Adverse Scenarios and Plan Sponsor Health

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NATIONAL CONFERENCE ON PUBLIC EMPLOYEE RETIREMENT SYSTEMS (NCPERS)

Kimberlene Matthews, FSA, EA, CFA®
Director of Pension Solutions
PNC Institutional Asset Management®
Kimberlene.Matthews@pnc.com

Steven Eitel
Senior Investment Advisor
PNC Institutional Asset Management®
Steven.Eitel@pnc.com

Agenda

- Adverse Scenarios and Plan Sponsor Health
- An Investment Advisor’s Perspective

Adverse Scenarios and Plan Sponsor Health

- Current Landscape
- Defining Sensitivity to Adverse Scenarios
- Levers to Move toward Green

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PNC Institutional Asset Management

What is an adverse scenario for a defined benefit plan?

ADVERSE SCENARIOS AND PLAN SPONSOR HEALTH

An adverse scenario is a scenario in which a plan sponsor's current or future ability to fund the plan to pay benefits to participants is impaired.

- **Examples include:**
  - A town loses its main source of jobs, for example, a paper mill.
  - A significant portion of the taxable population moves to another locality.
  - There is a financial crisis that creates negative investment market returns, such as 2007-08.

Current Landscape

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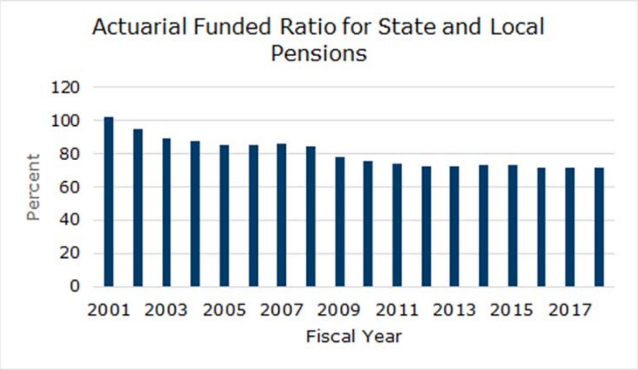
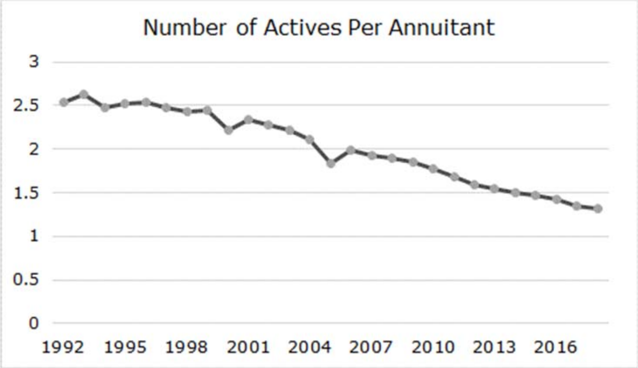
- Funded ratios have been declining over the past 20 years.
- Funded status does not necessarily track the stock market, as seen in 2001-08 and 2009-18.
- A steady decline in the number of actives per annuitant over the past 30 years reduces contributions while increasing distributions.





Source: Public Plans Data. 2001-2018. Center for Retirement Research at Boston College, Center for State and Local Government Excellence, and National Association of State Retirement Administrators. Available at: http://crr.bc.edu/data/public-plans-database/.

Current Landscape (continued)

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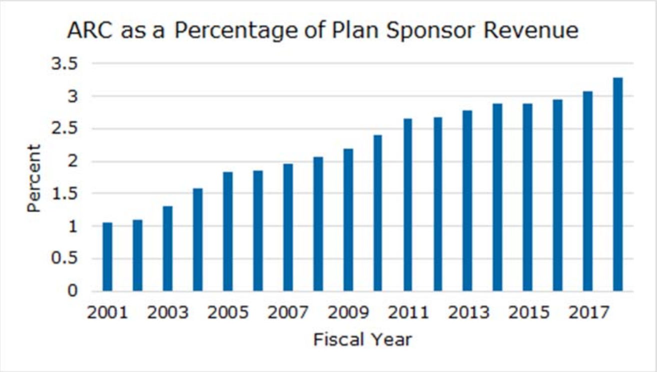
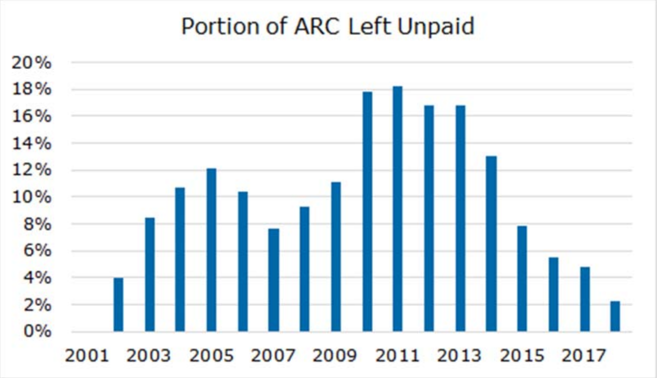
- Actuarially required contributions (ARC) have steadily increased as a percentage of plan sponsor revenue since 2001, tripling through fiscal 2018.
- The portion of ARC left unpaid has remained high since 2002, peaking in 2011.
- Failure to make the ARC to a given plan increases the likelihood the plan deficit, or the gap between plan liabilities and plan assets, grows in any given year.





Source: Public Plans Data. 2001-2018. Center for Retirement Research at Boston College, Center for State and Local Government Excellence, and National Association of State Retirement Administrators. Available at: http://crr.bc.edu/data/public-plans-database/.

Defining Sensitivity to Adverse Scenarios (Sensitivity Ratio)

Ratio of Plan Deficit to Plan Sponsor Revenue	
High	Ratio greater than 0.6
Medium	Ratio from 0.2 to 0.6
Low	Ratio from 0 to 0.2

- A quick assessment of the ratio between plan deficit to total annual revenue can help determine if an adverse scenario is a material or nonmaterial concern:
  - High Ratio (Red): High sensitivity to adverse scenarios
  - Medium Ratio (Yellow): Moderate sensitivity to adverse scenarios
  - Low Ratio (Green): Low sensitivity to adverse scenarios

Distribution of Sensitivity Ratios Versus Funded Ratio

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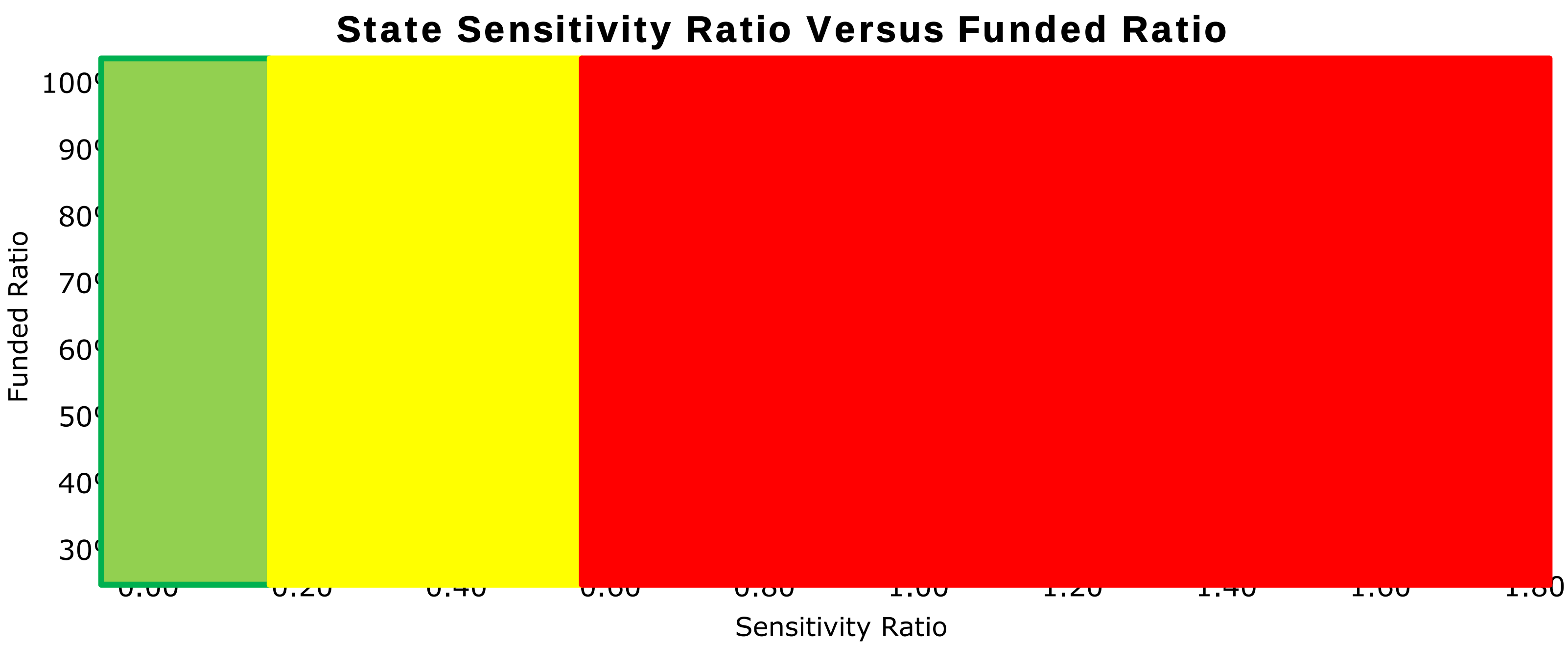
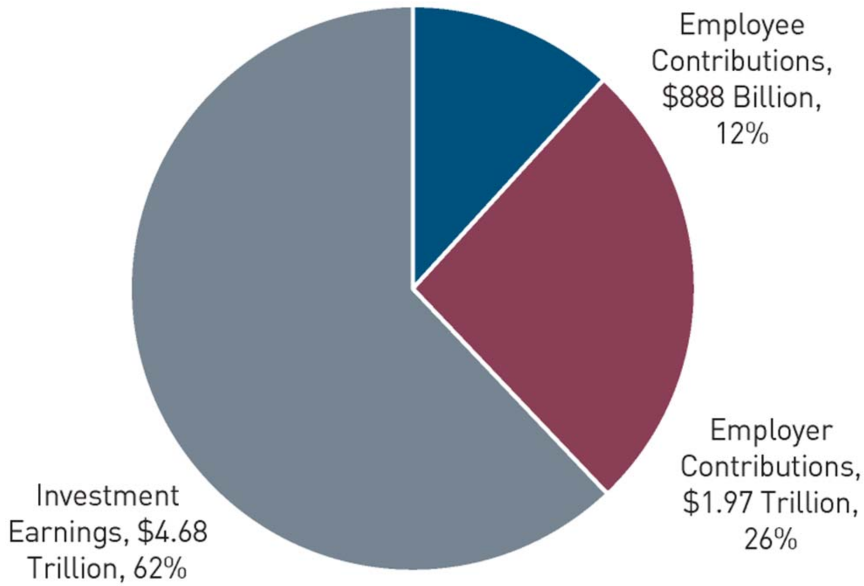


Sensitivity Ratio = Ratio of Plan Deficit to Total Annual Revenue
Source: Pew Charitable Trusts, U.S. Census Bureau, PNC

Historical Sources of Pension Plan Asset Growth

ADVERSE SCENARIOS AND PLAN SPONSOR HEALTH

Public Pension Source of Asset Growth, 1988-2017



Source: NASRA, PNC

Three Key Levers to Improve Plan Health

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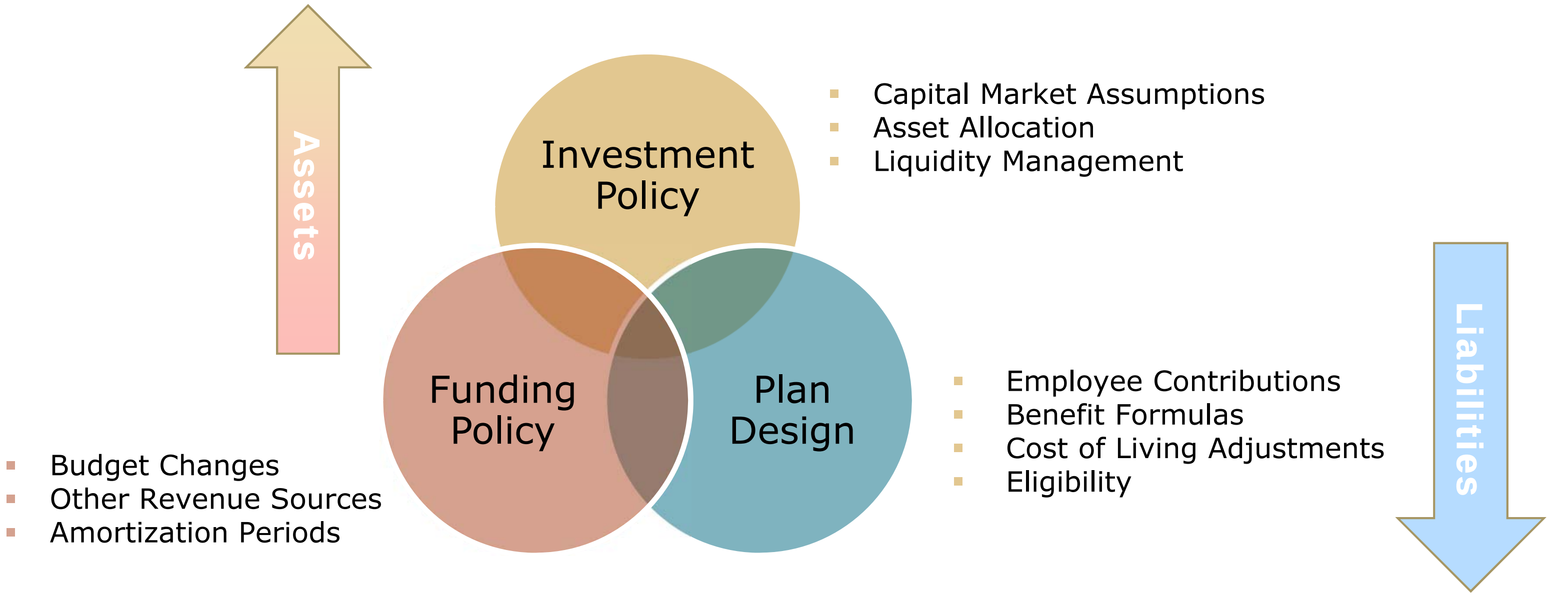
Though funding and investments have contributed significantly to growing assets, plans have been increasingly focused on reducing the liabilities through pension reforms.



Plan Design: Pension Plan Reform Post-Financial Crisis

ADVERSE SCENARIOS AND PLAN SPONSOR HEALTH

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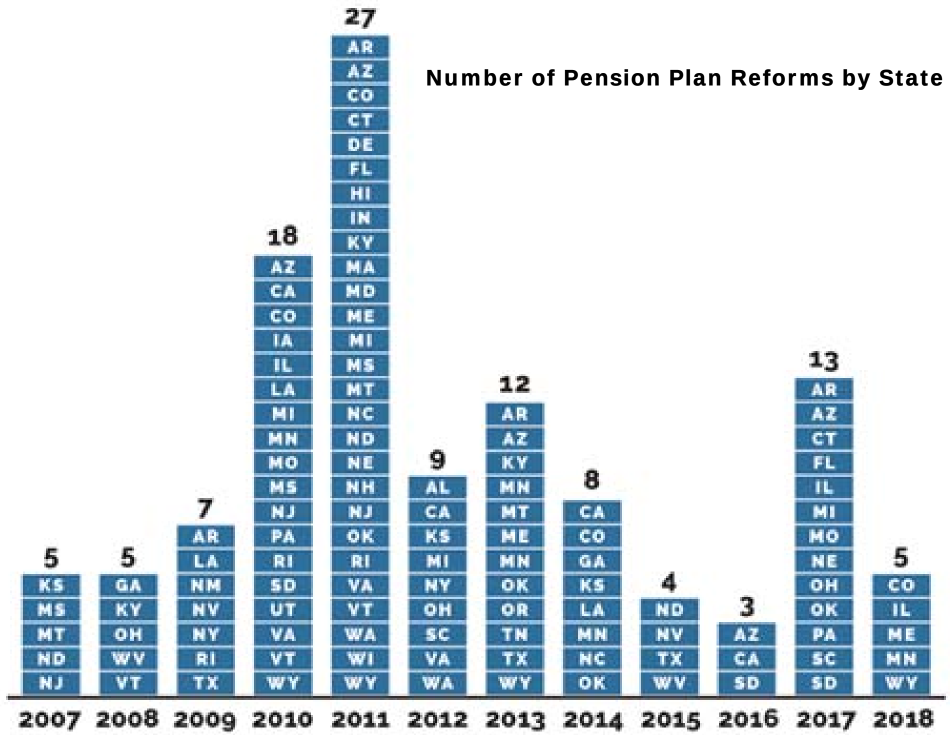
- Following the financial crisis, there has been an increase in the number of reforms in an effort to improve plan health.
- Despite legislative challenges and participant opposition, many states have been successful in implementing plan changes.



Source: National Association of State Retirement Administrators

PNC Institutional Asset Management does not recommend or advocate for any particular plan design changes. Each plan sponsor should work with its actuary and consultant to determine which, if any, plan design changes are appropriate.

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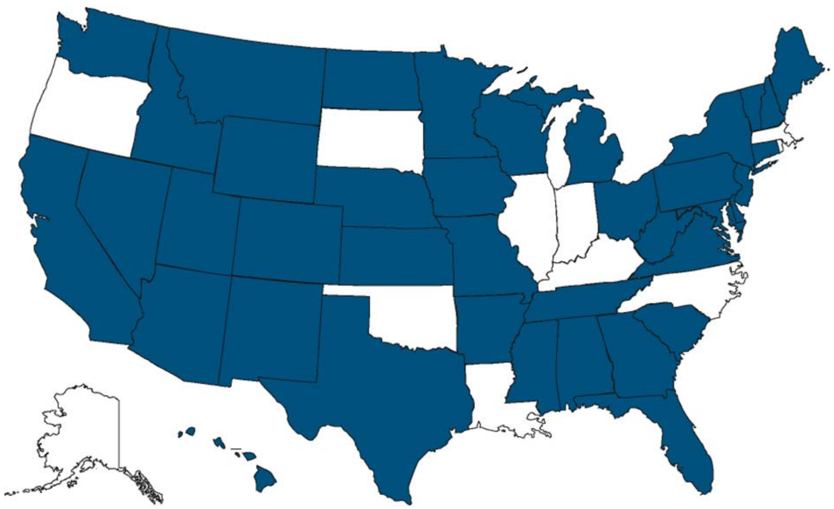
Plan Design: Increasing Employee Contributions

- Increasing employee contributions has been the most common type of reform postcrisis.
- The majority of the increases were permanent and applied to both current and new employees.
- Some states that did not historically require employee contributions added this requirement.

States that have increased employee contribution rates, 2009-2018



Source: NASRA

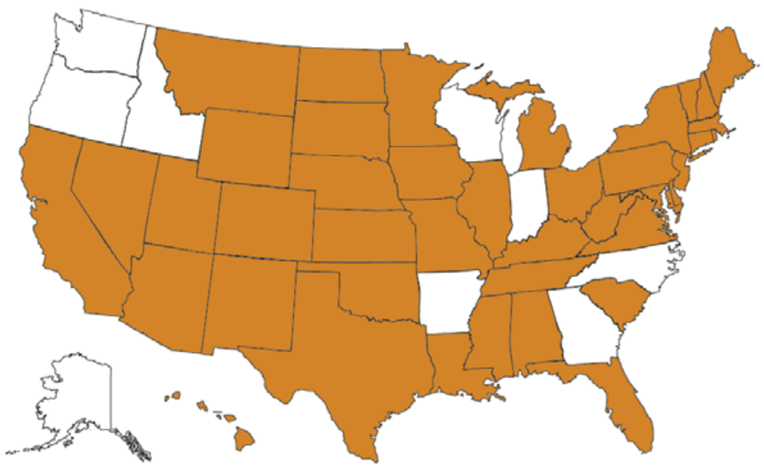
Plan Design: Reduce Benefits

- Traditional benefit structure contains three components:

Multiplier x Final Average Salary x Years of Service

- Reductions focus on increasing average salary period or reducing multiplier.
- According to a National Association of State Retirement Administrators (NASRA) study, the impact of benefit reform could be as high as a 20% reduction in a new participant’s retirement benefit.

States that Reduced Pension Benefits, 2009-2018

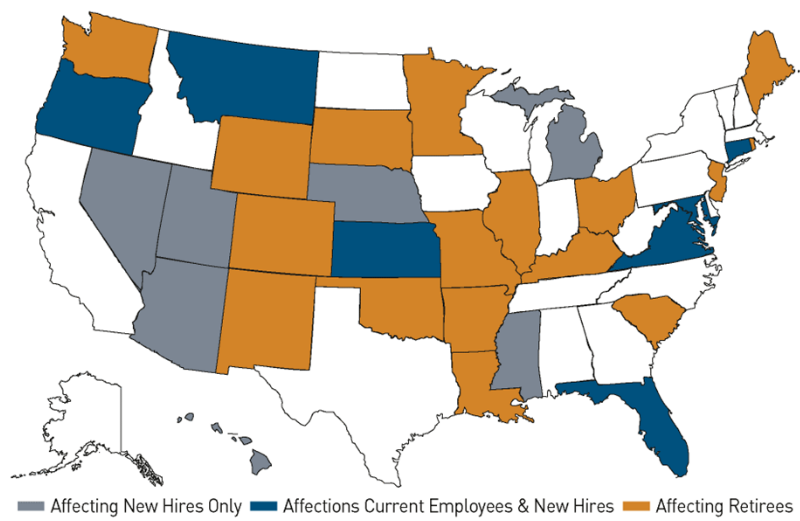


Source: NASRA

Plan Design: Cost of Living Adjustment (COLA) Reductions

- 2% COLA over a 20-year period equates to almost 50% growth in a retiree's benefit.
- COLAs are now generally linked to external factors such as the Consumer Price Index or plan funded status.
- COLA adjustments for retirees were challenged in courts for most states, but mostly upheld.

State COLA Reductions, 2009-2018



Source: NASRA

Plan Design: Other Changes

Liabilities

A number of states have passed legislation with other types of plan design changes:

- Changing participant eligibility:
  - Increase vesting requirements
  - Retirement eligibility (age and/or service)
  - Closing traditional pension
- Hybrid plan features:
  - Combination hybrid designs
  - Cash balance designs
- Self-Adjusting Features:
  - Based on external factors
  - Adjust employee contributions, benefits, or COLAs

Key Takeaways

ADVERSE SCENARIOS AND PLAN SPONSOR HEALTH

- Adverse scenarios are unavoidable over the long term: every defined benefit plan sponsor has the potential to face one or more adverse scenario over the life of the plan.
- To help mitigate the impact of this, we believe there are three key levers that plan sponsors may consider pulling:
  - Investment Policy
  - Funding Policy
  - Plan Design
- These levers need to be understood holistically and incorporate financial, legal, and participant considerations to be effective.
- Plan sponsors should work with their investment advisors, plan actuaries, and plan design consultants, as applicable, to consider the available options.

An Investment Advisor’s Perspective

- Case Study: An Imperfect Storm
- The Lever Process

Steven Eitel
Senior Investment Advisor
PNC Institutional Asset Management

Case Study: City Police Pension Fund
Yellow Category – Imperfect Storm

- **When did the client fall into the situation?**
  - Positive market experience in 1980s and 1990s led to permanent benefit increases.
  - Lost decade 2000-10, with muted returns early in the decade followed by the Financial Crisis of 2008.
  - Real estate valuations plummeted, causing tax revenue to drop precipitously.
  - Hurdle rates were unrealistic and routinely not met.

Case Study: City Police Pension Fund
Generous Returns, Generous Increases

1980s and 1990s: The Punch Bowl Has a Bottom

- Above-average investment environment caused plan funding status to improve. As a result, some employers reduced or suspended pension plan contributions.
- During this period, many employers agreed to increases in retirement benefits.
- Based on abnormally high investment returns, some plans increased their assumed actuarial rate of return. This provided budget "room" to allocate money away from pension plan contributions to fund other priorities, many with ongoing, embedded costs.
- The combination of increasing the assumed rate of return and suspending or reducing plan contributions placed additional pressure on the investment portfolio to produce greater levels of asset growth to accommodate payments to participants.

Case Study: City Police Pension Fund
Financial Crisis Cripples Asset Base

2000s: Lost Decade Takes a Downturn

- Muted returns experienced during the first half of the decade meant that the funding status of many plans lost ground, with assumed rates of returns not met.
- Smoothing techniques often glossed over the investment return “sea-change” which occurred at the beginning of the new decade. During this period, this accounting process served to lower required contributions for some employers.
- Toward the end of the decade, as the financial crisis deepened, home prices plummeted and real estate tax revenues declined significantly, further increasing pressure on government budgets.
- Throughout the decade and as contribution requirements increased, many employers faced budget pressure and offered early retirement programs to help shift the immediate cost of future pension payments from payroll to their pension plans.
- The financial crisis in 2008 dealt a crushing blow that most public pension systems are still working diligently to overcome.

The Lever Process

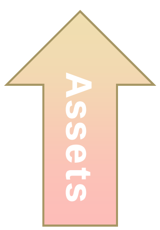
AN INVESTMENT ADVISOR'S PERSPECTIVE

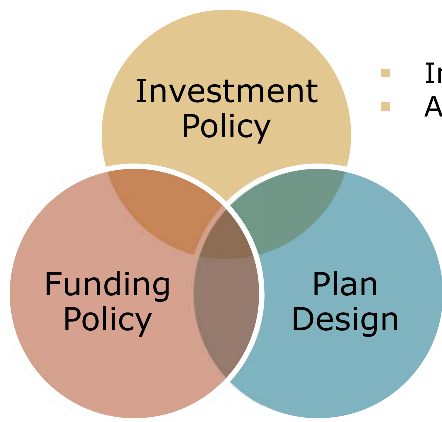
Stakeholders Must Be Coordinated

- To be effective, any proposed solution set should involve input from all stakeholders and advisors, including the plan sponsor, employees, investment advisor, actuary, and plan design consultant.

Moving the Levers: An Ongoing Process

- As of fiscal 2017-18, the case study Plan has a sensitivity ratio of 0.23. To manage this ratio over time, the plan has:

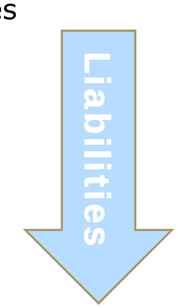




- Increased Maximum Equity Allocation
- Added Allowance for New Asset Classes

- Contributed Above Minimum Actuarially Required

- Created New Participant Tiers
- Benefit Formula Adjustments
- Cost of Living Adjustments
- Changed Eligibility



Thank you!

Questions?

Kimberlene Matthews, CFA®, FSA, EA

Director of Pension Solutions

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Director of Pension Solutions Kim Matthews is responsible for the development and distribution of asset liability management solutions across PNC Institutional Asset Management. She works closely with defined benefit plan sponsors to develop tailored strategies to meet their objectives.

Prior to assuming her current position, Ms. Matthews served as a pension risk strategist with Northern Trust's outsourced chief investment officer group. Previously she held positions with Aon Hewitt Investment Consulting and with Mercer.

She earned a BS degree in actuarial science and finance from the University of Illinois at Urbana-Champaign. She also earned the Chartered Financial Analyst® designation, is an Enrolled Actuary, and is a Fellow of the Society of Actuaries.

BIOGRAPHY

Steven Eitel
Senior Investment Advisor
PNC Institutional Asset Management

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Steve Eitel is Senior Vice President and Senior Institutional Investment Advisor at PNC Institutional Asset Management, based in Chicago. As a senior investment professional, he coordinates the delivery of products and services to clients in the central region of the United States. His key responsibilities include maintaining close working relationships with board members, managing portfolios in accordance with investment policy statements, and providing recommendations for changes in asset allocation based on each client's unique needs.

Mr. Eitel has been working with PNC for 14 years. Prior to joining PNC, he was a client portfolio manager and senior client service director for Allegiant Asset Management and JP Morgan Asset Management.

He has more than 24 years of investment experience, holds a master’s degree in finance from Northern Illinois University, and a BS degree in Management Information Systems & Business Administration from Illinois State University.

Disclosure

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