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Foundation for Public Pensions Risk Reporting

Risk reporting for public pensions should be accessible to all stakeholders and designed to inform planning and decision making. As a starting point, standard risk reporting should be based on government accounting and actuarial standards, and focused on investment and contribution risks to help policymakers plan for adverse economic conditions.^a

Specifically, risk reporting should assist government officials and other stakeholders in assessing the impact of investment risk on government budgets; evaluating the impact of contribution risk on pension system solvency; quantifying the range of likely costs for current benefits; and assessing the impact of market volatility on expected employer contributions.^b Risk assessment and reporting should be tailored to the individual features of the pension plan 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).^{c, d}
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).^{e, f, g}
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).^h
4. Sensitivity of total normal cost and employer normal cost for new benefits earned under a range of different investment return assumptions.ⁱ
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.^j

This starting point for risk reporting can also be applied as a decision-making framework for evaluating proposed policy changes, assessing the impact of changes already adopted, and to develop more explicit policies to actively monitor and manage key risks.^k

^a Investment and contribution risk as cited and defined in §3.2 of the Actuarial Standards Board (ASB), Actuarial Standard of Practice (ASOP) No. 51: Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions (2017). Additional risks identified in §3.2 include: asset/liability mismatch, interest rate, and longevity risks.

^b Analysis should be based on the individual features of the pension plan, including benefit design, financing arrangements, and legal framework. Measurements for scenario analysis should include, at a minimum: assets, liabilities, and funded ratios; employer contributions as a share of payroll and as a share of revenue; and total contributions, benefit payments, and the ratio of operating cash flow to assets.

^c GASB Statement No. 67, Financial Reporting for Pension Plans (2014) requires disclosures of net pension liabilities, calculated using the plan's discount rate as well as discount rates that are 1-percentage-point lower and 1-percentage-point higher than the current rate.

^d The Proposed Revision of ASOP No. 4 -- Measuring Pension Obligations and Determining Pension Plan Costs or Contributions (March 2018), introduces an investment risk defeasement measure. The measure is defined as a calculation of liabilities based on benefits accrued as of the measurement date using a discount rate consistent with market yields for a hypothetical bond portfolio with cash flows that reasonably match future benefit payments. ASOP No. 51, adopted in September 2017 and currently in effect, suggests a comparison of a similar measure to a funding or pricing measure as a potential risk assessment method, but leaves the use and calculation of such a measure up to the professional judgement of the actuary.

^e The 5% nominal return assumption is designed to provide a reasonably likely downside scenario that equates to a 3% real return, plus 2% for expected inflation, based on current Congressional Budget Office estimates. Using the 25th percentile return allows the low-return scenario to be modeled based on the plan's specific asset allocation, investment assumptions, and expected volatility in returns. Scenario analysis of lower long-term rates of return using stochastic simulation can provide similar information while also reflecting real-world market volatility.

^f Economic and financial market assumptions included in the Federal Reserve's *2017 Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules* may be used for asset shock analysis. The resulting scenario generates an initial loss in asset value of approximately 20-25% for the typical public fund portfolio, followed by a three-year market recovery period with annual returns of about 11-12% on average over that time frame.

^g Additional scenarios may include projections at +/-1% of the assumed rate or an asset shock scenario, followed by a period of market recovery, where the long-term rate of return averages to the expected rate of return over time. Baseline projections, where all investment and actuarial assumptions are met, can be applied to provide a point of comparison for all scenarios.

^h As a supplemental disclosure, plans that have not received the full Actuarially Determined Employer Contribution (ADEC) from plan sponsors in a given year should also be required to disclose an explanation for the shortfall, and an estimate of its fiscal impact based on a consistent methodology developed by the plan actuary and/or budget officials.

ⁱ Investment return assumptions may include, for example, +/-1% of the expected rate of return and a 5% rate of return (or the 25th percentile of projected returns). Sensitivity of normal cost should incorporate the effects of any risk-sharing policies built into the plan design including variable cost of living adjustments (COLAs) and employee contribution rates.

^j Stochastic analysis can be designed to provide multiple trial simulations - based on the fund's actual investment policy and asset allocation - in which the long-term returns matches the expected rate but annual returns over the forecast period vary.

^k Policies to actively monitor and manage key risks could include setting thresholds, or "risk boundaries," for specific measures (e.g. funded status) and requiring corrective actions (e.g. increased contributions) if a plan falls below these thresholds. Risk boundaries can be as simple as minimally acceptable funded ratios or contribution levels, or more complex measures based on the likelihood of breaching these boundaries.