Pension Obligation Bonds:
Are States and Localities Behaving Themselves or Do the Feds Need to Get Involved?

by

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Spring 2010

A paper submitted to the faculty of
the University of North Carolina at Chapel Hill
in partial fulfillment of the requirements for the degree of
Master of Public Administration.

Executive Summary

In theory, pension obligation bonds (POBs) carry four types of risk. This study investigates the frequency of two of the four types of risk, to determine whether or not POBs are problematic in practice. This study finds that they are problematic in practice, but not necessarily problematic enough to warrant federal intervention at this time. POBs are predominantly issued in a small number of states, so the federal government may want to coordinate with the Government Finance Officers Association to encourage states that issue POBs to follow "best practices" related to POBs. Congress also might consider investigating the causes of POB issues to determine if current pension funding regulations are appropriate.

Introduction

Over the past two decades, many state and local governments have encountered massive budget shortfalls, which they have been forced to close due to balanced budget requirements. In none of these situations has anyone seriously proposed that the government close its budget gap by borrowing money, creating a hedge fund, and hoping that the investment gains will close the gap. It seems unlikely that a budget officer or elected official would ever seriously suggest such a solution because it would be financially risky and politically unpopular.

As financially risky and politically unpopular as the above example is, on at least 284 separate occasions between 1992 and 2009, state and local governments have borrowed a total of over $43 billion in pension obligation bond (POB) issues, a financial instrument similar to the above example, which is used to address shortfalls in long-term funding for governments' defined benefit pension funds.

Research Question

Do current practices with POBs indicate a cause for concern and a need for federal regulation? This paper examines two potential problem areas, which might require regulatory attention on the federal level, and seeks to identify how often such problems occur.

Background

POBs vary from state to state in their appearance, but their function is the same. In some states, POBs are a specific type of taxable debt issued with the backing of taxpayer dollars to close unfunded pension liabilities. In other states, POBs are a taxable subset of general obligation bonds or certificates of participation[1] issued to close unfunded pension liabilities. In either scenario, the governments issue this debt, invest the proceeds in their pension funds, and hope to engage in interest rate arbitrage.[2 3]

Arbitrage is the act of attempting to earn a profit by exploiting price differences for similar financial instruments in different financial markets.[4] In the case of POBs, interest rate arbitrage can be achieved by earning higher investment returns on the borrowed money than the interest rate paid to the lender.[5] Any profit earned by higher investment returns, net interest paid to the lender, is arbitrage profit.

Precedent exists for federal intervention with POBs. Currently, the interest earned by bondholders from POBs is federally taxable; however, when POBs first appeared in 1985, the interest was federally tax exempt. At that time, their arbitrage was almost guaranteed because the money could be invested in treasury notes, which had a guaranteed rate of return. Congress made interest from POBs taxable during the 1986 tax reform, which had the short-term effect of stopping POB issues, and the long-term effect of shifting POBs to riskier investments such as equities.[6]

There are two main reasons why governments consider issuing POBs: pension fund cost savings and fiscal responsibility.

The primary reason to consider issuing POBs is that they sometimes save large sums of money.[7] For example, during 2002 and 2003, Sheboygan County and Winnebago County in Wisconsin borrowed over $7 million (combined) and earned investment returns greater than 20 percent on the borrowed money. Because they had to pay less than three percent interest on their debts, they were earning an extra 17 percent return as a reward for taking on additional risk.

The second reason to consider issuing POBs is that they provide a strong mechanism for fiscal responsibility. Pension liabilities and debt liabilities are both costs that must be paid over the long-term; however, they sometimes elicit very different responses from government officials developing budgets. While debt payments are a non-negotiable portion of a government's budget, some people will advocate deferring pension payments into the future because the penalty for not making pension payments is vague and distant. Issuing POBs takes pension liabilities and transforms them into debt liabilities, which ensures that they will be paid in a timely fashion strengthening the fiscal health of the pension system. One might argue that the costs of issuing the debt are the payments made to Wall Street to force fiscal responsibility.

The risks of issuing POBs to the issuer are fourfold: leverage risk, arbitrage risk, political risk, and market risk.[8]

As with any type of debt, the issuer takes on *leveraging risk*. This is the risk of borrowing more money than the government can responsibly pay back. POBs are a way of substituting a debt whose repayment is mandatory in the short-term for an existing debt whose repayment is mandatory in the long-term, but not in the short-term.[9] With POBs, the government faces a more immediate risk of owing money it cannot afford to re-pay.[10]

The issuer takes on *arbitrage risk* because the issuing government is gambling that the performance of the invested funds will outpace the costs of borrowing the money.[11] As in the case of the counties in Wisconsin, sometimes governments are successful, while in other cases, such as some of the issues made by Dallas, TX, in the past five years, they lose large sums of money.

Politicians and public finance officials sometimes argue that POBs are cost effective because the expected return on the investments bought with the bond proceeds will exceed the cost of the debt.[12] This is inaccurate because current accounting practices do not create a mindset that encourages the investment risk to be properly reflected in long-term budgeting projections of the impact of a POB issue.[13] In reality, issuing POBs transfers investment risk to future generations without providing any long-term economic gain.[14]

POB-issuing governments also face *political risks*. Although there are a variety of political risks, the primary risk is that if the bonds become too successful, employees may seek enhanced benefits and the government may feel pressure to provide such benefits. Benefit improvements may leave the government in just as bad a position, long-term, as it was before issuing the POBs.[15] Other political risks are public outrage and voter anger from a failed issue.

Finally, because POBs involve a large, one-time influx of money into investment markets, issuing governments encounter *market timing risk*. By investing a large sum of money at one time, the government cannot diversify away investment risk over time or engage in cost averaging. Because stocks may experience significant price swings, a large, one-time purchase can cause huge problems if the price happens to be unusually high on the day of the purchase.[16]

From a theoretical standpoint, governments that issue POBs are engaging in a strategy to realize a short-term gain, at the possible expense of future generations.[17] This paper seeks to determine what the results of POB issues have been in practice.

Project Design and Methodology

This study focused on two potential pitfalls in the usage of POBs:

1. Creating unbalanced or backloaded repayment structures, which are a factor in leverage risk.
2. Suffering investment losses that cause the issuing government to be left worse off than if the bonds had not been issued, representing arbitrage risk.

This study uses three primary data sources: a dataset originally collected by Thad Calabrese, that contained a listing of all 284 POB issues, some cost data, and some repayment data;[18] bond official statements which included cost data, repayment schedules, and information regarding the pension fund in which the issuing government participated;[19] and investment data for the various pension funds.

This study relies on two types of analysis. The first is content analysis of the POBs' official statements. The second is descriptive statistics to determine the POBs' net interest costs relative to their pension funds' investment performances, and how prevalent were unbalanced repayment structures. To address the former, investment performances were compared to the POBs' net interest cost.[20] To address the latter, the study collected the repayment schedules for bonds and analyzed them using two definitions of "unbalanced/backloaded." First, an issue was defined as "unbalanced/backloaded" if the largest principal repayment was more than four times greater than the smallest principal repayment. For lump sum repayments, the issue was marked as "unbalanced/backloaded" if the single payment was not due to be paid back until more than ten years after issuance. Second, an issue was defined as "unbalanced/backloaded" if less than half the principal was repaid within ten years.[21]

Limitation
This study is limited by data availability. In many cases, investment data were only available through January 1, 2008 or June 30, 2008, so only some of the investment data reflect the market downturn of 2008-2009. For example, the S&P 500 lost 38.49 percent of its value during 2008, and most of those losses took place after June 30, 2008.[22] As such, it is not unreasonable to assume that the results of the investment loss analysis may understate the scope of investment losses in POBs. If more current investment data were available, the arbitrage losses might have been worse than this study shows. Further study of the arbitrage issue may be appropriate once data involving the full economic downturn are available. Additionally, because investment performance can be volatile, the investment comparison analysis only reflects one snapshot in time.

Results
Of the 284 known issues of POBs since 1992, repayment schedules were available for 280 issues. Investment data were available for 170 issues. Table 1 shows the frequency of the two pitfalls.

Table 1: Percentage of Pitfall Occurrences

Pitfall	Met Definition of Pitfall	Did Not Meet Definition of Pitfall
Backloaded/Unbalanced		
Definition 1: Largest Payment Is More Than 4x the Smallest Payment	55%	45%
Definition 2: Less than 50% of the Principal Repaid Within 10 Years	45%	55%
Investments Lost Value Relative to Interest Costs	47%	53%

Table 1 shows that by both definitions of "backloaded/unbalanced," there is a relatively equal divide between problematic POBs and properly structured repayment schedules. There also is a relatively equal divide between issues whose arbitrage gamble was successful and issues that lost money.

Analysis
The results of this study indicate an inconclusive picture in the need for federal intervention. It is troubling that only approximately half of all POBs are responsibly structured and only approximately half of all POBs produced the desired financial results; however, such a picture does not conclusively indicate a need for federal regulation.

Digging deeper into the distribution of POB issues, it appears that these financial instruments are confined to a small number of states. State and local governments in 28 states have issued POBs, but more than half of all POB issues have been made by governments in New York, California, or Wisconsin. Furthermore, almost 85 percent of all money borrowed through POBs has been borrowed by state or local governments in seven states—Illinois, California, Oregon, Connecticut, New Jersey, Wisconsin, and Pennsylvania. One surprising finding was that although governments in New York have the most POB issues of any state, the issues are generally small in size, so New York is not among the national leaders in money borrowed.

Historically, the federal government has trusted state and local governments to manage their pension funds responsibly. This trust, however, may be misplaced. In a recent study published by the Pew Charitable Trusts analyzing nationwide statistics on unfunded liabilities, only one of the seven states that have borrowed the most money in POBs was rated as a "solid performer," the highest of the three ratings. In fact, three of them—Illinois, New Jersey, and Connecticut—were rated as states with "serious concerns," which was the lowest rating awarded. These statistics are not anomalous to POB issuers. Only 16 states were awarded the "solid performer" rating, while 19 states had "serious concerns." The ratings were based upon the state's funding status, unfunded liabilities relative to covered payroll, and its track record in making required annual contributions.[23] Because points were awarded in each category based on following best practices, a rating below the top level is cause for some concern, while a rating in the bottom level is cause for serious concern.

Considering the limited geographic footprint of POBs, and the inconclusive necessity of additional POB regulation, the federal government probably has little reason to intervene at this time. POBs have garnered some attention from the United States Senate Special Committee on Aging[24] but the data do not support Congressional action at this time. Because POBs cover such a limited geographic footprint, at present, the most effective approaches to reducing POB problems would be state and local government-based.

State- and Local-level Recommendations

The Government Finance Officers Association (GFOA), a widely-respected membership association, which provides training and guidance on fiscal issues to state and local government officials, should increase counseling for the small number of states regularly using POBs to encourage them to be more fiscally prudent and educated on the risks inherent in issuing POBs. The GFOA has created an advisory paper on the usage of POBs.[25] Based on the guidance of this advisory paper, states that issue POBs should pass regulations that include strict parameters regarding the size and structure of POBs. Principal repayments should be equitably distributed across the repayment period and the repayment period should not exceed 20 years.[26] States also should pass regulations requiring that governments issuing POBs undertake a comprehensive financial analysis. This analysis should include a review of the issuing government's ability to take on debt, a reminder to all public officials involved in the debt issue that POBs involve risk, and a review of the pension fund's ability to absorb a large one-time influx of funding. For a complete list of GFOA's recommendations regarding factors to consider in the financial analysis, see Appendix A.

State and local governments also might lobby the Governmental Accounting Standards Board (GASB) to change accounting guidelines regarding the discount rate used to calculate pension liabilities. The GASB serves as the oversight organization that sets all accounting standards for state and local governments in the United States. A government's failure to abide by GASB rules would leave it unable to participate in the debt market. Currently, the GASB requires state and local governments to use a discount rate to convert the projected future benefit payments into their present value that is based on an assumed long-term rate of investment return. The GASB should consider changing their discount rate to a "risk-free" rate, which would be based on the expected return from investing in treasury notes.[27]

Supporters of the current approach argue that it provides the appropriate long-term horizon for pension liabilities. They also argue that because the present value of benefits is directly tied to how the assets are invested, they should reflect the estimated rate of return. Opponents of the current approach point out that it does not accurately reflect the additional risk that pension funds take on when they invest in higher-risk, higher-return investments. Instead, governments are rewarded for taking on additional risk.[28] Supporters of a risk-free rate argue that it is consistent with the risk-free nature of governmental pension obligations and with the way that financial markets value comparable debts. They also argue that it separates investment decisions out from the valuation of the obligation. Opponents argue that it does not accurately reflect the reward that investors receive when they take on additional risk and that valuation and investment decisions should not be separated.[29] Because a risk-free rate is traditionally lower than an investment-return rate, some government officials also object to it because it makes governments' pension liabilities seem larger.[30]

Using a "risk-free" rate would more closely align public sector retirement plans with private sector plans. It also might reduce the prevalence of POBs because from an accounting perspective, the market value rate for the debt would drop below the taxable interest rate in most situations. Shifting to a "risk-free" rate also might induce some pension funds to increase their investment holdings in bonds, which would reduce the investment risk of the portfolios.[31]

If state and local governments are successful in encouraging the GASB to change the accounting standards, POB issues might decline, although the private sector experience with POBs shows that they would not disappear altogether. Investment consultants would probably continue to claim that the arbitrage was possible, even though it would no longer be reflected in the accounting. Even if this approach was completely successful, however, it would be fraught with controversy. Such a rule-change would instantly increase pension liabilities exponentially, which would increase required employer contributions, so organizations that advocate on behalf of state and local pension systems, such as the GFOA and the National Association of State Retirement Administrators, might oppose this rule change. Furthermore, because the increased liabilities would appear quickly, successful lobbying might even produce the side effect of widespread declarations that defined benefit plans are too expensive and unsustainable, resulting in the death of the public sector defined benefit pension plan.

Federal-level Recommendations

If Congress did want to intervene in this issue, there are four approaches it could take. Congress could return POBs to their pre-1986 tax-exempt status, Congress could publicly investigate POBs, Congress could change Employee Retirement Income Security Act (ERISA) funding regulations, or Congress could ban POBs outright.

Returning POBs to their pre-1986 tax exempt status might encourage issuers to invest the proceeds in treasury notes to earn a guaranteed return. On the other hand, because average returns on equities are still higher than returns on treasury notes, making POBs tax-free might cost the federal government tax revenue without eliminating the investment risk. It is difficult to predict which outcome would occur.

Congress could also hold hearings on POBs or commission a Government Accountability Office report to investigate POBs. Either type of investigation would bring attention to POBs and might spur state and local governments to self-regulate. An investigation would also give Congress more of a sense of how effectively it could intervene.

Because most POBs are issued to address unfunded accrued actuarial liability issues, Congress might consider expanding the scope of Employee Retirement Income Security Act (ERISA) funding regulations to include public sector plans. ERISA serves as the primary federal regulation covering employer-provided benefits. For private-sector pension plans, it places strict limits on funding levels and accounting practices, and provides insurance against pension plan bankruptcies. Currently ERISA covers private-sector pension plans, but exempts their public-sector counterparts. Although Congress may want to consider expanding ERISA coverage to include public pension plans, legislators will want to examine the impact of ERISA on private plans to ensure that legislative goals align with outcomes. The impact of changing ERISA funding regulations on public sector plans and on POBs is an issue that will require further study.

Banning POBs outright seems like the most straightforward solution Congress could enact; however, the federal government has not historically interfered with state and local governmental financial management practices. Doing so now would set a precedent and might also produce questions about Constitutionality.

Summary

If POB usage becomes more geographically widespread or pitfall occurrences become more frequent in the future, federal regulation may become necessary, but comprehensive regulation does not appear to be necessary at this time. Currently, individual states have problems with investment losses and over-leveraging, so a state-based regulatory approach would best solve the problems that arise with frequent pension obligation bond issues.

Acknowledgments
I would like to thank my committee members for their support, advice, and feedback: Greg Allison, Chair; Bill Rivenbark; and Carl Stenberg.

I would also like to thank my issue experts: Thad Calabrese, for providing me with an enormously time-saving dataset of POB issues, and also for providing feedback and advice throughout this process; and David Vanderweide, for helping me understand what a POB was at the beginning of this project, and also for providing feedback and advice throughout this process.

Finally, I would like to thank my wife, Karina, for listening to incessant discussion of this project, reviewing multiple drafts of this paper, and providing general support throughout the process.

Notes

[1] Certificates of participation are "a form of lease revenue bond that permits the investor to participate in a stream of lease payments, installment payments or loan payments relating to the acquisition or construction of specific equipment, land or facilities. In theory the certificate holder could foreclose on the equipment or facility financed in the event of default, but so far" this has never happened. See eMuni Glossary of Municipal Bond Terms. (n.d.). *eMuni*. Retrieved February 24, 2010, from http://www.emuni.com/glossary.html

[2] In a small subset of the issuances, the motive appears to be local governments trying to avoid raising taxes or making budget cuts elsewhere in a tough budget year in order to pay for a contribution to a state-level multi-employer plan. These bonds, however, function exactly the same as other pension obligation bonds, and the proceeds are still invested exactly the same way.

[3] Davis, R. (n.d.). An Introduction to Pension Obligation Bonds and Other Post-Employment Benefits. *Orrick*. Retrieved February 24, 2010, from http://www.orrick.com/fileupload/247.pdf

[4] arbitrage Definition. (n.d.). *InvestorWords.com - Investing Glossary*. Retrieved February 24, 2010, from http://www.investorwords.com/245/arbitrage.html

[5] Davis, R. (n.d.). An Introduction to Pension Obligation Bonds and Other Post-Employment Benefits. *Orrick*. Retrieved February 24, 2010, from http://www.orrick.com/fileupload/247.pdf

[6] Munnell, A., Calabrese, T., Monk, A., & Aubry, J. (2010). Pension Obligation Bonds: Financial Crisis Exposes Risks. *Center for Retirement Research at Boston College, January 2010*(9), 2. Retrieved February 24, 2010, from http://crr.bc.edu/images/stories/slp_9.pdf

[7] Davis, R. (n.d.). An Introduction to Pension Obligation Bonds and Other Post-Employment Benefits. *Orrick*. Retrieved February 24, 2010, from http://www.orrick.com/fileupload/247.pdf

[8] Walker, S. (2004). Pension Obligation Bonds. *Texas House of Representatives Committee on Pensions and Investments, Interim Report*. Retrieved February 24, 2010, from http://www.nasra.org/resources/TX%20Cmte%20Report.pdf

[9] With either form of debt, the debt must eventually be repaid. The difference is that with bond debt, the creditors expect to be repaid according to the repayment schedule, while with pension liabilities, the debt does not become due until employees retire and collect their benefits, which can sometimes be 20 or 30 years in the future.

[10] Walker, S. (2004). Pension Obligation Bonds. *Texas House of Representatives Committee on Pensions and Investments, Interim Report*. Retrieved February 24, 2010, from http://www.nasra.org/resources/TX%20Cmte%20Report.pdf

[11] Walker, S. (2004). Pension Obligation Bonds. *Texas House of Representatives Committee on Pensions and Investments, Interim Report*. Retrieved February 24, 2010, from http://www.nasra.org/resources/TX%20Cmte%20Report.pdf

[12] Calabrese, T. (2009). Public Pensions, Public Budgets, and the Risks of Pension Obligation Bonds. *Public Pension Finance Symposium*, 8-12. Retrieved February 24, 2010, from http://www.soa.org/files/pdf/2009-chicago-ppf-paper-calabrese.pdf

[13] Calabrese, T. (2009). Public Pensions, Public Budgets, and the Risks of Pension Obligation Bonds. *Public Pension Finance Symposium*, 8-12. Retrieved February 24, 2010, from http://www.soa.org/files/pdf/2009-chicago-ppf-paper-calabrese.pdf

[14] Calabrese, T. (2009). Public Pensions, Public Budgets, and the Risks of Pension Obligation Bonds. *Public Pension Finance Symposium*, 8-12. Retrieved February 24, 2010, from http://www.soa.org/files/pdf/2009-chicago-ppf-paper-calabrese.pdf

[15] Walker, S. (2004). Pension Obligation Bonds. *Texas House of Representatives Committee on Pensions and Investments, Interim Report*. Retrieved February 24, 2010, from http://www.nasra.org/resources/TX%20Cmte%20Report.pdf

[16] Peng, J. (2004) Public Pension Funds and Operating Budgets: A Tale of Three States. *Public Budgeting and Finance*, Summer 2004, 59-73.

[17] Calabrese, T. (2009). Public Pensions, Public Budgets, and the Risks of Pension Obligation Bonds. *Public Pension Finance Symposium*, 8-12. Retrieved February 24, 2010, from http://www.soa.org/files/pdf/2009-chicago-ppf-paper-calabrese.pdf

[18] Much of the repayment data had been previously collected by Thad Calabrese; however, significant data cleaning was necessary due to existing data collection errors and the differing nature of this study and Dr. Calabrese's work.

[19] Obtained through EMMA, the Electronic Municipal Market Access, an online database provided by the Municipal Securities Rulemaking Board. See http://emma.msrb.org

[20] NIC equals the total interest of a debt issue plus (minus) any discount (premium) on the issue divided by the issue's bond year dollars (the amount of principal)

[21] Definition developed in consultation with Tim Romocki of the North Carolina Local Government Commission, based on NC LGC requirements for local government debt.

[22] Kennon, J. (n.d.). S&P 500 Return Calculations by Year. *Investing for Beginners by Joshua Kennon*. Retrieved February 24, 2010, from http://beginnersinvest.about.com/b/2009/01/26/sp-500-return-calculations-by-year.htm

[23] The Trillion Dollar Gap: Underfunded State Retirement Systems and the Roads to Reform. (2010, February). *PEW Center on the States*, Retrieved February 24, 2010, from http://www.pewcenteronthestates.org/uploadedFiles/Trillion_Dollar_Gap_embargoed.pdf

[24] Communication with Jason Holsclaw, Professional Staff Member on the Committee, led to the creation of this capstone project. The Committee had received a request from Senator Herb Kohl of Wisconsin to research POBs, but it did not have the resources available to make it a high priority in 2009-2010.

[25] Evaluating the Use of Pension Obligation Bonds. (2005, March). *GFOA Advisory*. Retrieved February 24, 2010, from http://www.gfoa.org/downloads/corbaevalusepensionobligbond.pdf

[26] Based on the previously discussed LGC parameters.

[27] Invitation to Comment: Plain-Language Supplement. (2009, March 31). *Pension Accounting and Financial Reporting*, Retrieved February 24, 2010, from http://www.gasb.org/plain-language_documents/pensionaccountingandfinancialreporting_plain-language.pdf

[28] Invitation to Comment. (2010, March 31). *Pension Accounting and Financial Reporting*, Retrieved February 24, 2010, from http://www.gasb.org/exp/itc_pension_accounting_and_financial_reporting.pdf

[29] Invitation to Comment. (2010, March 31). *Pension Accounting and Financial Reporting*, *March*. Retrieved February 24, 2010, from http://www.gasb.org/exp/itc_pension_accounting_and_financial_reporting.pdf

[30] Invitation to Comment: Plain-Language Supplement. (2009, March 31). *Pension Accounting and Financial Reporting*, Retrieved February 24, 2010, from http://www.gasb.org/plain-language_documents/pensionaccountingandfinancialreporting_plain-language.pdf

[31] Calabrese, T. (2009). Public Pensions, Public Budgets, and the Risks of Pension Obligation Bonds. *Public Pension Finance Symposium*, 8-17. Retrieved February 24, 2010, from http://www.soa.org/files/pdf/2009-chicago-ppf-paper-calabrese.pdf

Appendix A: Best Practices

Before deciding to issue pension obligation bonds, a governmental entity should undertake a careful financial analysis that considers the following:

- Adequate disclosure of the fact that even if bonds are sold, governments could still face an unfunded liability in the future resulting from such factors as changes in benefit levels, investment returns, demographics, or other factors that were not anticipated when the bonds were issued.
- Pension obligation bonds should be structured in a manner that does not defer principal payments. Additionally, the bonds should not have a maturity that is in excess of the current unfunded actuarial accrued liability amortization period.
- Most pension systems have investment practices that are designed to accept smaller incremental contributions than are typical with pension obligation bonds. A review of the system's ability to adequately incorporate a much larger contribution into the system without adversely affecting the system's asset allocation should be considered.
- Issuance of debt to fund pension liability increases debt burden and may use up debt capacity that could be used for other purposes.
- Issuing pension obligation bonds converts a liability that may not be fully reported on the face of the financial statements (i.e., the unfunded actuarial accrued liability) into a liability that is reported on the face of the financial statements (i.e., bonds payable).
- Governments should ensure that the pension system review its cash flow in order to ensure that benefits are paid in a timely manner, since annual employer contributions will be reduced in lieu of debt service payments on the POBs. Analysis should extend through the amortization period of the unfunded liability on a cash flow basis and the debt service period of the POB.
- Special consideration and analysis should be given to the actuarial and cost implications for individual employers participating in multiple-employer systems.

Source: http://www.gfoa.org/downloads/corbaevalusepensionobligbond.pdf