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State Agency Pension Obligation Bonding

The purpose of this budget brief is to review the history of state agency use of pension obligation bond funding, which has gained renewed interest given what is expected to be a Public Employees Retirement System unfunded accrued liability of approximately $15.1 to $16.1 billion as of the end of calendar year 2015 (the most current estimate available), of which the state agency's share is approximately 25%.

Pension obligation bond (POB) issuances require an understanding of how they can be financially viable, how debt service is funded, where the bond proceeds are deposited and invested, investment returns, and ultimately their impact on employer contribution rates. What follows is a review of these categories of information.

Pension Obligation Bond Review

POBs are a financing mechanism that allow the state, school districts, and local governments the ability to borrow funds long-term to offset all or a portion of a retirement system's unfunded accrued liability (UAL). For the state, the POBs were issued as general obligation bonds backed by the taxing power of the state, which minimized borrowing costs. Principal and interest payments on the bonds are repaid with future revenues, discussed in more detail below. The bonds are taxable securities and were structured with a "make whole" call provision, which lowered the borrowing cost, but effectively made the bonds "non-callable" for refinancing savings to the state. In other words, if a POB were called, investors would be paid as if the bond had reached maturity, which eliminates the refinancing savings opportunity associated with an optional call provision. This optional call feature could be included in a future bond issuance, if there is a decision to issue additional POBs.

POB proceeds are irrevocably deposited into the Oregon Public Employees Retirement Fund (OPERF) to pay for the benefits owed to Public Employee Retirement System (PERS) members and their beneficiaries. Employers receive credit for these deposits through reductions in the employer contribution rates that PERS charges over the period of time that the bond proceeds and investment earnings are amortized.

Several concepts are important to understanding POBs:

- POB proceeds are not needed immediately for retiree or beneficiary benefit payments. Bond proceeds are invested alongside other OPERF assets and, over time, are used to pre-fund or pre-pay a portion of future employer contributions, which is more commonly referred to as the "offset."
- Proceeds from a POB sale are invested by the Oregon Investment Council (OIC) in equities and other investments with the goal of producing investment returns higher than the interest rate on the POBs. If investment returns exceed bond costs, the offset to employer contribution rates will be larger than the bond cost; if borrowing costs exceed investment returns, then the offset to employer contribution rates may be less than the bond cost. In other words, the financial advantage

of issuing POBs is realized only if investment earnings exceed the cost of borrowing over the bond's maturity.

- Reducing an employer's UAL through the issuance of POBs is not a one-time event and does not prevent future changes to an employer's UAL. For example, even though the state bought down most of the existing 2003 UAL ($2 billion out of an estimated $2.3 billion), the 2008 market downturn created a new UAL of $11 billion and triggered higher future employer contribution rates, even with the 2003 POB issuance used to offset employer contribution rates.
- The selling of POBs converts a "soft," or somewhat flexible, UAL obligation into a "hard" liability, or debt instrument, with contractually fixed principal and interest payments. This does not mean that POB proceeds are used to pay off or pay down the UAL. Instead, POB proceeds are drawn down over time to offset future employer contributions.
- A portion, approximately 32%, of state issued POBs debt service count toward the state's general obligation debt capacity limitation, based on an annual review of General Fund versus other fund-type payroll costs.

A common misunderstanding is that POBs represent an arbitrage opportunity, which is generally defined as a short-term price differential between the same asset, but different markets. POBs, on the other hand, are considered investment speculation and viability is based on investment returns exceeding debt service or principal and interest costs over the long-term (rather than a short-term market inefficiency).

Background

Oregon voters approved Ballot Measure 29 authorizing the issuance of POBs in a special election held on September 16, 2003 (Article XI-O of the Oregon Constitution). This measure was referred to the ballot by the Legislature in 2003 (House Joint Resolution 18). The Legislature then enacted enabling statutes (ORS 286A.730-750). Section 1 of Article XI-O of the Oregon Constitution limits the authorized pension liability indebtedness "outstanding at any time" not to exceed one percent of the real market value of all property in the state.

During the 2003 regular legislative session, the Assembly also made significant benefit reforms to PERS, some of which were later modified after being challenged in court. This was a two-pronged approach to reform both benefits and the financing of benefits.

The "state" has somewhat of a unique definition when it comes to POBs and includes some entities that are not typically considered state agencies, such as the Lottery Commission, Oregon Corrections Enterprises, the State Accident Insurance Fund Corporation, the Oregon State Bar Association, and 23 other boards and commissions that were included in the state's UAL pool when the bonds were issued. Also included are the now independent public universities of the former Oregon University System. The "state," under this definition, does not include local school districts, some of which had issued POBs prior to this authority being granted to "state" entities and have since issued additional POBs. Oregon, including all "state" entities, school districts, and local governments, is the fourth largest issuer of POBs in the country, according to a Boston College Center for Retirement Research brief (July 2014). The issuance of POBs in 2003 significantly increased the Oregon's debt ratios compared to other states, which has been of concern in subsequent rating evaluations by the three nationally recognized credit rating agencies.

POB Repayment

State POB principal and interest payments, or debt service, are funded as a percentage of PERS eligible payroll expenses for participating "state" entities. Important to the understanding of POB debt service is that debt service is budgeted separate from the PERS employer contribution rate. If an employer has issued POBs, an employer must also pay the PERS adjusted employer contribution rate in addition to the debt service on POBs.

The percentage of payroll for POB debt service is adjusted to reflect changes in debt service requirements as well as the number of state positions and payroll costs. There have been eight such adjustments since 2004. The percentage has been as high as 7.39% (2004) and as low as 5.95% (2008 to 2011). The current percentage for the 2015-17 biennium is 6.00% and is expected to remain around this level for the 2017-19 biennium. This rate is charged against General, Lottery, Other, and Federal funded PERS-eligible position costs regardless of the PERS benefit plan to which the employee belongs. (Active PERS members participate in one of three benefit programs depending upon when they were hired: Tier One for members hired before 1/1/96; Tier Two for members hired on or after 1/1/96 but before 8/28/03; and Oregon Public Service Retirement Plan for members hired after 8/28/03.)

For the 2015-17 biennium, the debt service on pension obligation bonds will cost state agencies, the university system, and other non-state "state" entities $358.9 million, and will grow to $390.1 million, an increase of $31.2 million (or 8.7%), during the 2017-19 biennium. POB debt service will continue to increase 8.7% each biennium until the debt is paid off in 2027.

Original POB Assumptions

Reviewing the original POB assumptions supporting the legislative decision to authorize the issuance of state POBs is informative. The assumptions are outlined in the following table.

Table A: Original 2003 POB Issuance Assumptions

2003 POB Issuance	Original Assumption
Amount of issuance	$2 billion
Amortization period	25 years
Number of state employees	41,389
General wage growth per year	4.25%
Investment return per year [assumed earnings rate]	8.00%
Employer contribution rate relief	<6.60%>
Debt service as a percent of payroll	5.43%
Debt service growth each biennium	8.7%
Cost savings	1.17%

The state issued $2 billion in bonds to be repaid over the course of 25 years. Debt service payments were made based on payroll costs for 41,389 state employees assessed at 5.43%, with payroll growth expected at 4.25% each year due to cost-of-living and merit increase. Bond proceeds were expected to earn 8% (the PERS assumed earnings rate in 2003) per year and the bond proceeds plus earnings will be drawn down or amortized to offset or reduce employer contribution rates by 6.6% each biennium. Overall, the state was expected to save the difference between the amount of the principal plus investment earnings ($5.1 billion) and the cost of debt service ($4.2 billion). This differential was estimated at 1.17% ($910.9 million). At the end of 2027, the POBs should be fully repaid and retired, at which point there will no longer be an offset to the employer contribution rate (unless other non-POB side account assets are available) and the associated payroll charge for POB debt service will be eliminated.

These assumption were for state issued POBs. Such assumptions vary for individual school district, community colleges, and other local government POB issuances. As an aside, the issuance of POBs by local school districts and community colleges is not without financial consequence to the state, given that the state funds the majority of local school district costs through the State School Fund and community colleges receive state General Fund support. The associated debt service of $6.7 billion on these bonds is guaranteed by the state through fund diversion agreements entered into by the Department of Education.

Employer Side Accounts

The state's original $2 billion in POB proceeds were deposited into an employer "side account." Side accounts are employer-specific funds within OPERF that PERS recognizes to hold POB proceeds and other lump sum payments made by individual employers. Side accounts, while held separate from other employer reserves, are considered assets of the PERS system and are used as an offset against the cost of future employer contributions, according to an amortization schedule. Side account assets are included in actuarial valuations of the PERS system as they are assets available to pay benefits, but are not used when an employer's individual employer contribution rate is determined each biennium. Instead, an amortized portion of a side account balance is used to offset the employer's calculated contribution rate.

In total, there are approximately 144 employers with one or more side accounts, with the "state" being counted as a single side account. There are 96 school districts with one or more side accounts, or 67%, of the total number of employer side accounts. Most PERS employers have chosen not to fund side accounts and as such these employers pay the entire cost of the employer contribution rate each period without offset.

According to the December 31, 2014 PERS actuarial valuation, side accounts account for $5.9 billion in assets. The precise amount of side account value which originated from POB issuances is unspecified; however, POBs are assumed to comprise most of the corpus of such accounts. As of 2014, the State and Local Government Rate Pool had a $2.7 billion side account balance; the School District Pool had a $3.1 billion balance; and independent employers, cumulatively, had a $96.4 million balance.

Once employers make deposits into side accounts, they are unable to withdraw or repurpose the funds. A side account balance, along with investment earnings (or losses), is amortized over a period of time as established by the PERS Board rules, typically corresponding to the amortization period of the UAL against which the side account deposit was made, and used exclusively to offset employer contributions. In other words, the amortization schedule for the POB debt service schedule and the Board's rules are not guaranteed to match because the Board may decide to adjust the UAL amortization period and the amortization period of associated side accounts.

Side accounts are invested by the OIC no differently from all other employer contributions. Side accounts earn the market rate of return, positive or negative, and there is no guaranteed rate of return; however, actuarial calculations for future earnings assume that side accounts will earn the assumed earnings rate of return. Earnings are credited to side accounts once each calendar year, as is the case with all PERS account and reserve crediting. The following table provides a history of side account investment earnings as compared to the assumed earning rate.

Table B: Side Account Earnings vs. the Assumed Earnings Rate

# Years	Valuation Year	Average Side Account Earnings/Loss	Assumed Earnings Rate	Difference from Assumed Earning's Rate
1	2015	1.87%	7.50%	-5.63%
2	2014	7.24%	7.50%*	-0.26%
3	2013	15.62%	8.00%	+7.62%
4	2012	14.68%	8.00%	+6.68%
5	2011	2.21%	8.00%	-5.79%
6	2010	12.44%	8.00%	+4.44%
7	2009	19.12%	8.00%	+11.12%
8	2008	-27.18%	8.00%	-35.18%
9	2007	9.47%	8.00%	+1.47%
10	2006	15.45%	8.00%	+7.45%
11	2005	13.74%	8.00%	+5.74%
12	2004	13.27%	8.00%	+5.27%
	Average	8.16%	7.92%	+0.24%

** The PERS Board changed the assumed earnings rate to 7.75% beginning with calendar year 2014; however, the Board instructed the actuary to use 7.50% for the 2014 valuation.*

Side accounts earned the most in 2009, with a return of 19.12% and the least in 2008, with a loss of 27.18%. The average return between 2004 and 2015 was 8.16%. Side accounts earn approximately the same rate of return as Tier 2 member accounts.

For asset valuation purposes, and due to the timing of the budget process, employer rates are based on the two most recently concluded calendar year returns. For example, 2017-19 employer contribution rates, which also reflect employer side accounts, will be based on investment returns from 2014 and 2015, which precede the implementation of the adopted employer rates by 18 months.

Employer Contribution Rates and the Impact of the Side Account Offset

The following table summarizes the employer contribution rate relief from side accounts for "state agencies."

Table C: Employer Contribution Rate with Side Account Offset

State Agencies Only	Adopted	Advisory
Biennia	**2015-17**	**2017-19**
Valuation Year	**2013**	**2014**
Tier 1/2	**Default Rate**	**Default Rate**
Total Base Employer Rate	21.59%	25.56%
Side Account Offset	**-7.78%**	**-7.55%**
Collared Base Employer Rate	13.81%	18.01%
Employee Contribution/Pickup	6.00%	6.00%*
Employer Contribution Rate	19.81%	24.01%

** Only for state agencies that pay the employee contribution.*

For the 2017-19 advisory rates, the side account offset of 7.55% reduces the total base employer rate by 30%. Alternatively, the state employer rate would be 7.55% higher had Oregon not authorized the issuance of POBs; however, the state also would not have incurred the associated 6% debt service costs.

When the PERS Board adopts 2017-19 employer rates, state agencies can expect to see a side account offset less than the 2014 valuation estimate of 7.55%. This is due to the 2014 and 2015 investment

returns being well below the actuarially assumed earnings rate of 7.50%, and will result in a net increase in 2017-19 employer rates because the amount, or percentage, of the side account offset will be reduced.

Noteworthy is the fact that the employee contribution (sometimes referred to as the "pickup") is deposited into an Individual Account Program, which has no unfunded liability. The side account has no impact on, or relationship to, the employee contribution.

History of Employer Side Account Offsets

The following table summarizes the employer contribution rate relief from side accounts, by major employer pool or category, due to both the issuance of POBs *and* other employer lump sum payments into side accounts. In absence of side account data exclusively related to POB issuances and earnings, side account balances serve as a surrogate for POB issuances and earnings.

Table D: Side Account Offset History

Biennia	Valuation Year	Actual State Agencies Only	Average State and Local Government Rate Pool	Average School Districts Pool	Average Independent Employers	Average PERS System Totals
2017-19 [***Advisory***]	2014	7.55%	4.94%	10.61%	1.11%	6.37%
2015-17	2013	7.78%	4.99%	10.62%	1.06%	6.38%
2013-15	2011	6.79%	4.25%	8.35%	0.86%	5.26%
2011-13	2009	6.67%	4.24%	7.75%	0.87%	5.11%
2009-11	2007	9.83%	6.20%	10.51%	1.14%	7.20%
2007-09	2005	9.47%	6.37%	9.72%	0.70%	6.71%
2005-07	2003	8.06%	n/a	n/a	n/a	4.54%

State agencies receive the offset listed in the table; however, the side account offset for all other employers is unique to each employer with a side account. The preceding table shows the average offset for the pools and independent employers as well as the system-wide average.

While informative, the table shows only the benefit of a side account offset. For a more complete picture, the cost (i.e., debt service on POBs) of the side account must concurrently be evaluated, with the understanding that some side accounts are funded with non-POB employer lump sum payments.

Review of 2003 POB Decision

The only accurate way to ascertain whether the issuance of POBs was a good decision financially is after the bonds have been retired and all investment returns and savings are accounted for; however, a point-in-time evaluation is informative. This can be done by comparing the original 2003 POB assumptions against current assumptions and comparing the original estimate of POB savings with a current estimate of actual savings.

The following table compares the original POB assumptions with the PERS actuarial valuation for calendar year 2014, as well current information on debt service as a percent of payroll.

Table E: Comparison of Original POB Assumptions to 2014 Actuarial Valuation

2003 POB Issuance Comparison To the 2014 Actuarial Valuation Report	Original Assumption	2014 Valuation/ Other	Difference
Amount of issuance	$2 billion	n/c	--
Amortization period	25 years	n/c	--
Number of state employees	41,389	46,402	5,013
General wage growth per year	4.25%	3.50%	<0.75%>
Investment return per year [assumed earnings rate]	8.00%	7.50%	<0.50%>
Employer contribution rate relief	<6.60%>	<7.55%>	+0.95%
Debt service as a percent of payroll	5.43%	6.00%	+0.57%
Debt service growth each biennia	8.7%	8.7%	--
Cost savings (employer rate relief less debt service as a percent of payroll cost)	1.17%	1.55%	+0.38%

At this point in time, what can be concluded from the table is that most of the original POB assumptions have changed over time with more state employees than originally estimated, less general wage growth, lower assumed investment earnings, higher employer rate relief, and higher debt service costs per employee. Collectively, the differences between the original assumptions and the 2014 actuarial valuation data have produced a higher overall cost savings of 0.38%.

The following table compares the original 2003 POB savings estimate with available actual data for calendar years 2003 to 2014. In the absence of a formal actuarial analysis, and limitations with actual data, the comparison should be considered only a rudimentary estimate of cost savings for illustrative purposes.

Table F: Rudimentary POB Savings Comparison Estimate 2003 to 2014

#	Calendar Year	Payroll (in billions)	Biennial State Side Account Offset	Average POB Debt Service Costs [as a percent of payroll]	Difference [investment speculation]	Estimated Payroll Savings (in millions)*	2003 Original Payroll Savings Estimate (in millions)	Difference (Positive above estimate/negative below estimate) (in millions)
1	2003	$--	8.06%	0.00%	8.06%	$20.5	$20.5	$--
2	2004	1.2	9.47%	7.39%	2.08%	57.6	74.0	(16.4)
3	2005	1.8	9.47%	6.67%	2.80%	52.6	12.7	+39.9
4	2006	1.9	9.83%	6.28%	3.55%	65.4	18.3	+47.1
5	2007	2.0	9.83%	6.20%	3.63%	80.0	22.1	+57.4
6	2008	2.2	6.67%	5.95%	0.72%	19.6	23.2	(3.6)
7	2009	2.3	6.67%	5.95%	0.72%	24.1	24.3	(0.2)
8	2010	2.3	6.79%	5.95%	0.84%	20.4	25.5	(5.0)
9	2011	2.4	6.79%	5.98%	0.81%	18.4	26.7	(8.3)
10	2012	2.4	7.78%	6.33%	1.45%	37.1	28.0	+9.1
11	2013	2.5	7.78%	6.39%	1.39%	37.9	29.4	+8.6
12	2014	2.6	7.55%**	6.70%	0.85%	38.0	30.9	+7.2
	Total	--	--	--	--	$471.2	$335.5	+135.7

** The estimated payroll savings figures are not a pure mathematical calculation because the Average POB Debt Service Costs (as a percentage of payroll) column is based on a budgeted percentage versus the actual percentage.*

*** The 2014 Biennial Sate Side Account Offset is an advisory offset rate. The 2017-19 PERS adopted employer contribution rate for state agencies will likely have an offset below 7.55% due to actual 2014 and 2015 investment earnings below the assumed earnings rate.*

The comparison shows that for the first 12 years of the 25 year POB schedule, the “state” has achieved estimated savings of $471.2 million versus the original projection for this period of $335.5 million. This is $135.7 million in additional savings above the original estimate; however, the underlying data reveal something critically important to the understanding of POBs. Only in six out of the 12 years (50%) were savings produced above what was forecasted and most of the savings were achieved in the years just prior to the 2008 recession (2005, 2006, and 2007). Five out of the 12 years (42%) failed to meet the original savings target (2004, 2008, 2009, 2010, and 2011). The first year of the issuance savings is assumed to be at the original estimate (2003).

For POB issuances to be successful, strong positive earnings in the first few years after issuance are critical as any drawdown of the corpus of bond proceeds to make PERS employer contribution payments reduces the opportunity for investment earnings over the life of the bond issue. The actual data for state agencies underscores this point and the importance of timing to the overall financial outcome of issuing POBs. Of the estimated $135.7 million in savings above the original estimate, $128.1 million, or 94%, was earned prior to the stock market run-up to the 2008 recession and only $7.7 million, or 6%, was earned after 2008.

Setting aside the year 2003, which only had an offset and no debt service, the average investment speculation differential for the period 2004 to 2014 was 1.71% based on an average side account offset of 8.06%, less an average debt service cost of 6.34%. Of note is that the differential prior to 2008 was 3.02% and only 0.97% from 2008 to 2014. In 2008, the differential closed to within its smallest margin at 0.72%, which meant that the actual estimated savings of $24.1 million was within $152,000 of the original $24.3 million actuarial estimate for that year.

Some non-“state” jurisdictions that issued POBs just prior to the 2008 recession likely have POBs that are “underwater” or that have added to, rather than reduced, their total PERS costs because their debt service costs are exceeding the employer contribution rate offset from their side accounts.

Conclusion

At the present time, the state’s issuance of POBs in 2003 has proven to be a financially beneficial decision, but with the trade-off being higher debt ratios for the state compared to other states and a reduction in the state’s capacity to borrow funds to meet other needs. The final determination on the 2003 issuance must wait until the year 2027 when the bonds are retired and the full cost and savings of the issuance are determined.

The Oregon Constitution limits pension liability indebtedness to one percent of the real market value (RMV) of all property in the state. With an estimated 2015 RMV of $506 billion, the maximum authorized liability would total $5.1 billion; however this amount would have to be reduced by $2 billion for previously authorized and still outstanding state POBs issued in 2003.

The state’s General Fund debt capacity is estimated to be $1.1 billion per biennium through fiscal year 2023, according to the 2016 State Debt Policy Advisory Commission report dated January 2016. This capacity is for all potential uses of state debt financing. The 2014 UAL of $12.1 billion represents 19% of the system’s $63.9 billion in assets and is far larger than the $2.3 billion UAL that existed in 2003. Securitizing such a large UAL by issuing POBs likely cannot be done given the state’s current constitutional as well as debt capacity limitations. If such an issuance was accomplished, even to partially reduce the state’s proportionate share of the PERS UAL, it would crowd out many other items needing state debt issuances, including capital construction projects related to state and local economic development, as well as improvements to public schools, universities, and state agencies.

The ability of the OIC to invest such a large sum in the short or even intermediate-term and achieve returns at or above the current long-term assumed earnings rate of 7.50% is questionable. Two recent

reductions in the assumed earnings rate by the PERS Board, in consultation with the OIC, signal a more challenging investment environment ahead. This suggests that the investment speculation differential may continue to narrow and that investment returns will move closer to debt service costs. This could outweigh any benefit of issuing bonds in the current historically low interest rate environment. The inherent risk of POBs is that they could actually increase total employer costs related to PERS if investment returns fall below debt service costs.

When determining whether to conduct a second POB issuance, various factors such as the current debt and equity markets, the state's overall debt capacity, the size of the UAL, and the potential effects on employer contribution rates all need to be considered. The apparent success to-date of the first POB issuance does not guarantee similar success for a future issuance.