

Stress Testing Public Pensions: NCSL Legislative Fiscal Directors Pre-Conference

Perspective of the Pennsylvania
Independent Fiscal Office (IFO)

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Today's Discussion

- ▶ IFO work involving stress testing is connected to its analysis of pension-related legislation.
 - No analysis without legislative proposal changing pensions.
 - Based on the statutory mandate for a “risk transfer analysis.”
- ▶ Implementation fits within the constraints that often accompany the legislative process.
 - Tight timeframes for turnaround.
 - Dependent upon data from pension system actuaries.
- ▶ Results used in an analysis of a major benefit redesign.
 - Analysis confirmed that the redesigned plan reduces investment risk from the perspective of plan funders (employers).
 - Could such analyses be broadened and institutionalized?

Analysis of Pension Legislation

- ▶ Pension analysis added to IFO duties in 2016.
 - Statute changed the entity responsible for issuing “actuarial notes” on pension legislation.
 - Previously, a commission with executive and legislative branch appointees issued the actuarial notes.
- ▶ The 2016 statute requires a risk transfer analysis for certain actuarial notes.
 - Mandated for legislation making substantial benefit design changes. Does not specify how such analyses are to be performed.
 - Timeframe for analysis is influenced by the legislative schedule.

Sensitivity Analysis

- ▶ The risk transfer analysis is based on investment risk.
 - Quantifies risk mitigation from the perspective of the plan funder. Plan members would assume additional investment risk.
 - There are other forms of risk such as: asset/liability mismatch, longevity and demographic, interest rate, and contribution risks.
- ▶ Implemented using a sensitivity analysis.
 - Examined the impact of one percentage point and two percentage point reductions in the assumed rate of return.
 - Quantified the projected change in employer contributions under the current earnings assumption and the lower rate.
 - Sensitivity analysis is consistent with Actuarial Standard of Practice No. 51.

Implementation

- ▶ Actuaries supplied projections and other data used in the analysis.
 - An IFO-contracted actuary helped shape the request and interpret the data, which was supplied by actuaries for the two major state pension systems.
 - The IFO performed additional analysis using the data and projections supplied by the actuaries.
- ▶ A broader analysis could be performed with additional time and resources.
 - Multiple deterministic earnings assumptions could be employed.
 - Stochastic analysis could help establish the distribution of outcomes and the probabilities associated with those outcomes.

Results of the Analysis

- ▶ Legislation (now Act 5 of 2017) proposed a significant benefit redesign for new employees beginning in 2019.
 - Benefit options include hybrid DB/DC plans or DC-only plan.
 - DB changes provide lower multipliers and higher retirement ages.
- ▶ Analysis confirmed the mitigation of investment risk.
 - Employer contributions under the new law become less sensitive to a lower earnings assumption, but the effect phases in over time. Little impact in the initial years after enactment.
 - In the long term, for affected new employees, the potential increase in employer contributions associated with a lower earnings assumption would be mitigated by about 50% under the new benefit design compared to the old design.

Additional Takeaways

- ▶ Computing the sensitivity of employer contributions to investment returns under the pre-reform baseline is a necessary component of the risk transfer analysis.
- ▶ This information is revealing and provides the type of insight that could motivate use of additional scenarios.
 - A one percentage point reduction in the assumed rate of return could increase total employer contributions by \$49 billion through FYE 2050.
 - This result assumes that actuarially required contributions are made based on the current funding policy. If that assumption is relaxed, the funded ratio would decline.

Institutionalized Stress Testing?

- ▶ The 2017 PA statute created a commission that includes a duty to evaluate stress testing.
 - Evaluation motivated by the recommendations of the Society of Actuaries Blue Ribbon Panel.
 - SOA panel recommended 30-yr proj. comparing baseline and alternate scenarios of +/- 3 PPTs from assumed rate. Financial measures include employer contributions and various ratios.
- ▶ Some observers raise questions about stress testing.
 - Can the analysis be presented with sufficient context to make it relevant to policymakers?
 - Does it result in information overload? How will it be used?

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