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Pension Obligation Bonds Discussion
City of El Segundo
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Overview of California Pension Obligation Bonds

Tab 1
What is a Pension Obligation Bond ("POB")?

- A bond issued by a municipality from which the proceeds are used to reduce the accrued unfunded liabilities of its pension system (in this case, CalPERS)
- Because of the many variables a municipality must consider, no two situations are the same
- Bond proceeds are typically deposited into a retirement system (in the City’s case, CalPERS), and are managed in a similar manner to existing investments
What is a Pension Obligation Bond ("POB")? (continued)

- Target funding levels for POBs can range up to 100%
- If investment returns at a retirement system are higher than POB borrowing costs, budgetary savings to the municipality are very likely
- Unlike most municipal bonds, interest payments on POBs are generally taxable for purpose of federal income taxes, which results in higher interest rates than a similar tax exempt bond from the same issuer
Common Goals for POB’s

- Higher expected investment returns on investments at retirement system (e.g., 7% or 7.5%) than borrowing cost (e.g., 4%); this is sometimes referred to as “arbitrage”
- Shortening the time to pay off unfunded liabilities (e.g., 20 year bonds, vs 30 year amortization of unfunded liability with no bonds)
- Changing the payment pattern (e.g., a smooth pattern for bond repayment, vs an irregular pattern with no bonds). Smoother payment patterns make budgeting easier
- Raising the funded level of the pension plan (e.g., from 66% to 85, 90, or 100%)
- Up front budget savings has often been a goal elsewhere, but this doesn’t appear to be a goal of El Segundo
Legal Structure / Authorization of California POB’s

- Most commonly “Obligations imposed by law”
  - In CA generally issued as refunding bonds under Local Agency Refunding Law (CA Government Code 53580-53589.5, see also CA Constitution Article XVI, Section 18) to refund a portion of the issuer’s outstanding obligation to the pension fund
  - Because the outstanding pension obligation is considered an “obligation imposed by law” it is exempt from the California constitutional prohibition on cities or counties incurring a debt or liability without a vote
  - A validation action is needed to establish that the bonds, as refunding bonds, take on the same characteristics as “obligations imposed by law” as the pension obligation being refunded (CA Code of Civil Procedure 860-870.5)

- Other structures seldom used in CA, or only used in other states include: Appropriation contingent bonds; lease – leaseback bonds; voter approved general obligation bonds

Sources: CA Debt Issuance Primer (CDIAC); CA Govt Code; CA State Constitution; CA Code of Civil Procedure
Will the Pension Fund Have Returns Higher Than Borrowing Costs?

- Good chance pension investment returns will be higher than borrowing costs at some points, and lower than borrowing costs at other points.

- An extensive Boston College study in 2014 on pension bonds found:
  - As of February 2014, “over the period 1992-2014 – which includes both the financial crisis and the subsequent market rebound – the return was 1.5 percent” (i.e., annual retirement system investment returns were 1.5% above borrowing costs).

- However, a similar approach would produce different results at different dates:
  - “If the assessment date is the end of 2007 – the peak of the stock market – the picture looks fairly positive... If assessed in the middle of 2009 – right after the market crash – most POBs appear to be a net drain on government revenues. And, as of February 2014, the majority of POBs have produced positive returns due to the large market gains that followed the crisis.”

Historic CalPERS Investment Returns (Data per CalPERS)

- Past experience does not guarantee future results: many factors could change in the future
  - Over the past 10 years, lower inflation and inflation expectations have reduced both borrowing costs and expected returns
  - For a particular asset allocation (e.g., 60% equity, 40% bonds), pessimistic investment consultants are often forecast expected return about 100 basis points below the average, optimistic consultants often about 100 basis points above the average
## Potential Pension-Related Risks

<table>
<thead>
<tr>
<th></th>
<th>Pension No POB</th>
<th>Pension And POB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRE-ISSUANCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall taxable borrowing rates might increase</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Difficulty/delay with a validation suit</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>If delayed, authorization might expire</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>POST-ISSUANCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discount Rate - Assumed future investment returns at CalPERS (e.g., lowering discount rate)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Actual investment returns affect contribution rates</td>
<td>Yes</td>
<td>Yes, and invested assets are larger</td>
</tr>
<tr>
<td>Demographic assumptions such as expected longevity affect contribution rates</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>New unfunded liabilities may appear</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Contributions for normal cost for active employees may increase</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Careful Analysis and Simulations Can Help

- Careful analysis, simulations, and knowledge of CalPERS, its actuarial methods, and the City’s finances can help decide (regarding pension bonds):
  - Whether to issue
  - Sizing
  - Maturity
  - Amortization pattern (e.g., level debt service, or increasing 2% annually)
  - Credit structure and rating presentations
  - Effects of planned decrease in CalPERS discount rate from 7.5% to 7.0%, effects of potential future discount rate changes
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.

Source: GFOA - Pension Bond Risks Jan 2015
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.

Only risk #1 from GFOA is unavoidable for responsible California city issuers of **POBs**

Source: GFOA - Pension Bond Risks Jan 2015
POB Issuance Statistics

- Since 1986 approximately:
  - $106 billion in pension bonds have been issued
  - $27 billion issued in California
  - Bonds have been issued in 32 states
  - Post 2012, all POBs have been sold as fixed rate bonds
    - Prior to 2009, many other structures were sometimes used (variable rate, etc.)

Data Sources: MSRB EMMA, IPREO, SDC, Bloomberg, Boston College
States Where Pension Bonds Have Been Issued
Total Police & Fire Liabilities

Tab 2
Projected Police & Fire Liabilities, Assets & Unfunded Liabilities

- Projections in this chart are from the August 2017 CalPERS actuarial study, as of 6/30/16
- Future cashflows discounted at 7.375% show at 61.0% funded ratio and $101.7 million of unfunded liabilities

![Chart showing Liabilities, Assets & Unfunded](source: CalPERS August 2017 Actuarial, as of 6/30/16)
Projected Police & Fire Unfunded Liabilities

Effects of Different Discount Rates

- Many retirement systems have decreased discount rates, commonly by 25-50 basis points; cumulative changes are often larger, e.g., 100 basis points
- CalPERS used a 7.375% discount rate and 61% funded ratio in its August 2017 study
- CalPERS is moving to a 7.0% discount rate, phased in through fiscal year 2020-21. A lower discount rate would produce higher unfunded liabilities and a lower funded ratio, e.g., 58.3% funded using a 7.0% discount rate

### Unfunded Liabilities at Different Discount Rates

Source: CalPERS August 2017 Actuarial, as of 6/30/16

<table>
<thead>
<tr>
<th>Discount Rate</th>
<th>Unfunded Liabilities (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.000%</td>
<td>$151</td>
</tr>
<tr>
<td>7.000%</td>
<td>$114</td>
</tr>
<tr>
<td>7.375%</td>
<td>$102</td>
</tr>
<tr>
<td>8.000%</td>
<td>$84</td>
</tr>
</tbody>
</table>
CalPERS’ Police Amortizations & Potential POBs

Tab 3
Police CalPERS’ Amortization (August 2017 Actuarial)

- CalPERS’ amortization is a projection, and will likely change due to causes such as:
  - Changes in actuarial assumptions, such as expected long term investment returns, inflation, retirement age, and mortality
  - Actual investment returns
- Police and Fire amortizations very similar given comparable unfunded liability (~$53M vs ~$48M)
Police CalPERS’ Amortization – 15 and 20 Year Choices

- CalPERS also calculates 15 and 20 year amortizations. These are voluntary potential contributions that are higher than the current amortization.
- Using the CalPERS 15 or 20 year amortizations would not require issuance of pension bonds.

![El Segundo CalPERS Police Unfunded Liability Amortization](Source: CalPERS August 2017 Actuarial, 7.375% Discount Rate)
Police Unfunded Pension Liabilities

30-Year Amortization vs. Bond Issuance

Police Unfunded Liability Amortization vs. 25-Year Bond
(Source: CalPERS August 2017 Actuarial, 7.375% Discount Rate)

*Bond interest rates as of 8/25/17
Police Unfunded Pension Liabilities

20-Year Amortization vs. Bond Issuance

- Police Unfunded Liability Amortization vs. 20-Year Bond
  (Source: CalPERS August 2017 Actuarial, 7.375% Discount Rate)

- Bond Debt Service @ 3.85%, 20 years
- Pmts to CalPERS @ 7.375%, 30 years
- CalPERS 20 year Amortization

*Bond interest rates as of 8/25/17
Police Unfunded Pension Liabilities

15-Year Amortization vs. Bond Issuance

Police Unfunded Liability Amortization vs. 15-Year Bond
(Source: CalPERS August 2017 Actuarial, 7.375% Discount Rate)

*Bond interest rates as of 8/25/17*
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Areas of Focus
Specializes in public finance

Profile
- Has more than 10 years experience in the public finance industry
- Specializes in debt structuring and cash flow models
- Provides new money/refunding analysis for prospective and outstanding debt issues
- Provides credit analysis and experience preparing credit presentations for issuer credit ratings, and short-term/long-term financings
- Experience serving as financial advisor to California cities/counties general fund and enterprise fund secured debt transactions
- Representative clients include numerous California issuers, including the counties of Sacramento and San Francisco; cities of Oakland, Oxnard, Montebello, Sacramento, and San Diego, and special districts such as Los Angeles County Sanitation Districts, San Francisco Public Utilities Commission and the Nevada Irrigation District, among others

Education
- Bachelor of Science in Business Administration, California State University Northridge

Licenses Held
Registered Representative of the Financial Industry Regulatory Authority (FINRA)
- General Securities Representative, Series 7
- Municipal Advisor Representative, Series 50
- Uniform Securities Agent, Series 63
Area of Focus
Pension & OPEB

Profile
- Nationally recognized expert and frequent speaker on pension and OPEB
- With FirstSouthwest/HilltopSecurities since 2009; previously with JPMorgan, Marsh McLennan
- Helped write legislation for several states
- Launched PEB Trust, a group OPEB trust, and single employer OPEB trusts
- Contributed material to the GASB Implementation Guide, testified on proposed GASB rules
- Built extensive simulation models including pension, OPEB cost and general fund revenues
- Has worked on OPEB and/or pension issues for states, counties, cities, authorities, school districts, and other organizations in over 30 states
- Awarded four patents on municipal bonds, risk management and related software
- Reviewed over 3000 pension and OPEB actuarial reports, draft CAFR and official statement disclosures
- Found billions of dollars in actuarial errors and opportunities for savings, including plans which had already been reviewed by independent actuaries, auditors, and State commissions; found over half a trillion dollars in errors in widely circulated estimates of national pension and OPEB liabilities

Education & Licenses Held
- Bachelor of Arts in Physics, University of Chicago
- Master of Business Administration in Finance, University of California at Los Angeles
- Licenses: General Securities Representative, Series 7; Uniform Securities Agent, Series 63; Investment Advisor Representative, Series 66; Investment Banking Representative, Series 79; Muni Advisor, Series 50
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