TREASURY NOTES

Pension Obligation Bonds

December 11, 2020

Summary

In less than two decades, Pennsylvania's two state-affiliated pension systems—SERS and PSERS—endured a rapid deterioration in funding levels, turning a combined $20 billion surplus into a $72 billion deficit. While multiple factors contributed to this transformation, including investment performance and past benefits changes, a repeated past pattern of insufficient employer contributions—below the Actuarially Required Contribution (ARC)—allowed unfunded liabilities in both systems to grow, threatening the commitment made to pension beneficiaries and the public. To address this deficit and improve future fiscal flexibility in the state budget, a range of proactive steps is needed to accelerate the process toward refunding Pennsylvania's pensions.

Recommendations

In the current low-interest rate environment, Pennsylvania should consider the issuance of pension obligation bonds (POBs) to more efficiently manage ongoing state budget outlays to the Commonwealth's pension systems and refinance mounting unfunded liabilities due to prior underpayments. While a bond offering could take multiple forms—including a "limited pension obligation bond"—the purpose is to counteract the lasting effects of previous underfunding and alleviate future budgetary pressure through a reduction in unfunded pension liabilities. To ensure a bond offering is in the Commonwealth's best interest and delivers the intended outcome, additional measures should be included in conjunction with any offering, such as an advisory committee to monitor the bond process, requiring a low-cost index investment strategy, voluntary benefit buy-outs for some former short-term employees, and the phasing of bond issuances to reduce market risk.

A Message from Treasurer Torsella

At present, SERS and PSERS possess enough combined funding to pay for less than 60 percent of the benefits owed to the systems' beneficiaries. Without a solution, the Commonwealth risks uncertainty and insecurity for deserving retirees; continued pressure on the General Fund that can thwart investment in long-term priorities; and heavy challenges to regaining a top-flight credit rating—which would effectively reduce borrowing costs to taxpayers. Over the past decade, Pennsylvania lawmakers have taken crucial steps toward positive change in both systems, instituting measures that have stabilized benefit structures for the future—such as those taken in Act 5 of 2017—and recommitted the Commonwealth to funding the systems' Actuarially Required Contribution (ARC). Commendably, the General Assembly and Governor have fully funded the ARC in each of the last four fiscal years.

In an October 2019 Treasury Note, I supported investment transparency reforms that would allow for better oversight of the investment strategy at SERS and PSERS. For this issue, I present a plan that could help address the outstanding unfunded liabilities in our pension systems during the current low-interest rate environment and reduce stress on future expenditures in the state budget. While there is no silver bullet to this problem, the issuance of pension obligation bonds (POBs)—along with additional measures—offer a range of proactive steps for funding Pennsylvania's pension systems. POBs can be successful if the appropriate statutory guidelines are enacted, including an advisory committee to assess the feasibility and process for any POB offering. However, there is no innovation that replaces sustained fiscal discipline.

The Current State of Pennsylvania's Pension Systems

The National Institute of Retirement Security estimates that $1.00 of pension benefit payments can be attributed to $2.13 of economic output. For Pennsylvania's two state-affiliated pension systems—the Pennsylvania State Employees' Retirement System (SERS) and the Pennsylvania Public School Employees' Retirement System (PSERS)—this means $21 billion in positive economic impact for the Commonwealth. Yet, like some states, Pennsylvania has not set aside enough money to secure the future of SERS and PSERS, requiring significant annual funding going forward. Over the past two decades, Pennsylvania's pensions have struggled due to underfunding of the

ARC, investment underperformance, and retroactive benefit enhancements. As a result, from 2001-2015, a $20 billion combined surplus in pension funding turned into a $61 billion deficit. In 2020, this combined deficit at SERS and PSERS has now reached $72 billion.

To improve performance, the Pennsylvania government has acted twice in the last ten years, implementing reforms to operation and benefit structures for each system. In 2010, Pennsylvania lawmakers passed Act 120. The legislation reduced pension benefits for future employees and protected taxpayers through new risk sharing measures that fluctuate employee contributions based on investment results, e.g. boosting employee contributions during economic shocks. Act 5 of 2017 accelerated reforms through the introduction of hybrid plans for new employees in SERS and PSERS—as well as adjustments in how much, and when, benefits are provided. In addition, over the past four fiscal years, Pennsylvania has started to once again fully fund ARC payments to both systems, and the General Assembly has passed legislation to require common reporting and stress testing.

While these actions initiated the reform process in Pennsylvania's pension systems, the effects of prior underfunding and other factors remain. As of 2019, the pension funding ratio in Pennsylvania—or the pension system's assets as a share of total liabilities—is an estimated 57 percent, significantly lower than the 50-state median of nearly 72 percent. With required pension payments making up even more of the state budget to offset prior underfunding, the Commonwealth faces reduced fiscal flexibility in the future—decreasing the amount of spending that can be used for other priorities or during economic downturns. Therefore, additional measures to address Pennsylvania's unfunded pension liability are necessary. If issued wisely—and in conjunction with additional reforms—pension obligation bonds (POBs) could be a key resource in improving the funding levels of both systems and, in turn, the overall financial standing of Pennsylvania's pensions.

What are Pension Obligation Bonds (POBs)?

Pension obligation bonds (POBs) are taxable debt instruments used to finance unfunded pension liabilities. Issued by a state or local government and often secured by general fund obligations, the bond proceeds are transferred to the pension system trust for investment with existing funds. The purpose of POBs is to fund investments that can, over the long run, produce higher returns than the debt service owed over the bond's duration—reducing the Commonwealth's total long-term liabilities. Although this refinancing strategy does not eliminate the pension system's unfunded liability, the result—if timed and executed properly—could lower what is owed in total and improve the systems' long-term funding status, easing the pressure on future contributions from the Pennsylvania state budget. As of now, Act 120 of 2010 essentially prohibits state issuance of POBs for SERS or PSERS.

At **SERS**—through the passage of Act 105 of 2019—participating employers now have the ability to prefund most, or all, of their unfunded accrued liability (UAL)—with or without incurring debt. As a result, prefunding increases the pension system's liquidity and relieves budget pressure for the employer when making future payments. Due to the prohibition on POBs in Act 120 of 2010, however, many SERS employers—e.g. state executive agencies or independent agencies—are not able to finance any prefunding under Act 105 before the window to do so closes at the end of 2024. If the list of eligible employers is expanded, more employers—such as the Commonwealth—could benefit, especially in the current borrowing environment. For instance, Penn State, a "state-related" institution, secured $1.1 billion in financing after the passage of Act 105 and transferred the proceeds to SERS for the university's UAL. The Penn State contribution—like other prefunding agreements under Act 105—immediately benefitted the SERS funding ratio, while allowing the university to receive over $37 million in annual net savings to its budget for the next twenty years. Importantly, to achieve the desired budget savings and flexibility in the Penn State example, borrowing alone is not enough. Other factors, particularly investment strategy or governance oversight, are critical.

For instance, **PSERS** utilizes leverage in its asset allocation. Through the use of derivatives and other financial instruments, the pension system in effect borrows money to invest. While this is not a POB, it is a type of financial leverage which the system—rather than the Commonwealth—oversees, although it is the Commonwealth that is ultimately responsible for all pension obligations. PSERS uses this strategy to invest in asset classes projected to have low correlations with the overall market or outperform in certain economic environments, often referred to as a "risk parity" strategy. However, this investment strategy may not always perform because one cannot perfectly predict how asset classes perform over time or in certain economic environments. Even though this strategy hasn't performed as expected—especially during the first quarter of 2020 as a result of COVID-19—PSERS now has over $12 billion in leverage exposure it uses to invest through risk parity.

Table 1: PSERS Returns (As of September 30, 2020)

	1 Year	3 Year	5 Year	10 Year	15 Year	20 Year	25 Year
PSERS	3.04	5.88	7.34	7.39	6.04	5.78	7.39
PSERS Risk Parity	4.52	6.51	8.25				
60-40: S&P 500-US BB Agg	12.50	9.84	10.37	9.85	7.59	6.17	8.01
60-40: MSCI ACWI- US BB Agg	10.03	7.08	8.45	7.16	6.34	5.69	6.79

Source: PSERS, BNY Mellon

Table 1 shows the investment performance for (1) PSERS total fund, (2) PSERS "risk parity" strategy, (3) a simple US 60-40 index, and (4) a simple 60-40 index with international equities. As shown, if PSERS had invested in an index fund, the one-year return is higher than the performance of either the PSERS total fund or its risk parity fund. The same conclusion holds when viewing over three years or five years, where investment performance for PSERS has not benefited as expected from the use of leverage. Since risk parity is a recent addition to PSERS investment strategy, returns data is not yet available for the 10, 15, 20, and 25-year periods. Yet, for the PSERS total fund, the system's additional risk and guaranteed fee payment strategy has not produced returns exceeding the simple US index fund. Thus, if POBs are issued, a simplified low-cost indexed strategy may be a more efficient way to improve funding.

Pension Obligation Bonds Could Facilitate Further Pension Reform in Pennsylvania

The results of these two examples, particularly the positive effect of employer borrowing in Act 105, underscore why a refinancing strategy through pension obligation bonds could present a sustainable and fiscally-sound option if invested properly. To ensure long-term success for such an issuance, there are a number of policy measures that should be implemented alongside any offering. Without these additional reforms, a POB may not sufficiently address the factors that have placed Pennsylvania's pensions systems in their current position.

1. Advisory committee on pension obligation issuances and management

The advisory committee's mission would be to determine the feasibility of POBs, provide guidance on timing of issuances, identify index strategies to which proceeds will be invested, assess any impact to the Commonwealth's debt capacity, and determine the parameters behind any buy-outs. The committee should include the Governor's budget office, the Auditor General, the State Treasurer, the four leaders of the General Assembly (Senate and House leaders), and at least one nationally-recognized expert in the field.

2. Limited pension obligation bonds

Analogous to pension obligation bonds, so-called "limited pension obligation bonds" are a securitization of a dedicated revenue stream, the proceeds of which are used to fund pension obligations. After the bond issuance, the pension plan could create a separate trust for the proceeds, according to the National Conference on Public Employee Retirement Systems (NCPERS). Both the annual coupon rate and the principal—upon bond maturity—would then be paid through the trust with the remaining balance transferred to the pension system.

Figure 1: Limited Pension Obligation Bonds

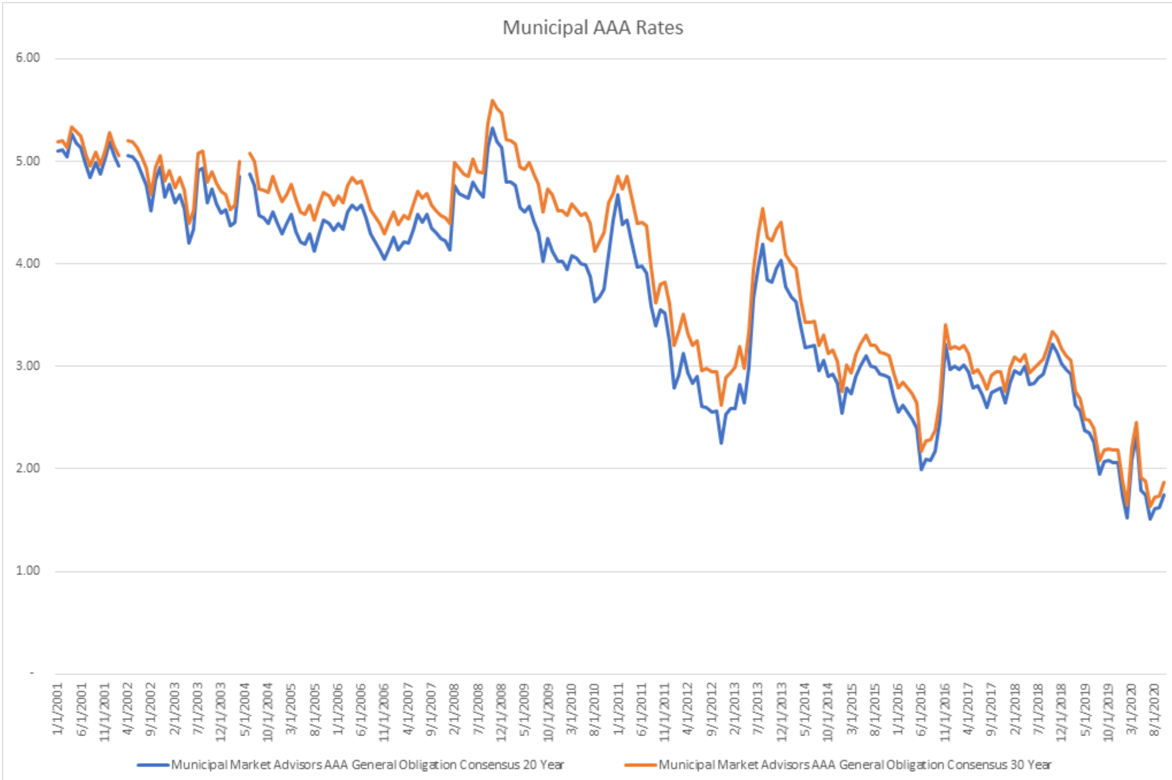
Balance after payment of principal and annual coupon on a 30-year $100 million new limited pension obligation bond maturing in each year from 2006 to 2019.

Issuance January 1	Maturity December 31	Annual Coupon (%)	Balance ($)
1977	2006	7.8	1,139,167,127
1978	2007	8.19	1,678,900,331
1979	2008	8.97	937,546,114
1980	2009	10.61	728,465,762
1981	2010	12.13	145,652,769
1982	2011	14.41	216,492,047
1983	2012	10.5	633,305,011
1984	2013	11.72	383,536,895
1985	2014	11.64	587,318,298
1986	2015	9.34	520,068,334
1987	2016	7.29	701,828,579
1988	2017	9.12	637,295,516
1989	2018	8.76	512,251,319
1990	2019	8.29	371,464,656

Source: NCPERS

As shown in Figure 1 above, if the appropriate authority were to have issued limited pension obligation bonds in the prior 30 years, how would the result look now? While there is some uncertainty in how POBs—particularly limited pension obligation bonds—may develop in the future, NCPERS data demonstrates the strong performance of these bonds over previous decades. To be clear, in addition to prior strong performance, the advantage of POBs at this moment is the present low-interest rate environment. Demonstrated in Figure 2 below, historically low municipal interest rates underscore the favorable environment for a POB offering, which—if combined with a low-cost investment strategy—can produce the intended savings on the pension systems' unfunded liability.

Figure 2: Municipal AAA Rates



Source: Bloomberg

3. Proceeds from the bond issuance should be invested in index investments

Authoritatively endorsed in Act 5's 2018 PPMAIRC report, index investments offer a prudent low-cost strategy for Pennsylvania pensions to invest. This requirement would prevent any POB proceeds from being invested in speculative economic development projects, private equity contracts that are not liquid, or the expensive and opaque financialized products that have in the past driven up Pennsylvania's investment costs and driven down returns. If bond proceeds are not compartmentalized and indexed long-term, the General Assembly should not authorize any such offering. The primary focus of the bond issuance should be low-cost investments and long-term returns in line with the market, not the pursuit of higher-yield, riskier investments. Moreover, this index investment approach effectively safeguards taxpayers from the additional tax burden that could result if riskier high-yield investments do not work out, while still providing the investment performance required for success.

4. Voluntary pension benefit buy-outs

To limit risk associated with a POB issuance, a portion of the bond proceeds should be allocated to voluntary pension benefit buy-outs. For example, Pennsylvania's pension systems could begin to annually offer benefit buy-outs to former employees, through which the Commonwealth would buy-out the employee's future monthly benefits at a reduced rate in exchange for an immediate one-time payment. Buy-outs would serve two functions. First, they would create a quantifiable reduction in the overall unfunded pension liability, while diversifying the use of bond proceeds. Second, the upfront payments would provide immediate economic stimulus from former employees allocating the proceeds in ways that may better improve their well-being, e.g. higher education or small business creation. The proceeds would also be available for investment in other retirement accounts, which could also include the existing defined contribution plans established under Act 5 of 2017. This approach should consider constraints to avoid reducing retirement security or taking advantage of former employees.

5. Hedge risk through multiple bond issuances

Rather than a single POB issuance, a bond offering may be spread over several years, reducing risk as a result of market fluctuations and allowing for progress on previous offerings to be monitored before any additional commitment. As described above, a proposed advisory committee could provide guidance to state officials on the timing of any POB issuances.

6. Public asset reallocation

The Commonwealth should also consider shifting underutilized public capital to accelerate pension funding. Publicly-owned assets—such as land, buildings, air rights, or business-like enterprises—can be used to help fund pension systems. This is accomplished by transferring the assets to a pension-owned trust that would be professionally managed to generate new or improved cash flows. In 2017, the Connecticut General Assembly created the Pension Sustainability Commission. The Commission's final report concluded that reallocating inefficient or underused state assets to a privately-managed trust could help reduce the state's $34 billion pension gap. New Jersey, with a $160 billion pension liability, second only to Illinois, contributed its state-owned lottery to its pension plan in 2017 to create a dedicated revenue stream for pension funding. Subsequently, New Jersey began a comprehensive evaluation of all its capital assets for potential contribution to further address its pension crisis. With more than $39 billion in capital assets on its balance sheet—valued at cost, not fair market value—the Commonwealth should establish a commission to study the trade-offs and suitability of a statutorily defined asset reallocation program.

Conclusion

While pension obligation bonds should be viewed as one component in the ongoing reform process to Pennsylvania's pensions, this opportunity to refinance the Commonwealth's unfunded pension liabilities could provide much-needed stability. As such, any pension obligation bond offering should be supplemented with the additional policy measures outlined in this document.

1. Create advisory committee on pension obligation issuances and management
2. Consider limited pension obligation bonds
3. Invest bond proceeds only in index investments
4. Offer voluntary pension benefit buy-outs
5. Hedge risk through multiple bond issuances
6. Establish a commission to study the efficacy of public asset reallocation