity and other demographic risks*.

\*\*As defined in §2.5 *Definitions* for the purposes of *ASOP No. 51*.

# State and Local Pension Debt as a Share of Gross Domestic Product

After nine years of economic recovery, aggregate pension debt remains at historically high levels

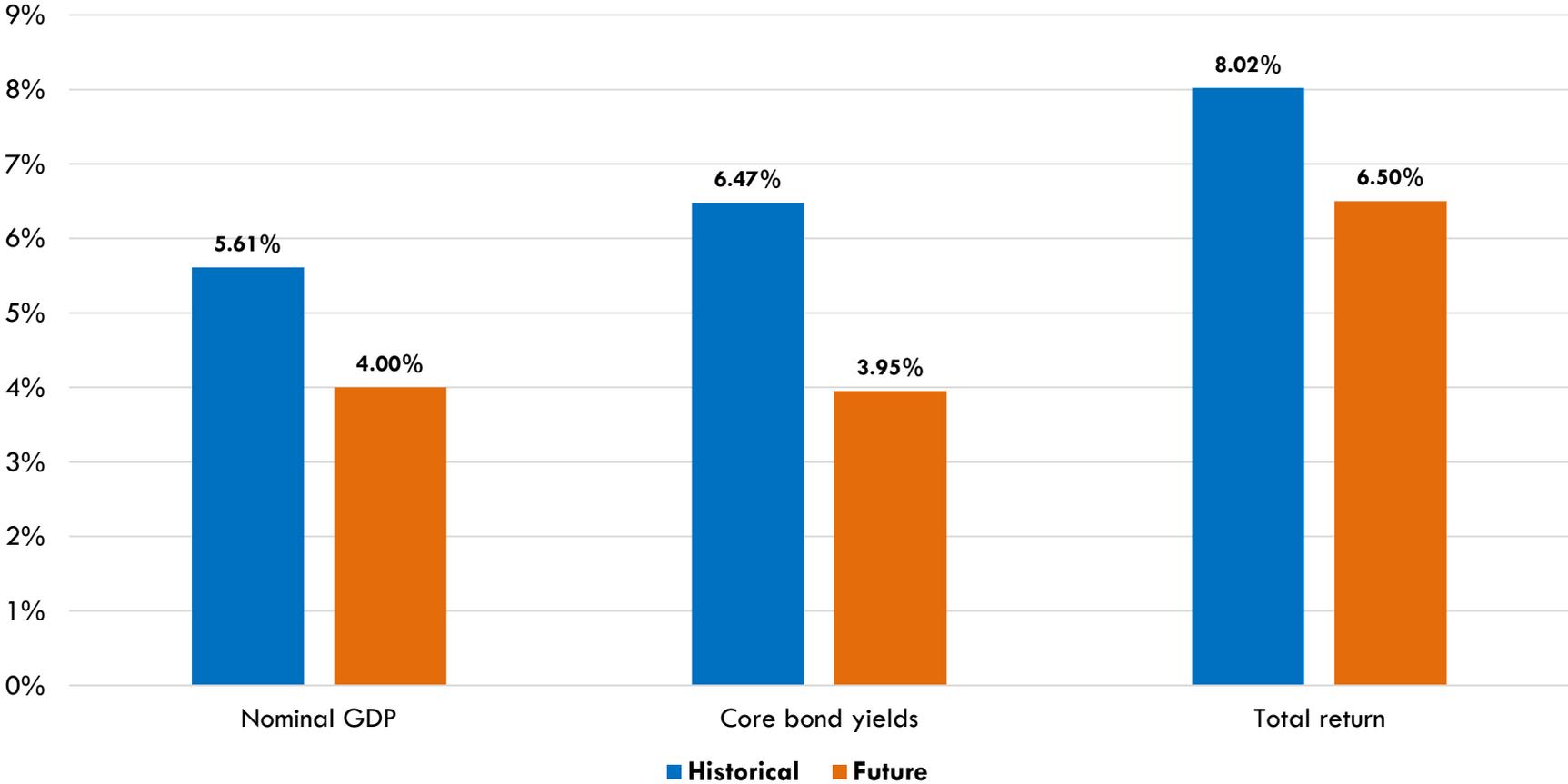


Note: Data reflects Federal Reserve data as of Q1 2018, prior to a change in the Fed's methodology for calculating pension liabilities.

Source: Federal Reserve Board

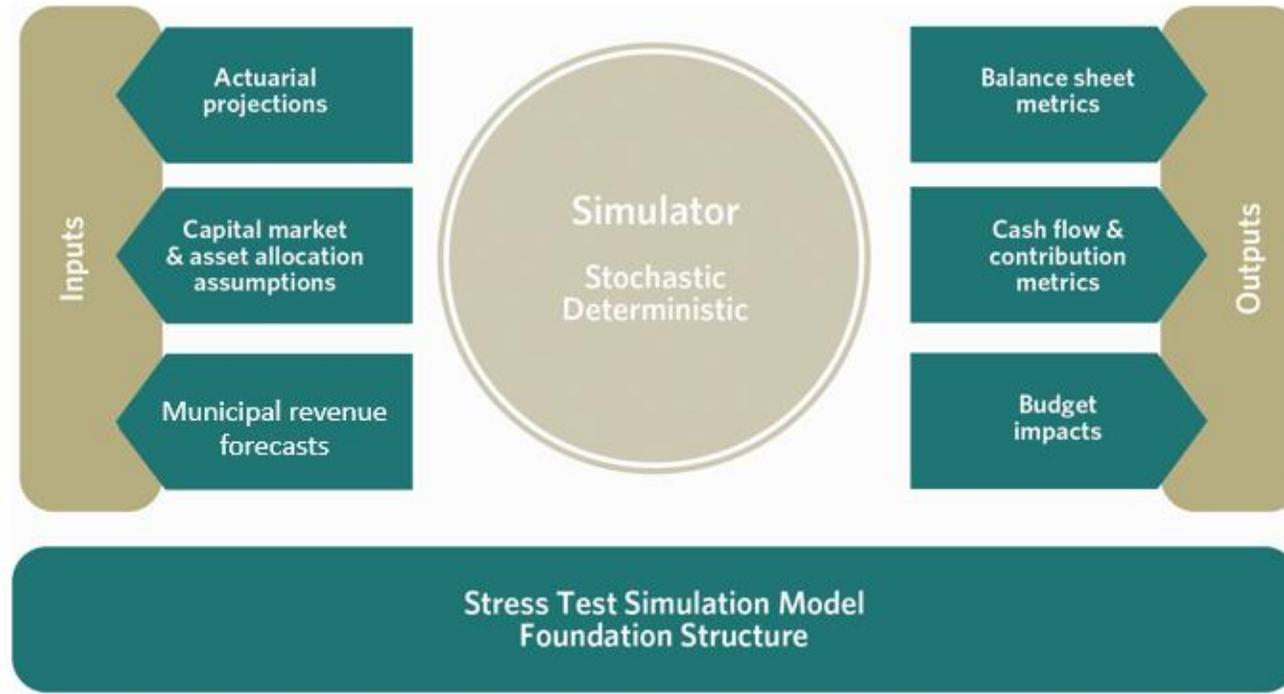
# Returns Over the Next 20 Years are Expected to Lag Behind Those Before the Great Recession

Projected nominal GDP growth and bond yields are at historic lows



# Stress Testing Simulation Model

Comprehensive model incorporates municipal revenue forecasts and measures budgetary impacts

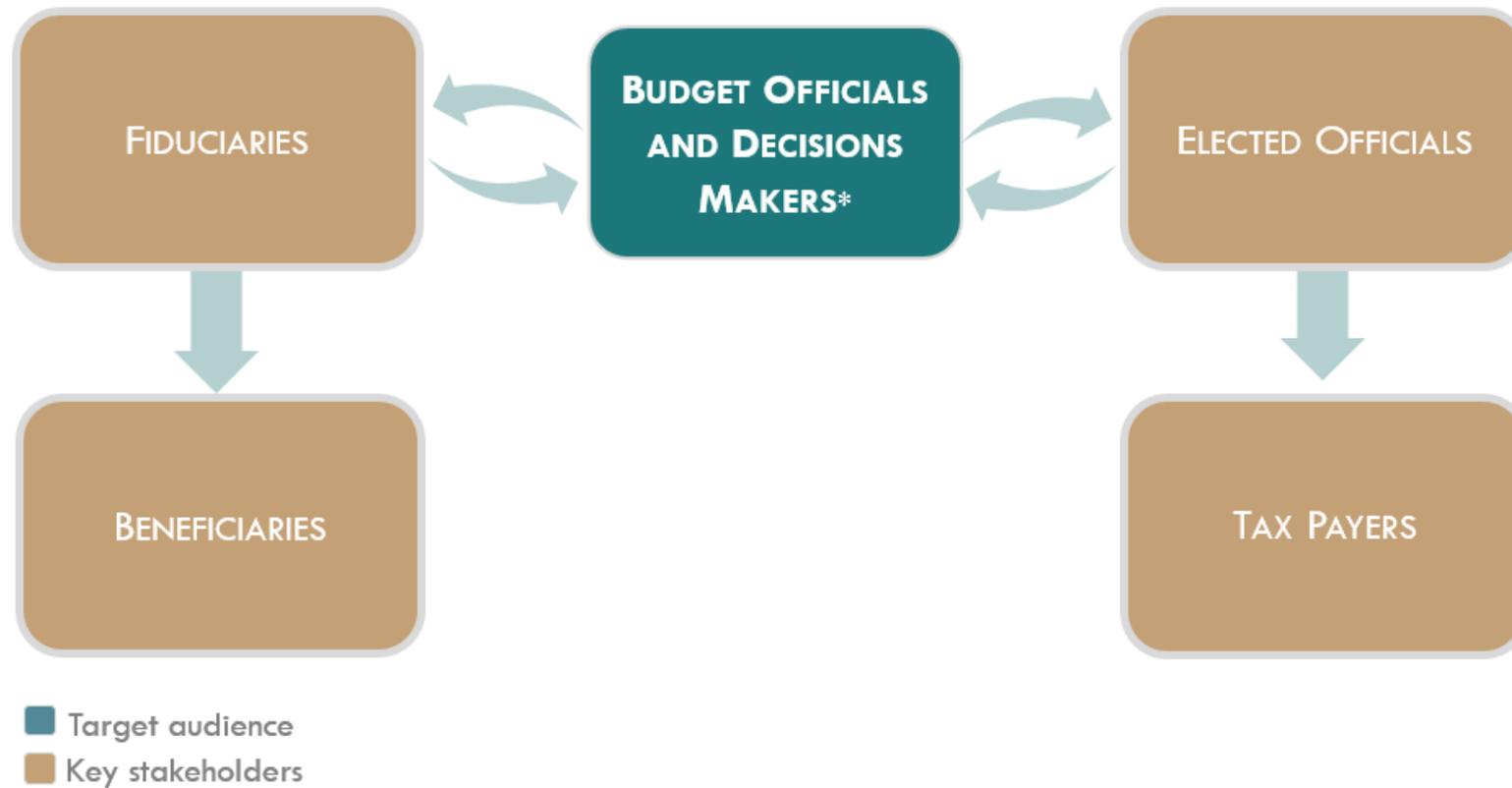


**Notes:** For more information about Pew's model and methodology, see "Assessing the Risk of Fiscal Distress for Public Pensions: State Stress Test Analysis" by Greg Mennis, Susan Banta, and David Draine working paper for Harvard Kennedy School's Mossavar-Rahmani Center for Business and Government, May 2018.



# Target Audience for Pension Risk Reporting

Budget Officers, State Treasurers, and other Finance Officials bridge the gap between pension plan fiduciaries and taxpayers

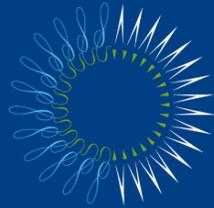


**Notes:** \*Budget officials and decision makers may include executive branch appointees, state treasurers, appropriations legislators and staff, and state comptrollers

# Goals and Objectives for Pensions Risk Reporting

- **GOALS:** Provide budget officials, policymakers, and other stakeholders with:
  - (1) Accessible information about the risks and potential costs associated with investment assumptions and contribution behavior.
  - (2) Tools and analysis to better inform planning and decision making.
  
- **KEY OBJECTIVES:** Provide analysis of investment and contribution risk in a standard report to help policymakers:
  - (1) *Plan for the possibility of lower returns and higher costs over the long-term.*
  - (2) *Prepare for the next economic downturn.*
  - (3) *Manage financial market volatility throughout the business cycle.*
  - (4) *Evaluate the impact of proposed or enacted policy changes.*

Note: This framework is discussed in greater detail in *Foundation for Pension Risk Reporting*, the outcome of a 2018 conference at the Harvard Kennedy School.



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# Pew's Foundation for Public Pension Risk Reporting

Framework designed to inform long-term planning and budget decision making.

As a starting point, risk reporting should (A) assist government officials and other stakeholders in assessing the impact of investment risk on government budgets; (B) evaluating the impact of contribution risk on pension system solvency; (C) quantifying the range of likely costs for current benefits; and (D) assessing the impact of market volatility on expected employer contributions and include:

1. Sensitivity analysis of plan liabilities which incorporates disclosures required by the Governmental Accounting Standards Board (GASB); and the investment risk defeasement measure as outlined in proposed changes to Actuarial Standard of Practice (ASOP) No. 4 (currently in draft).
2. Scenario analysis that provides forward-looking projections of at least 10 – 20 years including (a) a low return scenario assuming a fixed 5% rate of return (or the 25th percentile of projected returns) on assets; and (b) an asset shock scenario followed by long-term returns of 5% (or the 25th percentile of projected returns).
3. To assess contribution risk, projections and measurements for the scenarios above, assuming (a) full actuarial contributions based on current funding policies; and (b) contributions that are constrained by the rate of revenue growth (i.e. fixed as a percent of revenue).
4. Sensitivity of total normal cost and employer normal cost for new benefits earned under a range of different investment return assumptions.
5. Projections that simulate the volatility of annual investment returns above and below the expected rate of return in order to measure the range of employer contributions that would be required in scenarios where the expected rate of return is achieved.

Full document accessible at: <https://www.hks.harvard.edu/centers/mrcbg/programs/pension2018>