Public Pension Risks and Risk Sharing

November 19, 2020

Don Boyd*, Gang Chen**, and Yimeng Yin***

The State and Local Government Finance Project
Center for Policy Research, Rockefeller College, University at Albany

*Co-Director (dboyd@albany.edu);
** Co-Director and Associate Professor (gchen3@albany.edu)
*** Economic Researcher and Modeler (yyin@albany.edu)
Major risks to pension funding

- Investment returns
- Government ability to pay contributions
  - *These risks are correlated*
- Both are worrisome in the Covid-19 environment
- Some risk- and cost-sharing policies can lower the investment-return risks *to the employer*
- Stress-testing government finances and pension finances can help identify and manage the fiscal risks
Probability that employer contributions will rise at least 5% of tax revenue within 30 years
(At least doubling the initial employer contribution)

*Prototypical pension plan*

<table>
<thead>
<tr>
<th>Type of Analysis</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical actuarial report</td>
<td>Not discussed</td>
</tr>
<tr>
<td>Ordinary &quot;monte carlo&quot; analysis</td>
<td></td>
</tr>
<tr>
<td>Sales-tax-dominant government</td>
<td></td>
</tr>
<tr>
<td>Income-tax dominant government</td>
<td>25%</td>
</tr>
</tbody>
</table>

Conclusions when correlated fiscal and investment risks are considered.

Assumes: 7.5% expected return, 12% standard deviation, initial ERC 5% of taxes, 15-year open constant-dollar amortization, average demographics.

Investment return risks in the Covid-19 era

● Crash then recovery for plan fiscal years ending in June 2020:
  ○ Milliman market value funded ratios 100 largest public plans:
    ■ 74.9% Dec 2019
    ■ 66.0% !! crash (Mar 2020)
    ■ 71.2% Jun 2020
  ○ Pew estimates typical returns fell 4-5% short in year ending June 2020 - bad but not catastrophe

● S&P 500 up ~5.5% since June despite recent declines

● But risks abound:
  ○ Near-term Covid-19 and econ downsides (next section)
  ○ Low interest-rate environment (Sheiner, Lenney, Lutz) appears here for a long time
  ○ Plans ~70+% invested in risky assets. Unless they lower return assumptions, they need to be.
  ○ Public plans perched on a precipice.
Low interest rates require lower assumed returns or more investment risk (or beat-the-market skill)

- Decline in risk-free interest rates (green line), coupled with...

- Only minimal decline in assumed returns (blue line), means...

- Plans must seek a large risk premium (maroon dashed line), by...

- Investing in riskier assets, and...

- Risking both much better and much worse outcomes

Tax revenue risks

● Economic news, while awful has been better than worst early estimates. Labor market better than expected. Stock market has not collapsed.
● State tax revenue in Covid-19 period (Mar-Aug 2020) down 3.6% in median state vs. year ago. PIT -1.3%, sales tax -2.6%, corporate -10.8%.
● Moody’s Analytics alternative severe scenario: biggest factors are (1) Covid-19 resurgence and lockdowns, (2) no fiscal stimulus; both seem quite realistic. They estimate combined state-local revenue-Medicaid shortfall over 2020-2022 of $450b in baseline, $650b in severe.
● Major related risks: timing and effectiveness of vaccine, stock market
● Hard policy choices after fiscal stimulus resolution known. Pension benefits and contributions will be on the table. (S&L contributions currently ~$170b annually.)

Risk-sharing policies can provide meaningful protection

- Some contingent COLA and employee-contribution policies, *when fully effective*, can reduce risk of large employer contribution increases.

- More-complex or radical policies can achieve greater risk reduction.

- Important to remember that risk-sharing means risk-transfer.

- Motivating factor for introducing risk-sharing often is immediate cost reduction.

Plan is assumed to be 75% funded at beginning of simulation.
Conclusions

- States and localities face major economic, fiscal, and pension investment risks. They are correlated in ways that exacerbate fiscal pressure.
- Public plans are poised to be hit hard if markets fall.
- Some risk- and cost-sharing policies can transfer meaningful risk and cost from employers to plan members. They need to be evaluated from multiple perspectives including impact on employer attractiveness.
- Stress testing can help identify and manage fiscal risks and pension risks.
- Better to have these procedures and policies in effect before downside risks occur than wish so afterward.
- Stay tuned for our Arnold Ventures-supported guidebook on risk-sharing and for work with and for the Pew Charitable Trusts on these issues.