

# Public Authority Debt Structure and New York's Future Generations 

September 2010

Thomas P. DiNapoli New York State Comptroller

Additional copies of this report may be obtained from:
Office of the State Comptroller
Public Information Office
110 State Street
Albany, New York 12236
(518) 474-4015

Or through the Comptroller's website at: www.osc.state.ny.us

## Table of Contents

EXECUTIVE SUMMARY ..... 1
PUBLIC AUTHORITY DEBT AND DEBT STRUCTURES ..... 2
Comptroller's Review of Public Authority Debt ..... 2
Constitutional and Statutory Provisions ..... 3
Cost of Back-Loaded Debt and Intergenerational Inequity ..... 3
Arguments For and Against Back-Loaded Debt Repayment Structures ..... 4
Comptroller's Debt Management Policy ..... 8
Metropolitan Transportation Authority ..... 9
Long Island Power Authority ..... 10
Water Authority of Western Nassau County ..... 11
Tabular Presentations ..... 12
RECOMMENDATIONS ..... 14

## Executive Summary

Unlike the State and local governments, New York State's public authorities are permitted to structure bond issues with the payment of principal heavily weighted to the end of the repayment schedule. This "back-loading" of debt is often contrary to the public's interest, frequently placing the financial burden on a future generation of taxpayers and ratepayers, and should be substantially restricted.

The repayment or amortization structure of a bond issue is critical in determining the overall cost of the borrowing. Debt issuances structured with substantially deferred principal payments, rather than with a level debt service structure, are typically more expensive over the life of the issue. Furthermore, the taxpayers or ratepayers who pay the majority or the entire principal amount at the end of the debt term may be substantially different than those who benefited from the asset. The asset itself may no longer be functional or may have a significantly diminished remaining useful life. Backloaded debt structures also allow authorities to issue more debt than they could otherwise afford in the near term.

In three recent examples, authorities seeking the Comptroller's approval of back-loaded debt structures have, after further discussion with the Office of the State Comptroller, restructured the issues, resulting in substantial public benefits. When combined, the restructured transactions resulted in total debt service savings of $\$ 456.9$ million on a cash flow basis and $\$ 175.9$ million on a net present value basis over the life of the bonds.

The Comptroller strongly discourages public authorities from substantially deferring principal payments when issuing debt. While there are some instances that justify some deferral of principal, the Comptroller recommends that all authorities develop debt policies that prohibit the inappropriate deferral of principal. Furthermore, the State should consider developing a consistent debt policy in statute for all public authorities to ensure the use of prudent practices and ensure that public resources are used effectively.

## Public Authority Debt and Debt Structures

New York's public authorities exist for diverse purposes, such as providing local water, operating regional transportation systems, supplying energy and promoting economic development. The number of State and local public authorities now totals just over 1,100 . Collectively, these authorities currently have more than $\$ 214$ billion in debt outstanding. The proliferation of the number and influence of State and local public authorities and the increase in the amount of debt they have issued have been the subject of many recent publications, including Comptroller DiNapoli's Debt Impact Study, which was issued in March 2010. ${ }^{1}$ The rapid growth in the overall amount of authority debt has been the subject of much discussion and concern, but is not the focus of this report. ${ }^{2}$

This report addresses the structure of the debt issued by public authorities. Some public authorities issue debt that is structured so that principal payments are deferred for more than 30 years. This review evaluates the practice of substantially deferring the payment of principal until the end of the repayment schedule, and concludes that such "back-loading" repayment of debt is contrary to the public's interest and should be substantially restricted. (Debt structured with substantial deferred principal comes in a variety of forms and with different names, including balloons, bullets and backloaded debt repayment structures, all of which are used interchangeably in this report.)

## Comptroller's Review of Public Authority Debt

Various New York State statutes require the Office of the State Comptroller to approve the terms and conditions of notes and bonds offered by certain public authorities and local governments at private or negotiated sale. The requirements are imposed separately in dozens of provisions of the Public Authorities Law and in several provisions of the Local Finance Law. However, many authorities are not subject to a review of the terms and conditions of the debt they issue.

The Office of the State Comptroller issued its "Debt Issuance Approval Policy Statement and Guidelines," which is available on the Comptroller's website. The Guidelines summarize the process and criteria for the review of the terms and conditions of municipal and public authority debt issuances that require approval by the Office of the State Comptroller.

The purpose of the Comptroller's approval function is to protect the interests of the taxpayers by ensuring that the total cost of the borrowing is reasonable and appropriate. These reviews have identified areas where costs could be reduced, resulting in savings to localities, the State and public authorities. However, the Office

[^0]of the State Comptroller's review and approval role does not extend to the purpose for which the bonds are being issued.

## Constitutional and Statutory Provisions

Public authorities are corporate instruments of the State created by the Legislature to further public interests. Although these entities develop, operate and maintain some of New York's most critical infrastructure, their statutory framework often provides them with significant flexibility in their operations. This extends to the issuance of debt. Public authorities generally have less restrictive issuance and repayment provisions than the State and its local governments and school districts.

State of New York: Pursuant to Article VII of the State Constitution and Section 57 of the State Finance Law, General Obligation Bonds issued by the State of New York are required to have a debt structure that is level or declining. In other words, the combined principal and interest payments must be virtually the same in each year or decrease in every year over the term of the debt issue.

Local Governments: Similar to the requirements governing State debt issuance, Article VIII of the State Constitution and Section 21.00 of the Local Finance Law require local debt issues to either have a level or declining debt structure over the life of the issue, or to comply with the so-called "50 Percent Rule" (no principal installment may be more than 50 percent in excess of the smallest prior installment).

Public Authorities: In contrast to the State Finance Law and the Local Finance Law, the Public Authorities Law does not constrain most State and local authorities to a level or declining debt service structure. This lack of a statutorily mandated structure has enabled public authorities to defer principal payments and back-load debt so that much of the principal is paid in later years.

While each debt issuance reviewed by the Office of the State Comptroller is evaluated based on its particular circumstances, Comptroller DiNapoli strongly discourages substantial deferral of principal payments. In response, a number of public authorities have restructured their initial proposed debt structures, resulting in substantial savings over the life of the issues. These authorities include the Water Authority of Western Nassau County (Water Authority), the Metropolitan Transportation Authority (MTA) and the Long Island Power Authority (LIPA).

## Cost of Back-Loaded Debt and Intergenerational Inequity

Debt structured with substantially deferred principal payments is often significantly more expensive over the life of the issue than debt with level or declining debt service payments. This is because the longer the principal amount remains outstanding, the longer interest is required to be paid on the debt. Furthermore, another fundamental problem underlying debt structured with bullets or substantially deferred principal payments is that those who are paying for the asset may be substantially different
from those who have had use of the asset. Deferred principal may create intergenerational inequities.

For example, a utility may finance equipment with a bond issue structured so that only interest is paid for the first 29 years of the repayment period, and the entire principal amount is paid in year 30. In this case, ratepayers in year 30 are paying the entire purchase price of equipment that may have a diminished useful life or operational value. A materially different group of ratepayers in year 30 are paying for capital projects that may be fully or significantly depreciated, or may even no longer be in use. Deferred principal also can create problems with an issuer's debt capacity, as principal is not being repaid as quickly and, therefore, debt capacity is not being renewed.

## Arguments For and Against Back-Loaded Debt Repayment Structures

Authorities cite a number of justifications for back-loading debt repayment structures, including: (1) the economies of Build America Bonds (BABs); (2) achieving present value neutrality; (3) achieving a level debt service structure by filling in debt service troughs; and (4) providing taxpayer or ratepayer relief. Despite these rationales, which are briefly discussed below, substantially deferred principal payments usually cost taxpayers more over the life of the issue and can result in intergenerational inequities.

There are circumstances where debt structures that are less than level may be justifiable. This may occur with conduit debt, which is debt issued by an authority on behalf of a third party, such as a hospital, private university or cultural institution, for which the authority has no obligation to repay the debt beyond the resources provided by the third party.

For example, conduit borrowers with uncertain revenue streams (such as cultural institutions with endowments) may need flexibility built into their debt amortization structures. There are also conduit borrowers with a disproportionate amount of taxable debt in their portfolios. These issuers would like to keep the tax-exempt debt outstanding as long as possible, since it has the lowest cost of borrowing. Despite the appeal of back-loading debt in these cases, the Comptroller believes it is important to examine each such proposal carefully with respect to cost and intergenerational equity.

Build America Bonds: BABs are authorized by the American Recovery and Reinvestment Act of 2009 (ARRA), and provide a federal subsidy to governmental issuers of taxable bonds for capital projects. The issuer sells taxable bonds at the market rate, and the federal government remits back to the issuer an interest subsidy, currently 35 percent of the interest expense. While taxable bonds bear a higher interest rate than tax-exempt bonds, the federal subsidy generally has the effect of making BABs, particularly those issued for longer maturities, economical to the issuer.

By having all or a substantial amount of principal deferred to the end of the debt service payment schedule, the issuer is able to maximize the amount of the interest subsidy on the BABs. In addition to maximizing the subsidy, there are other reasons that issuers may want to defer principal, including the ability to have larger and longer term principal maturities, which are sometimes demanded from institutional investors in the taxable bond market.

While the allure of the federal subsidy is undeniable, issuers can still benefit from the federal subsidy by issuing BABs without bullet maturities and using traditional taxexempt bonds for shorter maturities. In doing so, the issuer can achieve a level or substantially level debt service structure, and avoid some of the costs and the intergenerational inequities associated with structured bullets and balloon payments.

Present Value Neutrality: Issuers may justify deferring the repayment of principal by discounting their annual principal and interest payments to reflect the time value of money. If someone agrees to buy a $\$ 10$ shovel from you, but tells you they will pay you the $\$ 10$ in 30 years, you will realize correctly that $\$ 10$ received 30 years from now is less desirable than $\$ 10$ received today. That $\$ 10$ received in 30 years needs to be "discounted." Payments made in the future on bond issues need to be similarly discounted to arrive at present value.

The rate at which a debt structure is discounted will significantly affect the economy of a back-loaded debt structure. The higher the discount rate, the less the value of payments at the end of the issue in today's dollars and, therefore, the easier it is to show present value neutrality for back-loaded debt.

By using a sufficiently high discount rate, issuers can sometimes show "present value neutrality" of an issue that is back-loaded-or, in other words, show that the overall cost of borrowing stated in present value is virtually the same or more attractive for back-loaded debt as for an issue with a level debt service structure.

Issuers of debt typically use the arbitrage yield or the "cost of funds" rate when calculating the cost of a particular debt structure. ${ }^{3}$ However, when comparing two different amortization structures where debt will be repaid with public funds, future payments should be discounted to ensure that buying power is maintained over time. Therefore, the inflation rate is the more relevant discount rate to use in discounting future payments. Use of the inflation rate or the Consumer Price Index (CPI) typically makes a bulleted structure less economical than does discounting based on arbitrage yield or cost of funds. This is because the arbitrage yield is typically higher than the inflation rate since it includes a return to the bond purchaser that is in addition to the rate of inflation. (The following analysis presents both rates.)

[^1]The use of arbitrage yield for present value calculations poses an additional problem in that it makes a bulleted structure appear more advantageous for an issuer with weaker credit relative to an issuer with superior credit. This is because the issuer with a lower credit rating must typically pay a higher rate of interest. As a result, future payments are discounted more heavily than for an issuer who is able to issue at a lower interest rate.

The bullet payment at the end of a debt schedule becomes more economical for the less creditworthy issuer relative to the more creditworthy issuer. The apparent costeffectiveness of a bulleted structure on a net present value basis can actually induce lower-rated authorities to issue debt structured in a way that further undermines their long-term creditworthiness.

## Chart 1

Hypothetical Net Present Value of Debt Service Differential
\$100 Million with Bullet Structure Versus $\$ 100$ Million with Level Debt Service Structure
(in millions of dollars)


This concept is illustrated in Chart 1 and Table 1. The Chart and Table show the net present value of the difference in total debt service on a $\$ 100$ million issue between a bullet structure and a level debt service structure for issuers with credit ratings ranging from Baa to AAA. The difference in total debt service on a net present value basis between the two structures grows as the credit rating improves.

In this example, it is nearly twice as costly on a net present value basis for a AAArated issuer to use a bullet structure as compared to a level debt service structure than it is for a Baa-rated issuer. This is despite the AAA-rated issuer's superior credit rating.

## Table 1

Comparison of Bullet vs Level Debt Service Structures

| Hypothetical Issuer Rating | Principal Amount | Bullet Structure Gross Debt Service | Level Debt Service Structure Gross Debt Service | Gross Debt Service Difference | NPV of Debt Service Difference | $\begin{aligned} & \text { NPV } \\ & \text { Rate * } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Baa | \$100,000,000 | 254,330,000.00 | 191,913,799.50 | 62,416,201 | 4,675,214 | 4.85\% |
| A | \$100,000,000 | 232,980,000.00 | 174,587,758.25 | 58,392,242 | 6,774,904 | 4.04\% |
| AA | \$100,000,000 | 219,560,000.00 | 163,435,288.00 | 56,124,712 | 8,901,963 | 3.50\% |
| AAA | \$100,000,000 | 214,375,000.00 | 159,790,009.00 | 54,584,991 | 9,230,283 | 3.32\% |

* The NPV (Net Present Value) Rate used corresponds to the rate on the Level Debt Service Structure for each rating category and was derived from the MMD scale for tax-exempt general obligation bonds for each rating category as of August 23, 2010.

It is important to note that even if present value neutrality is achieved by a particular bulleted structure, back-loaded debt structures fail to address a fundamental problem with deferred principal, which is intergenerational inequity. Even if discounting future payments results in a payment scenario in which a balloon payment is equivalent to a level debt structure on a present value basis, the structure may be inequitable because a different group of people may be paying for the asset being financed, and may not benefit from its use. In other words, if you buy a shovel for $\$ 10$ and your children are required to pay for it in 30 years, that $\$ 10$ is deeply discounted, but your children may not have use of the shovel.

Filling in the Debt Service Trough at the End of the Debt Portfolio: Issuers who propose to issue debt structured with bullet payments at the end of a repayment period sometimes argue that when the issue is integrated into their overall debt portfolio, they achieve level debt in the aggregate. In reality, the bullet payments for the new issue are merely filling in the issuer's debt service "trough." The trough represents the decrease in total debt service payments that is projected to occur near the end of the repayment period for the issuer's total debt.

Such troughs generally reflect naturally lower principal and interest payments over time, as debt is paid down in an aggregate portfolio. Further, this rationale does not account for the extra interest expense generally associated with bulleted debt structures, and fails to address the intergenerational and debt capacity issues. In contrast, successive bond issues with level debt service will over time fill in the trough at the end of the debt portfolio and allow for a continual renewal of debt capacity.

Ratepayer Relief: A common justification used by public utilities for back-loading debt is that they need to defer principal payments so that they do not unduly burden ratepayers in the near term. This raises the question of why it should be acceptable to burden future ratepayers with paying for assets that have a diminished or no remaining useful life. As with an interest-only mortgage, back-loading debt substantially reduces payments in the early years because little or none of the principal is being paid. As a result, issuers may issue more debt than they can reasonably afford.

## Comptroller's Debt Management Policy

In his capacity of reviewing certain State and local debt issues, Comptroller DiNapoli has articulated a policy that strongly discourages back-loading of principal payments.

There are no general statutory provisions that require authorities to issue debt with a substantially level or declining debt repayment structure. In the absence of pertinent legislation, an efficient approach to ensuring that public authorities adhere to prudent debt practices remains elusive. Each case must be evaluated individually.

Recently, the Comptroller has urged public authorities that propose debt issues with deferred principal payments and bullet repayment schedules to restructure them to achieve a more level debt service repayment schedule. The following three cases illustrate substantial debt service savings that will be achieved through such restructurings. Chart 2 displays the debt service expense for the initial structure compared to the final structure for each case.

## Chart 2

Debt Service Costs - Initial Structure Compared to Final Structure
(in millions of dollars)


## Metropolitan Transportation Authority

In March 2010, the Metropolitan Transportation Authority (MTA) sought approval from the Office of the State Comptroller to issue approximately $\$ 503$ million of Dedicated Tax Fund Bonds. The transaction included traditional tax-exempt bonds and taxable BABs.

The debt structure initially proposed by the MTA deferred all principal payments until 2035, with roughly 50 percent of the total principal payments to be made in years 2035 through 2037 and the remaining principal payment to be made in the final year of the bond's maturity, 2041.

In response to the Comptroller's concerns about the significant deferral of principal payments, the MTA revised the bond structure so that the bonds would be repaid on a level debt service basis. As a result, the gross total debt service cost over the life of the bonds was reduced from $\$ 1.439$ billion to $\$ 1.099$ billion, representing a cash flow savings of $\$ 340$ million. Applying a discount rate of 3.2 percent (based on historical inflation) to the restructured proposal results in present value savings of $\$ 124.2$ million.

Chart 3 illustrates the net present value savings as a percentage of the total principal amount, which in this case is equal to 24.7 percent.

## Chart 3

MTA
Net Present Value Savings as a Percentage of the Total Principal Amount


## Long Island Power Authority

In January 2010, the Long Island Power Authority (LIPA) sought approval from the Public Authorities Control Board (PACB) to issue up to $\$ 210$ million of Electric System General Revenue Bonds for certain system-wide capital improvements. Although the structure of the proposal had not been finalized yet, one of the options under consideration by LIPA would have significantly deferred principal payments. In a comment letter to PACB, the Office of the State Comptroller expressed reservations about the back-loaded structure and indicated that in the absence of additional justification, approval of the transaction would be unlikely.

In April 2010, as LIPA was preparing to issue the bonds, it proposed a debt structure that deferred all principal payments until the final three years of the bond issuance, 2036 through 2038. This Office reiterated the Comptroller's concerns about a bulleted debt structure that had been previously articulated in the PACB comment letter. As a result, LIPA restructured the bond issue.

The debt structure that was ultimately approved provided for payment of a significant portion of the principal in the first half of the bond term. Additionally, the principal payments were targeted to years where LIPA had dips in its existing debt service structure. As a result, the total gross debt service cost over the life of the bonds was reduced from $\$ 582.5$ million to $\$ 479.7$ million, representing a cash flow savings of $\$ 102.8$ million. Applying a discount rate of 3.2 percent (based on historical inflation) to the final bond structure results in present value savings of $\$ 47.3$ million when compared to the initial structure presented by LIPA. Chart 4 illustrates the net present value savings as a percentage of the total principal amount, which in this case is equal to 22.5 percent.

## Chart 4

LIPA
Net Present Value Savings as a Percentage of the Total Principal Amount

\$210 Million

## Water Authority of Western Nassau County

In March 2010, the Water Authority of Western Nassau County (Water Authority) sought approval from the Office of the State Comptroller to issue Water System Revenue Bonds totaling approximately $\$ 41$ million. The transaction included traditional tax-exempt bonds and taxable BABs. The debt structure initially proposed by the Water Authority provided for less than $\$ 1.0$ million of the total principal payments to be made through 2026, leaving almost the entire amount of principal payments to be made in years 2027 through 2040.

In response to concerns raised by the Office of the State Comptroller about the substantially deferred principal, the Water Authority restructured the proposal. As a result, the total gross debt service cost over the life of the bonds was reduced from $\$ 105.4$ million to $\$ 91.4$ million, representing a cash flow savings of $\$ 14$ million. Applying a discount rate of 3.2 percent (based on historical inflation) to the restructured proposal results in present value savings of $\$ 4.4$ million.

Chart 5 illustrates the net present value savings as a percentage of the total principal amount, which in this case is equal to 10.8 percent.

## Chart 5

## Water Authority of Western Nassau County Net Present Value Savings as a Percentage of the Total Principal Amount



## Tabular Presentations

Table 2 provides a comparison of the initial gross debt service costs and the final gross debt service costs for the three examples presented above, without taking into account the effect of the 35 percent subsidy from the federal government on the interest expense on the BABs. Although the issuer directly benefits from the 35 percent interest rate subsidy, the subsidy is still a cost to the public since it is funded by federal tax dollars. Furthermore, the issuer must pay 100 percent of the interest cost on the bonds, regardless of whether a federal interest subsidy is provided.

The net present value of the savings is shown using both a discount factor of 3.2 percent, which is equivalent to the 20-year average CPI from 1990 through 2009, and the arbitrage yield on the bonds.

In all three examples, the cost to the public over the life of the issue is reduced substantially on a cash flow basis and a net present value basis, regardless of whether the discount factor used is the CPI rate or the arbitrage yield on the bonds. In each issue, the restructuring also eliminates or substantially curtails intergenerational inequities caused by back-loading principal payments and allows for accelerated replacement of debt capacity.

## Table 2



Table 3 provides a comparison of the initial net debt service cost and final net debt service cost for the three examples presented above. The net debt service cost reflects the principal and interest expense on the bonds after accounting for the effect of the federal 35 percent subsidy. In each case, there are still significant cash flow savings, even after the federal subsidy is considered. With one exception, there are also savings on a net present value basis.

In the case of the Water Authority of Western Nassau County, when the arbitrage yield is used to calculate the net present value of the debt service savings, there is a minimal additional cost $(\$ 187,550)$ as a result of the new structure. However, this is only because the portion of the interest cost that is offset by payments from the federal government is reduced. When the full amount of principal and interest
payments is reflected, as shown in Table 2, there is an overall savings as a result of the final structure.

## Table 3

| Net Debt Service Cost Comparison Initial Debt Structure Compared to Final Debt Structure |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Authority | Principal | Interest Initial Structure | Debt Service Initial Structure | Interest - <br> Final <br> Structure | Debt Service Final Structure | Debt Service Savings | $\begin{aligned} & \text { NPV of S: } \\ & 3.2 \%^{*} \end{aligned}$ | ings @ : <br> Arb Yield** |
| MTA | \$502,990,000 | \$608,241,211 | \$1,111,231,211 | \$391,178,238 | \$894,168,238 | \$217,062,973 | \$52,447,018 | \$36,691,393 |
| LIPA | \$210,000,000 | \$242,111,425 | \$452,111,425 | \$175,290,500 | \$385,290,500 | \$66,820,925 | \$24,405,617 | \$20,415,412 |
| Water Authority | \$40,890,000 | \$41,904,208 | \$82,794,208 | \$33,444,251 | \$74,334,251 | \$8,459,957 | \$1,001,478 | $(\$ 187,550)$ |
| *20 year average of Consumer Price Index (1990-2009), Bureau of Labor Statistics |  |  |  |  |  |  |  |  |

## Recommendations

The Comptroller urges public authorities to adopt policies that require debt issues to be structured with a substantially level or declining debt repayment schedule. For example, although not specifically required by State statute, the Division of the Budget has articulated a policy for public authority issuers of State-Supported debt that requires the utilization of a level debt service structure. ${ }^{4}$

State policy makers should consider statutorily requiring public authorities to obtain approval from the Office of the State Comptroller of all public authority debt that is not structured with substantially level or declining debt service, and where a substantial portion of public funds will be required for repayment. This additional level of review and scrutiny would help to ensure that taxpayer resources are used effectively to maximize public benefit.

Comptroller DiNapoli, through his review of various public authority debt issuances, strongly discourages material deferral of principal payments, including any debt structure that as a result of such deferral results in intergenerational inequities. By structuring individual bond issues with level debt service, over time, an aggregate overall debt portfolio that is uneven will gradually become level and declining.

There are circumstances where debt structures that are not level or declining may be justifiable. Therefore, the Comptroller should continue to review the particulars of each proposed debt issue. However, in the absence of compelling individual circumstances, the Comptroller will not approve issues that substantially defer principal payments or back-load debt.

[^2]
[^0]:    1 See Debt Impact Study, released by the Office of the State Comptroller. The report is available at www.osc.state.ny.us/reports/debt/debtimpact2010.pdf.
    ${ }_{2}$ Visit the Office of the State Comptroller's website, www.osc.state.ny.us/pubauth/index.htm, for additional information on New York's public authorities.

[^1]:    ${ }^{3}$ The arbitrage yield is defined by the Internal Revenue Service. It is expressed in terms of a rate and is used to determine the allowable investment earnings an issuer can receive on bond proceeds.

[^2]:    ${ }^{4}$ Section 67-a of the State Finance Law defines State-Supported debt as any bonds or notes, including bonds or notes issued to fund reserve funds and costs of issuance, issued by the State or a State public corporation for which the State is constitutionally obligated to pay debt service or is contractually obligated to pay debt service subject to an appropriation, except where the State has a contingent contractual obligation.

