AMORTIZATION ISSUES: A MAJOR SOURCE OF UNDERFUNDING

Presented By:
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UNFUNDED LIABILITIES IN PUBLIC PENSION PLANS

• Somewhere in this country, there is a newspaper article on the unfunded liabilities in public pension plans every day.

• Many factors are mentioned as the source of these liabilities including:
  • Benefits that are too rich
  • Lack of investment returns
  • Plan sponsors not meeting statutory requirements

• How many of these article address “negative amortization”?

• This occurs when the statutory requirements are designed to defer contributions into future years
  • Plan sponsors can claim to be making required contributions even though their liability is growing uncontrollably
UNFUNDED LIABILITIES IN PUBLIC PENSION PLANS

• Negative amortization
  • Plan sponsor makes required contribution based on the normal cost and an amortization payment
  • The amortization payment is not large enough to cover the interest accruing on the unfunded liabilities
  • Example:
    • $27.5 million of unfunded liabilities using an investment return assumption of 7%
    • Unfunded liabilities accrue $1.925 million of interest each year
    • An amortization payment of $1.5 million does not cover the interest
    • The unfunded liabilities increases by $425,000 even though the required contribution is made
  • The contributions need to be sufficient to systematically pay down the liability or the unfunded liability will never be contained
AMORTIZATION OF UNFUNDED LIABILITIES

• The actuarial cost method determines the actuarial accrued liabilities.
• In the actuarial valuation, the accrued liability is compared to the actuarial value of assets.
• If the accrued liability is larger, unfunded liabilities exist and need to be paid down, similar to a mortgage.
• The amortization methods will determine if unfunded liabilities are paid down in an orderly manner.
• Many considerations when selecting an amortization method:
  • Level dollar or level percentage of payroll basis?
  • If level percentage basis, what is the payroll growth assumption?
  • Length of the amortization period?
  • Open (rolling) or closed amortization?
AMORTIZATION OF UNFUNDED LIABILITIES

• Level dollar or level percentage of payroll basis?
  • The level dollar approach produces an amortization payment that is always the same amount.
    • Becomes a smaller percentage of payroll over time.
  • The level percentage of payroll produces a payment stream that is designed to increase based on the expected growth in payroll.
    • Payments start out small and increase over time.
    • The actuary uses a payroll growth assumption to determine the payment pattern; the higher the assumption, the more the payment will increase over time.
    • How many people can tell me their current payroll growth assumption?
**AMORTIZATION OF UNFUNDED LIABILITIES**

- Length of amortization period?
  - Typically, funds rely on the statutory requirements in their state.
  - Periods that are too long reduce the fund’s ability to meet its obligations
    - In Texas, the contribution requirement is often a fixed amount and not based on sound principles.
    - Several plans have an amortization period of infinity meaning that the unfunded liabilities will never be paid off!
  - Many states, including Illinois, use an arbitrary date as their amortization period
    - This is an arbitrary date arrived at through the political process.
  - Amortization periods that end at an arbitrary date can be dangerous.
    - The plan is going to be around for a lot longer than this “end date.”
    - This date is often pushed back without any consideration of the affect on the plan or the municipality.
AMORTIZATION OF UNFUNDED LIABILITIES

- Open (rolling) or closed amortization?
  - An amortization with a finite period is called a closed amortization.
    - Is the entire unfunded accrued liability funded over the same period or are there multiple layers of unfunded liability that are in varying stages of repayment?
  - An open amortization is one that always uses the same number of years.
    - For example, Illinois Municipal Retirement Fund is going to an open 15 year amortization.
    - Opponents do not like it because it does not get you to 100% by any specific date.
AMORTIZATION OF UNFUNDED LIABILITIES

• Each plan sponsor should select an amortization approach that ensures the fund will be able to meet its obligations.
  • Relying on statutory requirements that are insufficient will dramatically increase the sponsor’s obligation over the long-term
  • Pay now or pay later
• Need to consider how all of the factors work together and select those that will help you succeed.
  • Cannot cherry pick the “cheapest” approach from each category.
• Once you have made a selection, stick with it and do not change the rules along the way.
  • Changing the rules will set you up for failure.
Example 1 – 25-Year Closed Amortization

- Example 1 – 25-Year Closed Amortization
- Unfunded Actuarial Liability = $27,500,000
- Interest Rate = 7.0%
- Impact of various payroll growth assumptions are below:

<table>
<thead>
<tr>
<th>Payroll Growth Rate</th>
<th>UAL Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0% (Level $)</td>
<td>$2,205,410</td>
</tr>
<tr>
<td>2.5%</td>
<td>$1,756,562</td>
</tr>
<tr>
<td>5.0%</td>
<td>$1,366,828</td>
</tr>
</tbody>
</table>
EXAMPLE 1 – 25-YEAR CLOSED AMORTIZATION

- How do the amortization payments change over time?
EXAMPLE 1 – 25-YEAR CLOSED AMORTIZATION

- What happens to the unfunded liabilities?
EXAMPLE 1 – 25-YEAR CLOSED AMORTIZATION

• Sum of total amortization payments
  • Level dollar = $55.1 million
  • 2.5% payroll growth assumption = $60.0 million
  • 5.0% payroll growth assumption = $65.2 million

• Unfunded liability at the end of 25 years
  • Level dollar = $0
  • 2.5% payroll growth assumption = $0
  • 5.0% payroll growth assumption = $0

• First year in which unfunded liability is less than $27.5 million
  • Level dollar = 2017
  • 2.5% payroll growth assumption = 2020
  • 5.0% payroll growth assumption = 2030
EXAMPLE 2 – 15-YEAR OPEN AMORTIZATION

- Example 2 – 15-Year Open Amortization
  - Unfunded Actuarial Liability = $27,500,000
  - Interest Rate = 7.0%
  - Impact of various payroll growth assumptions are below:

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<tr>
<td>0.0% (Level $)</td>
<td>$2,821,824</td>
</tr>
<tr>
<td>2.5%</td>
<td>$2,434,466</td>
</tr>
<tr>
<td>5.0%</td>
<td>$2,085,262</td>
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EXAMPLE 2 – 15-YEAR OPEN AMORTIZATION

• How do the amortization payments change over time?
EXAMPLE 2 – 15-YEAR OPEN AMORTIZATION

• What happens to the unfunded liabilities?
EXAMPLE 2 – 15-YEAR OPEN AMORTIZATION

• Sum of total amortization payments
  • Level dollar = $45.2 million
  • 2.5% payroll growth assumption = $45.8 million
  • 5.0% payroll growth assumption = $45.7 million

• Unfunded liability at the end of 25 years
  • Level dollar = $10.0 million
  • 2.5% payroll growth assumption = $14.7 million
  • 5.0% payroll growth assumption = $20.8 million

• First year in which unfunded liability is less than $27.5 million
  • Level dollar = 2017
  • 2.5% payroll growth assumption = 2017
  • 5.0% payroll growth assumption = 2017
Example 3 – 25-Year Open Amortization

- Example 3 – 25-Year Open Amortization
- Unfunded Actuarial Liability = $27,500,000
- Interest Rate = 7.0%
- Impact of various payroll growth assumptions are below:

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EXAMPLE 3 – 25-YEAR OPEN AMORTIZATION

- How do the amortization payments change over time?
EXAMPLE 3 – 25-YEAR OPEN AMORTIZATION

- What happens to the unfunded liabilities?
**Example 3 – 25-Year Open Amortization**

- Sum of total amortization payments
  - Level dollar = $45.8 million
  - 2.5% payroll growth assumption = $44.8 million
  - 5.0% payroll growth assumption = $42.0 million
- Unfunded liability at the end of 25 years
  - Level dollar = $18.5 million
  - 2.5% payroll growth assumption = $28.7 million
  - 5.0% payroll growth assumption = $41.7 million
- First year in which unfunded liability is less than $27.5 million
  - Level dollar = 2017
  - 2.5% payroll growth assumption = Never
  - 5.0% payroll growth assumption = Never
Questions?

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