Building Safeguards Into Pension Obligation Bonds

Webinar

September 22, 2021
Agenda

- Logistics and Introductions
- Review of POBs, Safeguards
- Q&A
Logistics

- Attendees in listen only mode.

- Question are welcome. Submit using “Question” function on control panel.

- Audio/technical issues during webinar: call GoToWebinar at 1-800-263-6316.

- Webinar replay and slides will be posted at nirsonline.org/events.
Speakers

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What is a Pension Obligation Bond (POB)?

- Actuarially Determined Contributions to a pension plan consist of:
  - **Normal Cost** = cost of benefits being earned each year by active members
  - **Past Service Cost** = amount needed to fully fund plan over time

- Plan sponsor issues taxable municipal bonds to partially or fully fund the plan
- Bond proceeds (less issuance expenses) are deposited into the pension trust
- Unfunded accrued liability becomes smaller or zero, so **Past Service Cost** becomes smaller or zero
- But plan sponsor must pay **debt service** on the bonds (which is likely a smaller amount)

$7m + $24m = $31m

$7m + $21m = $28m
Why the current interest in POBs?

- Bonds are at historically low interest rates
- Pension trusts typically earn higher long-term returns than bond rates
Potential for savings over the term of the bond

Debt service on bonds replaces past service cost portion of annual contributions.

Earnings rate in pension trust should be higher than bond rate.

Long Range Forecast, 6.25% Investment Earnings

- Cost Without POB
- Normal Cost
- Past Service Cost
- Debt Service Payments
What’s the rub?

There is no guarantee that the pension trust \textit{will} earn more than the bond rate.

And a POB means there will be more assets that are subject to market risk.
Increased risk #1

Market downturns could cause plan to become underfunded; plan sponsor would face past service cost PLUS debt service payments

Overall cost to plan sponsor could be higher with the POB than without
Increased risk #2

Market could perform so strongly that the plan would have become fully funded WITHOUT a POB.

Generally can’t recover surplus from an overfunded plan.

Overall cost to plan sponsor could be higher with the POB than without.
Stochastic analysis is a must

- Run thousands of long-range “real world” investment return scenarios
- Quantify impact of market ups and downs on key financial metrics
- Measure risks versus rewards of a POB
- Explore how changes to the POB package impact the range of potential outcomes
Stochastic analysis: overall cost / savings

Metric:

Output from 10,000 scenarios:

95th percentile
95% of outcomes are this amount or lower

75th percentile
75% of outcomes are this amount or lower

Median
50% of outcomes are this amount or lower

25th percentile
25% of outcomes are this amount or lower

5th percentile
5% of outcomes are this amount or lower

Net Present Value of Plan Sponsor Cost ($ millions)

No POB  With POB

466  916
737  976
469  629
Stochastic analysis: other metrics

**Question:** How well funded will the plan be in 30 years?

**Metric used to address question:**

- **95th percentile**
  - 95% of outcomes are this amount or lower
- **75th percentile**
  - 75% of outcomes are this amount or lower
- **Median**
  - 50% of outcomes are this amount or lower
- **25th percentile**
  - 25% of outcomes are this amount or lower
- **5th percentile**
  - 5% of outcomes are this amount or lower

**Funded Ratio at End of Projection Period**

<table>
<thead>
<tr>
<th>Metric</th>
<th>With POB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No POB</td>
</tr>
<tr>
<td>95th percentile</td>
<td>350%</td>
</tr>
<tr>
<td>75th percentile</td>
<td>292%</td>
</tr>
<tr>
<td>Median</td>
<td>161%</td>
</tr>
<tr>
<td>25th percentile</td>
<td>107%</td>
</tr>
<tr>
<td>5th percentile</td>
<td>82%</td>
</tr>
</tbody>
</table>
## Stochastic analysis: other metrics

**Question:** What's the worst possible one-year outcome?

**Metric used to address question:**

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>95th percentile</td>
<td>95% of outcomes are this amount or lower</td>
<td>88</td>
</tr>
<tr>
<td>75th percentile</td>
<td>75% of outcomes are this amount or lower</td>
<td>95</td>
</tr>
<tr>
<td>Median</td>
<td>50% of outcomes are this amount or lower</td>
<td>94</td>
</tr>
<tr>
<td>25th percentile</td>
<td>25% of outcomes are this amount or lower</td>
<td>96</td>
</tr>
<tr>
<td>5th percentile</td>
<td>5% of outcomes are this amount or lower</td>
<td>89</td>
</tr>
</tbody>
</table>

**Highest One Year Cost ($ millions):**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>No POB</th>
<th>Baseline</th>
<th>Lower Issuance Amount</th>
<th>Higher Bond Rate</th>
<th>Shorter Bond Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>29</td>
<td>29</td>
<td>30</td>
<td>42</td>
<td>32</td>
</tr>
</tbody>
</table>

**Table of scenarios:**

- Baseline
- Lower Issuance Amount
- Higher Bond Rate
- Shorter Bond Period

**Legend:**

- POB (Production Order Book)
- No POB
- Baseline
- Lower Issuance Amount
- Higher Bond Rate
- Shorter Bond Period
1. The invested POB proceeds might fail to earn more than the interest rate owed over the term of the bonds, leading to increased overall liabilities for the government.

2. POBs are complex instruments that carry considerable risk. POB structures may incorporate the use of guaranteed investment contracts, swaps, or derivatives, which must be intensively scrutinized as these embedded products can introduce counterparty risk, credit risk and interest rate risk.

3. Issuing taxable debt to fund the pension liability increases the jurisdiction’s bonded debt burden and potentially uses up debt capacity that could be used for other purposes. In addition, taxable debt is typically issued without call options or with "make-whole" calls, which can make it more difficult and costly to refund or restructure than traditional tax-exempt debt.

4. POBs are frequently structured in a manner that defers the principal payments or extends repayment over a period longer than the actuarial amortization period, thereby increasing the sponsor’s overall costs.

5. Rating agencies may not view the proposed issuance of POBs as credit positive, particularly if the issuance is not part of a more comprehensive plan to address pension funding shortfalls.
Safeguard #1: do your homework

- Consult the experts
  - Actuaries
  - Financial advisors
  - Investment advisors
  - Bond counsel
- Quantify the risks
- Make sure all of the stakeholders fully understand the risks and the rewards
- Be thoughtful with the details
Safeguard #2: plain vanilla bond structure

- Avoid “complex instruments”
- Level payment structure
- Match period of debt with period for amortizing unfunded accrued liability
- Avoid taking one-time funding holiday in year POBs are issued
- Don’t think of a POB as a way to solve short-term budget issues
- Limit the bond issuance to an amount that is well below the issuer’s debt capacity
- Consult with financial advisor regarding the likely credit rating implications
Safeguard #3: conservative actuarial assumptions

- Expert thinking about future returns has been steadily dropping
- Adopt updated mortality tables
- Conduct an experience study
Safeguard #4: dollar cost averaging for bond proceeds

- Gradually invest proceeds over a multi-quarter period
- Give up potential for near-term market upswing
- Avoid negative impact of near-term market downturn
Safeguard #5: pay the normal cost when modestly overfunded

- An overfunded plan often may be able to use a surplus to partially or fully subsidize the normal cost and take a contribution holiday
- Change the funding policy to continue to pay the normal cost if the plan is more than 100% funded but less than some trigger threshold (e.g., 130%)
- Deliberately build up a cushion of surplus in “good times”
- May exacerbate likelihood that plan becomes extremely overfunded
- Surplus in the pension trust generally cannot be withdrawn for other uses
Safeguard #6: establish a reserve fund for budget stability

- In the FY the POBs are issued, divert the contribution to a new reserve fund
- Invest the reserve fund in safe, low-yielding investments
- Use the reserve fund if a market downturn causes the contribution to go up by more than a trigger amount
  - Example: reserve fund trigger = 5%; Actuarially Determined Contribution climbs 8%
  - Operating budget pays first 5%
  - Reserve fund pays remaining 3%
- Add to the reserve fund if a market upswing causes the contribution to go down
- Reserve fund investments could be tapped for other purposes, unlike trust assets
- Give up potential for higher investment income
- Avoid budgetary volatility from market swings
Reserve fund in action

If the pension contribution goes up by more than x% from one year to the next because of market losses, the plan sponsor pays the first x% and the reserve fund pays the rest.

The reserve fund is created with the contribution that would have been made the year the POBs are issued.

If the pension contribution falls because of favorable investment returns, the savings are diverted to shore up the reserve fund.
Safeguard #7: safeguard the safeguards

- Ensure that funding policies are formally adopted
- Preserve the thought processes behind each safeguard
- Statutory oversight / regulations may exist
  - Connecticut law: plan sponsor is required to pay Actuarially Determined Contributions once a POB has been issued; cap on length of amortization period for Unfunded Accrued Liability
Caveats

- The analyses shown herein are illustrative only. Each plan sponsor considering a Pension Obligation Bond should conduct their own rigorous analysis using their own professional advisors.

- There may be statutory limitations on the issuance of Pension Obligation Bonds, pre-issuance regulatory oversight, post-issuance conditions, and so forth; each plan sponsor should be aware of the applicable statutory environment.

- Each pension plan is different, so the impact of any of the “safeguards” described herein may have a greater or smaller impact.

- Using any or all of the “safeguards” may not protect a given pension plan from the impact of adverse market experience.

- The views expressed herein are those of the author, not of Milliman, Inc.
Case Study:
How one town quantified & mitigated the risks

https://us.milliman.com/-/media/milliman/pdfs/2021-articles/4-1-21-pob-white-paper.ashx
Thank you

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