Negative Net Cash Flow: Red Flag or Red Herring?

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Agenda

I. Negative Net Cash Flow: Red Flag or Red Herring?

II. An Investment Director's Perspective

Negative Net Cash Flow:
Red Flag or Red Herring?

1. What is Negative Net Cash Flow?
2. Current Landscape of Public Pensions
3. Red Flag vs. Red Herring

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What is negative net cash flow?

Net Cash Flow =
Contributions – Benefits – Expenses

- **Contributions** refer to inflows from the plan sponsor and participants into the plan
- **Benefits** include any distributions paid out to plan participants
- **Expenses** can include investment, administrative, and other costs associated with maintaining a defined benefit plan
- Note: Investment returns are not factored into the net cash flow equation

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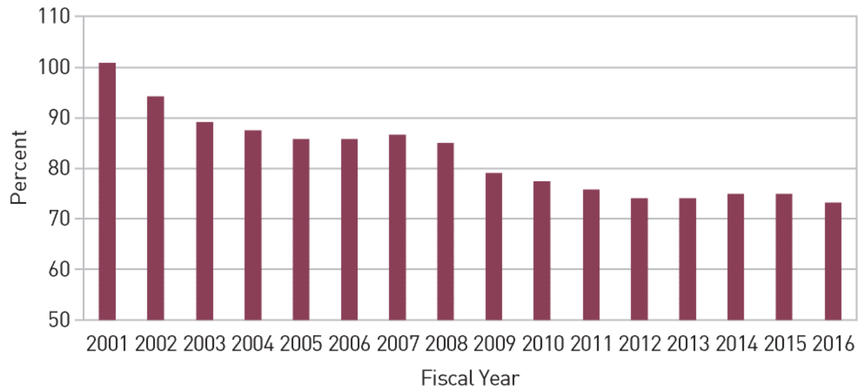
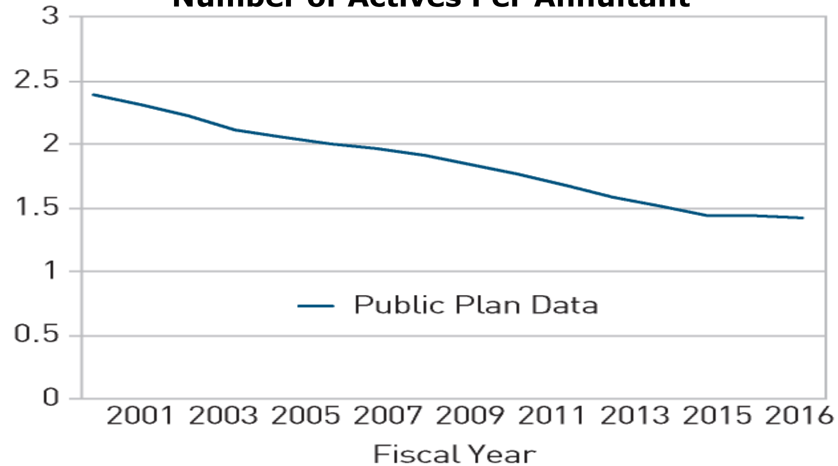
Current Landscape

- Funded ratios have been in decline over the past 20 years
- Funded status does not necessarily track the stock market, as seen in 2001-2008 and 2009-2016
- A steady decline in the number of actives per annuitant over the past 30 years reduces contributions while increasing distributions

Actuarial Funded Level for State and Local Pensions



Number of Actives Per Annuitant



Source: Public Plans Data. 2001-2016. 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/.

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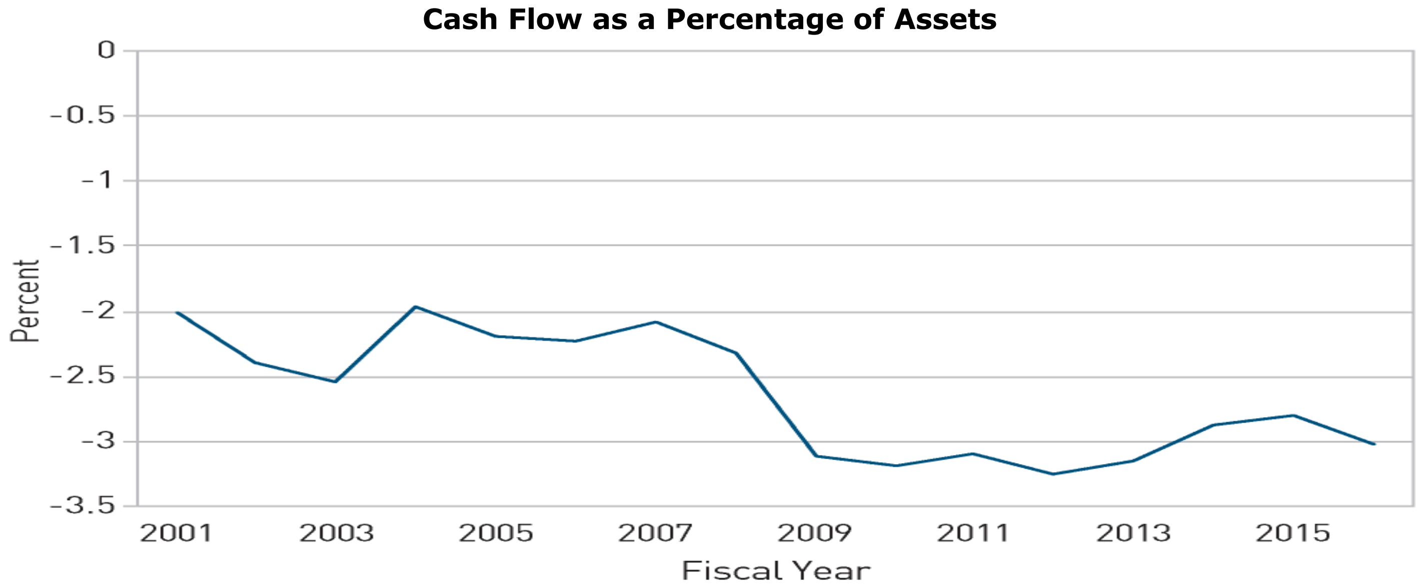
Current Landscape (continued)



- Looking at U.S. public pension plans in aggregate, cash flow has steadily declined as a percentage of assets
- Cash flow became “more negative” in the great recession as the markets fell, but did not rebound with the recovery

Source: Public Plans Data. 2001-2016. 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/.

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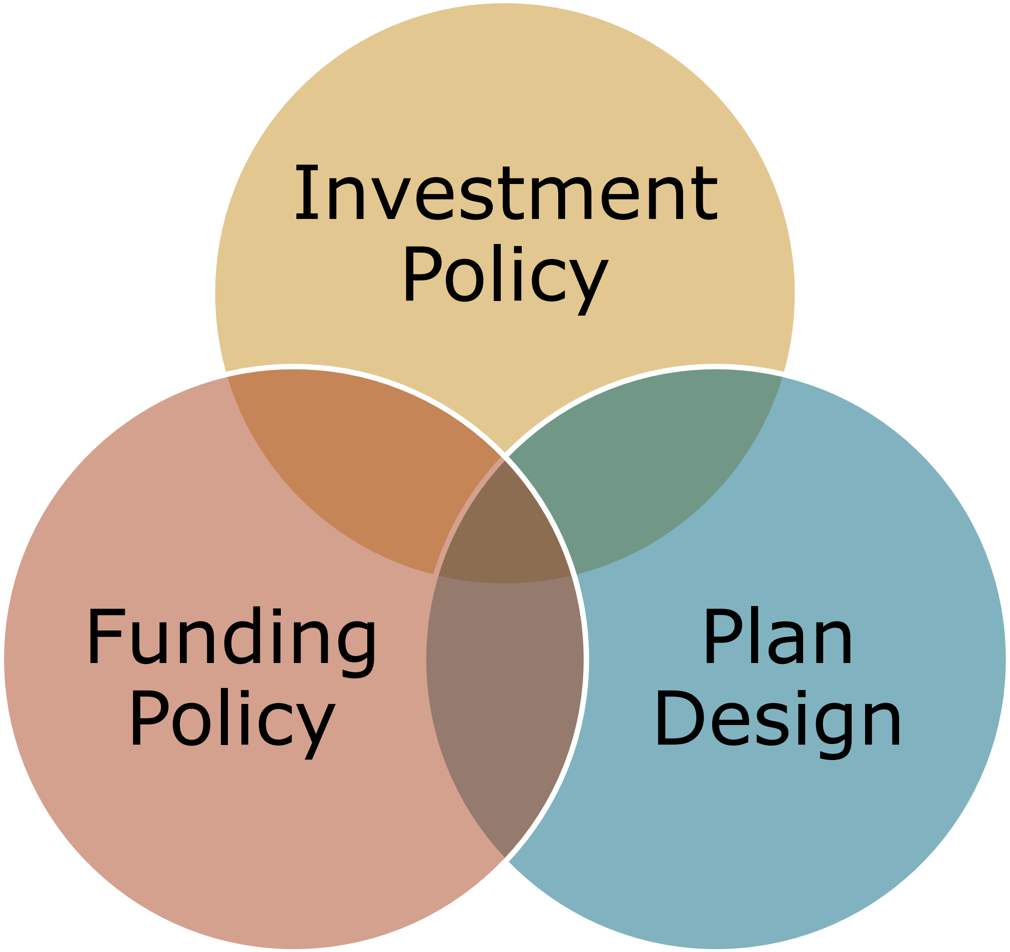
Red Flag or Red Herring?

	Low Capacity for Contributions	Mid Capacity for Contributions	High Capacity for Contributions
Below 60% Funding Status	Red Flag		
60–80% Funding Status			
Above 80% Funding Status			Red Herring

- A quick assessment of two key indicators can help to determine if negative net cash flow is a material or non-material concern:
  - Funding Status
  - Capacity of the Plan Sponsor to make future contributions

Three Key Levers



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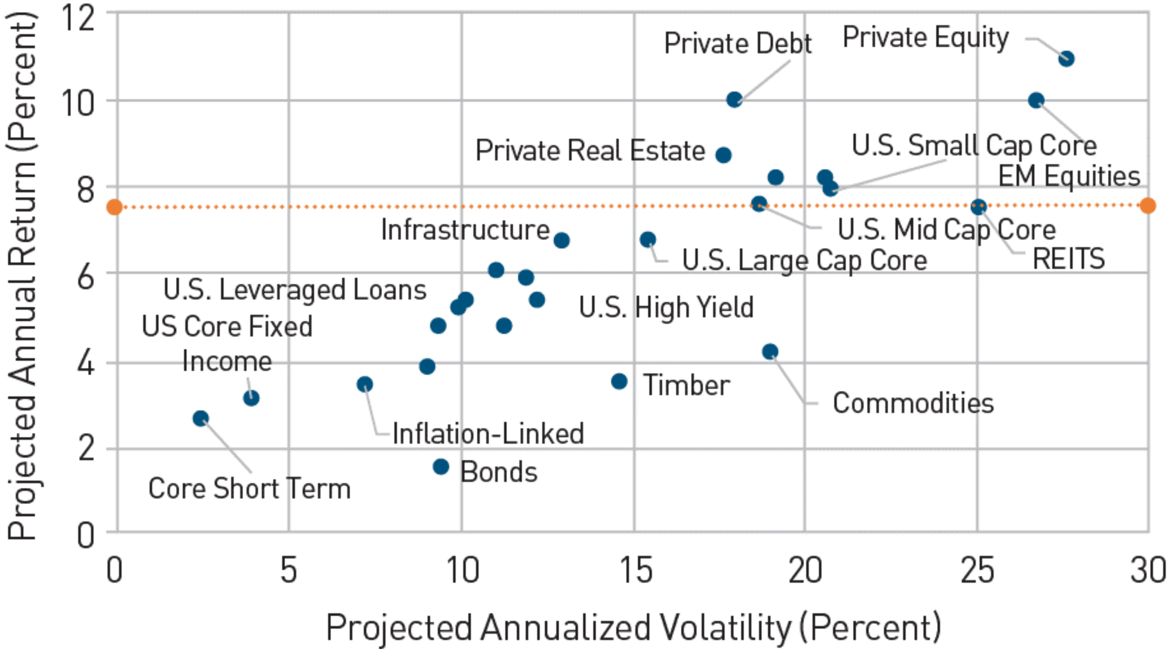
Investment Lever

- **Focus:** Increasing returns or mitigating negative cash flow effect
- **First Approach:** Targeting investments with greater expected returns
- **Second Approach:** Targeting more liquid asset classes

Risk-Reward Spectrum Using PNC's 2018 Capital Market Assumptions



The projections and other information regarding potential future events or investment returns are hypothetical in nature, do not represent any specific product or strategy, do not reflect actual investment results and are not guarantees of future results.

Funding Policy Lever

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Funding Policy

- This lever focuses on increasing contributions or increasing the capacity for contributions
- Methods for doing this include:
  - Allocating additional funds from the operating budget to increase contributions on a yearly basis
  - Implementing special taxes that flow directly into the Plan, such as an incremental tax on alcohol or tobacco

Plan Design Lever

Plan Design

- This lever focuses on changing the Plan, such as:
  - Reducing benefits or features for actives or retirees
  - Closing or freezing the Plan
  - Moving to a different Plan structure

- The point of this lever is generally to reduce the influx of new liabilities into the Plan

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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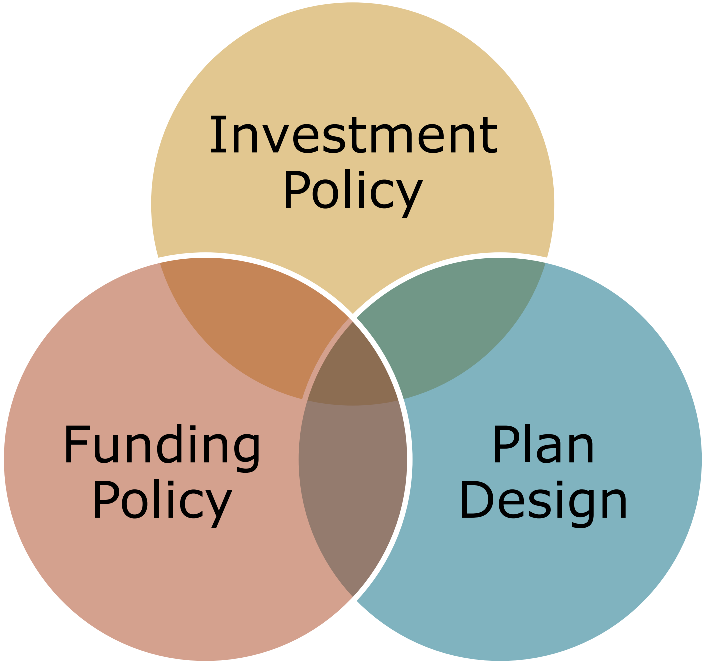
Interaction of the Three Levers

- **Example 1:** Investment policy can directly impact funding policy, and vice versa
- **Example 2:** Changes to plan design can have indirect impact on investment policy
- **Example 3:** Making changes to plan design can directly impact funding requirements



Key Takeaways

- Negative net cash flow is a reality of public pension plans, and is not likely to change in the near to medium term
- 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 to help have the intended effect: they should not be considered in isolation
- 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

1. An Imperfect Storm
2. Case Study – Scenario Analysis & The Lever Process
3. Case Study – Key Considerations

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Case Study: City Public Pension Plan
Red 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 2000-2010, 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
- **What is the actuary projecting as to when it will be resolved?** Long term fix, still considering options

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An Imperfect Storm: 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, imbedded 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 annuitants.

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An Imperfect Storm: 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 as assumed rates of returns were 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 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.

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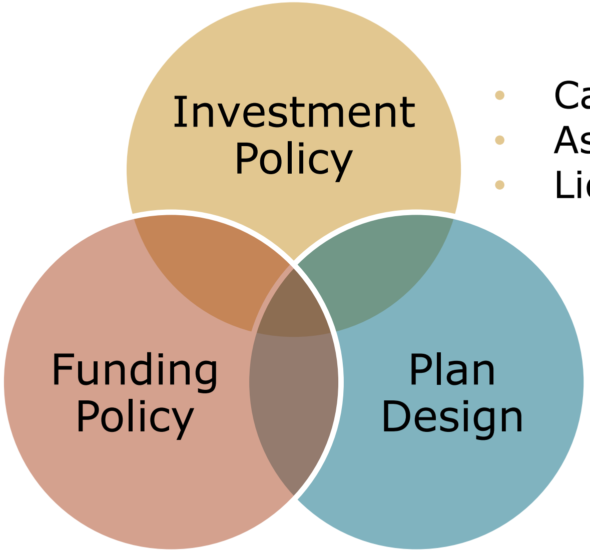
Case Study: The Lever Process

Stakeholders Must Be Coordinated

- To be most 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: A Ongoing Process

- Ongoing scenario analysis tests projected effect of moving different levers:



- Capital Market Assumptions
- Asset Allocation
- Liquidity Management

- Budget Changes
- Other Revenue Sources
- Amortization Periods

- Benefit Formulas
- Cost of Living Adjustments
- Eligibility

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Case Study: City Public Pension Plan (continued)

Key Considerations

- Are the decision makers able to take on additional risk?
- Does negative cash flow pressure require the Plan to maintain a higher percentage of liquid assets, thereby lowering expected returns?
- Does the operating budget have room to make larger contributions?
- Are there alternative ways to raise additional revenue, such as special taxes?

Thank you!

Questions?

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Caleb is the National Investment Director for PNC Institutional Advisory Solutions (IAS). He is responsible for oversight and leadership of IAS investment professionals and ensuring consistent delivery of investment advice and open architecture platform solutions.

He also represents PNC's institutional business as the senior investment spokesperson, supports the communication of Institutional Asset Management's thought leadership, and is the Chairman of the Institutional Investment Policy Committee. In addition, he is a contributing member on all senior research and strategy committees.

Caleb's industry experience stretches back to 2002 and prior to assuming his current position, Caleb served as a Relationship Manager with PNC Capital Advisors and earlier as an Associate Investment Advisor with PNC Wealth Management®.

Caleb earned a B.S.B.A. in finance and banking from the University of Missouri-Columbia and holds the Certified Trust and Financial Advisor designation.

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Steve is Senior Vice President and Senior Institutional Investment Advisor at PNC Institutional Asset Management based in Chicago. As a senior investment professional, Steve coordinates the delivery of products and services to clients in the central region of the U.S. 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.

Steve has been working with PNC for 14 years. Prior to joining PNC, Steve was a Client Portfolio Manager and Senior Client Service Director for Allegiant Asset Management and JP Morgan Asset Management.

Steve has over 24 years of investment experience, holds a Masters degree in Finance from Northern Illinois University, and a B.S. degree in Management Information Systems & Business Administration from Illinois State University.

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