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

Perspective of the Pennsylvania Independent Fiscal Office (IFO)

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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?
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.
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.
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.
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.
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.
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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