Understanding Arbitrage

California Debt and Investment Advisory Commission
March 14th 2008
Anne Pelej, MuniFinancial
“Muni Interest Tax Exemption to Cost Government $35B in ’09”

... The Bond Buyer 2/5/08
Tax-Exempt Bonds

Proceed Investment

Arbitrage Yield
Discount Rate at which PV of Total Debt Service Equals Issue Price

Investment Earnings
Taxable Securities

Arbitrage Rebate

IRS
Consequences of Noncompliance

• Stiff penalties are imposed if arbitrage payments are late or yield restrictions are violated.

• Non-payment of arbitrage rebate may affect the tax-exempt status of the bonds.

• IRS reserves the right to audit any tax-exempt bond for arbitrage rebate compliance even after the bonds have been fully redeemed.
Advantages to Implementing an Effective Arbitrage Reporting Program

• Paying rebate means investment earnings are maximized, which provides additional funds to complete projects or to pay debt service.
• Being prepared for refinancings and IRS audits which can occur at any point during the life of the bond or beyond.
• Being in compliance with bond document covenants.
“It’s funny how two intelligent people can have such opposite interpretations of the tax code!”
Proposed Regulatory Changes

• Changes to accommodate certain hedges
• Electronic GIC Bidding
• Recovery of Overpayments
• Yield Reduction Payments Allowed on Advance Refunding Escrows
• Increased Computation Credit
Hedge Rules

- Makes taxable-index hedges eligible for simple integration but not super-integration
- Creates a two part qualifying test
  - Difference between the variable bond rate and the taxable index hedge is not greater than 0.25%
  - 3 year retrospective comparison of actual variable rate and the floating rate on the hedge
What is Arbitrage Rebate?
• All tax-exempt debt is subject to the arbitrage rebate and yield restriction requirements of the tax code.
• Some tax-exempt financings will meet an exception to the rebate regulations.
• Some tax-exempt financings will meet an exception to the rebate regulations but will still require a yield reduction payment.
• A small portion of tax-exempt financings will be selected for audit, at which point proof that no payment is due will be required.
Graphic Illustration of Arbitrage

[Graph showing investment yield and bond yield from January 2000 to July 2004, with positive and negative arbitrage areas marked.]

- Investment Yield
- Bond Yield

Positive Arbitrage

Bond Yield

Negative Arbitrage
Two Sets of Rules

• Arbitrage Rebate
  – Requires arbitrage profits to be “rebated” to the federal government
  – Exceptions to Rebate

• Yield Restriction
  – Proceeds are prohibited to be invested above the bond yield
  – Exceptions to Yield Restriction
Arbitrage is...

- The profit from buying something in one market and selling it in another.
- As it relates to the municipal bond market, arbitrage is the profit from borrowing funds in the tax-exempt market and investing them in the taxable market.
Rebate means…

• Unless an exception is available, the IRS requires a payment to the US Treasury equal to all interest earned on bond proceeds in excess of the bond yield.

• Payments are due every five years and on final redemption date or maturity of the bond issue.
What is Yield Restriction?

• In general, gross proceeds may not be invested at a yield materially higher than the yield on the bonds.

• Exceptions to Yield Restriction:
  – Temporary Periods
  – Reasonable Required Reserve Fund
  – Minor Portion (Lesser of $100,000 or 5 percent of proceeds)
Illustration of Yield Reduction Payment

- Payments after temporary period is a yield reduction payment.
- Cannot blend negative rebate liability with positive yield reduction liability.
- Can blend positive rebate liability with negative yield reduction liability.

<table>
<thead>
<tr>
<th>Period</th>
<th>Example No. 1</th>
<th>Example No. 2</th>
<th>Example No. 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years 1-3</td>
<td>$10,000</td>
<td>($9,000)</td>
<td>$8,000</td>
</tr>
<tr>
<td>Years 4-5</td>
<td>$5,000</td>
<td>$7,000</td>
<td>($2,000)</td>
</tr>
<tr>
<td>Rebate Payment</td>
<td>$10,000</td>
<td>$0</td>
<td>$6,000</td>
</tr>
<tr>
<td>Yield Reduction Payment</td>
<td>$5,000</td>
<td>$7,000</td>
<td>$0</td>
</tr>
</tbody>
</table>
Managing Arbitrage
Rebate Compliance
The best way to predict the future is to invent it...
Plan for the Future

- Establish a decision making process that promotes due diligence.
- Are your elected officials in the dark?
- How will staff turnover affect ongoing compliance?
- Document….document…..document……..
- Don’t forget to disclose the good news.
Achieve Optimum Payback

- Take advantage of the investment rules and aim to meet exceptions.

- Earn arbitrage whenever and wherever you can.

- Use maximum allowable earnings to supplement construction costs or retire bonds early.

- Surprise auditors with comprehensive rebate analysis and bond covenant compliance.
Customize the Flow of Information to Fit Your Needs

- Are you trying to meet a spending exception?
- Do you have investments maturing or rolling over at critical dates?
- Does the Tax Certificate contain elections that need monitoring?
- Do you regularly review investment strategies for bond proceeds?
- Have you placed “gatekeepers” where you need them?
Recommended Arbitrage Rebate Computation Schedules

- Annual calculation on all variable rate issues and fixed rate bonds that have accrued liabilities.

- 1st year, 3rd year, 5th year schedule for fixed rate bonds with no accruing liability.

- Minimum computation schedule, every 5 years.
Post Issue Concerns

• Proceed Investment
  – Long vs. short-term goals
  – Using the regulations to your advantage

• Construction Projects
  – Meeting spending exceptions
  – Three year temporary period for unrestricted investment

• Arbitrage Rebate Liability Accrual
  – Frequency of computation
  – Fixed vs. Variable Rate Debt

• Records Retention Requirements
• IRS Audits and Enforcement Focus
Get Organized

• Separate funds into individual accounts to gain the best arbitrage advantage.
• Establish a records retention policy that can be maintained for the life of the bond.
• Discuss with your “gatekeepers” critical transactions, red flags, and establish any additional reporting that may be helpful.
Documents Needed to Prepare an Arbitrage Report

- Official Statement
- Tax Certificate
  - 8038G
- Trust Indenture
- Escrow Verification Report (Refundings Only)
- Cash flow transactions
- Asset Statements
Managing Your Rebate Program

- Establish good policies and procedures for managing your bond issues.
- Negotiate the provisions of the Tax Certificate.
- Stay organized.
- Maintain a rebate reporting schedule that allows time for decisions at critical junctures.
Policies and Procedures

• Analyze activity on your bonds for all purposes, not just rebate.
• Maintain consistent procedures.
• Consult with Bond Counsel before making critical decisions relating to your tax-exempt debt, such as redeeming bonds early or changes in the use of proceeds or bond financed facilities.
Negotiate the Provisions of your Tax Certificate

• Do not allow the drafter to routinely include boiler plate language in your Tax Certificate - make sure you understand the representations you are making and covenants you are undertaking.

• Be sure you agree with any and all special elections.

• Read the Tax Certificate.
Stay Organized

• Track bond proceed investment and expenditures in detail.
• Avoid commingling funds whenever possible.
• Periodically verify Trustee held funds are being managed in accordance with the Indenture.
• Compute the arbitrage rebate liability at least every 5th bond year.
• Retain all records for the life of the bond, plus 3 years.
Calculating Arbitrage rebate
Overview

• Section 148 is the principal Code section governing arbitrage rebate.
  – Other provisions are found in Section 103, 149 & 150

• The arbitrage regulations are over 300 pages in length.

• Specific requirements for applying the rebate rules are complex and often open to interpretation.
Overview (cont.)

• The computation uses a “future value” method for computing arbitrage rebate.
  – Net investment cash flows associated with bond proceeds are future valued, using the bond yield and the same compounding intervals as the bond.
  – The future value of the investment earnings are compared to allowable earnings associated with the bond yield.
Overview (cont.)

- The regulations require all transactions be at market rate.
- Issuers may not manipulate the rate in order to decrease the amount of receipts or increase the purchase price to avoid rebate.
Substance vs. Form

• Economic consequences of a transaction will generally overrule verbal characterization in controversies involving abuse of the tax laws.

• Timing, purpose, and security are the three main criteria the rules focus on.
Valuation of Investment Receipts

• Fair Market Value Approach
  – Allows unrealized losses to be counted, thus reducing rebate.
  – Requires unrealized gains to be rebated.

• Present Value Approach
  – Future receipts are valued to the computation date using the purchase yield on the investment.
  – Assumes the investment will be held to maturity.
  – Amortizes investments from the purchase date to the computation date, and adds accrued interest.
  – More closely approximates the book value of investments as reported on financial statements.
  – May only be used for fixed rate investments.
Computation of Bond Yield

- **Fixed Rate Bond**
  - Determined using the debt service requirements to maturity.
  - Under certain circumstances the debt service schedule must be adjusted for possible early retirement.

- **Variable Rate Bond**
  - Yield calculation is segmented into periods of time.
  - The yield period may be the last day of any bond year, within the first 5 years.
  - Allows the issuer to use the most advantageous time periods for matching investment earnings to interest rates paid.
### Sample Calculation Summary

**Public Financing Authority**  
**1997 Lease Revenue Bonds**  
**$2,620,000.00**

Arbitrage Yield: **4.53195524%**  
Final Maturity Date: **October 1, 2007**

**Arbitrage Rebate Liability**  
For the Period October 9, 1997 – October 1, 2002

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs of Issuance</td>
<td>$ 74.46</td>
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<tr>
<td>Site Lease Payment</td>
<td>$ 5,108.91</td>
</tr>
<tr>
<td>Reserve</td>
<td>$ 19,884.06</td>
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<tr>
<td>FV Computation Date Credit – 10/01/98</td>
<td>$(1,196.33)</td>
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<tr>
<td>FV Computation Date Credit – 10/01/99</td>
<td>$(1,143.90)</td>
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<td>FV Computation Date Credit – 10/01/00</td>
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<tr>
<td>FV Computation Date Credit – 10/01/01</td>
<td>$(1,045.83)</td>
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<tr>
<td>Computation Date Credit – 10/01/02</td>
<td>$(1,000.00)</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$ 19,587.60</strong></td>
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<td>Rebate Liability (90% of Total)</td>
<td><strong>$ 17,628.84</strong></td>
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</table>

**Balance of Funds/Accounts**  
Subject to Rebate Requirement  
As of October 1, 2002

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$ 269,672.63</strong></td>
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</tbody>
</table>
# Sample Fund Analysis

**Fund/Account:** Costs of Issuance  
**Exhibit C**

**Public Financing Authority**  
**1997 Lease Revenue Bonds**

<table>
<thead>
<tr>
<th>Date</th>
<th>Receipts</th>
<th>Payments</th>
<th>Earnings</th>
<th>Balance</th>
<th>Future Value</th>
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<tbody>
<tr>
<td>09-Oct-97</td>
<td>$ 69,242.82</td>
<td>$ 0.00</td>
<td>$ 0.00</td>
<td>$ 69,242.82</td>
<td>$(86,547.39)</td>
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<tr>
<td>09-Oct-97</td>
<td>(3,780.00)</td>
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<td></td>
<td>65,462.82</td>
<td>4,724.67</td>
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<td>09-Oct-97</td>
<td>(6,104.68)</td>
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<td>59,358.14</td>
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<td>09-Oct-97</td>
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<td>27-Oct-97</td>
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<td>04-Nov-97</td>
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<td>02-Jan-98</td>
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<td>106.59</td>
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<td>24,970.11</td>
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<td>106.35</td>
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<tr>
<td>02-Feb-98</td>
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<td></td>
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<td>131.07</td>
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<tr>
<td>24-Feb-98</td>
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<td></td>
<td>14,063.52</td>
<td>4,911.43</td>
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<tr>
<td>02-Mar-98</td>
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<td>91.38</td>
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<td>14,154.90</td>
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<tr>
<td>03-Mar-98</td>
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<td>14,063.52</td>
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<td>01-Apr-98</td>
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<td>60.71</td>
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<td>14,124.23</td>
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<tr>
<td>02-Apr-98</td>
<td>(60.71)</td>
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<td>14,063.52</td>
<td>74.27</td>
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<tr>
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<td>0.00</td>
<td>17,175.83</td>
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<td>01-May-98</td>
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<td>28.92</td>
<td></td>
<td>28.92</td>
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<tr>
<td>04-May-98</td>
<td>(28.92)</td>
<td></td>
<td></td>
<td>0.00</td>
<td>35.24</td>
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<tr>
<td><strong>Total Rebatable Arbitrage</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$ 74.46</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Delivery Date:** 09-Oct-97  
**Computation Date:** 01-Oct-02  
**Arbitrage Yield:** 4.53195524%  
**Investment Yield:** 5.06061283%  
**Total Earnings:** $ 582.63  


## Compliance Monitoring

### Agency Arbitrage Rebate Compliance Summary as of 1/31/04

<table>
<thead>
<tr>
<th>Issue Date</th>
<th>Original Principal</th>
<th>Issue Name</th>
<th>Last Report</th>
<th>Liability</th>
<th>Next Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/07/1993</td>
<td>$2,405,000.00</td>
<td>Peacock Gap Refunding</td>
<td>10/01/1998</td>
<td>($26,061.00)</td>
<td>10/01/2003</td>
</tr>
<tr>
<td>01/28/1997</td>
<td>$5,250,000.00</td>
<td>1997 Revenue Bonds</td>
<td>05/31/2003</td>
<td>($42,382.16)</td>
<td>01/28/2007</td>
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<tr>
<td>06/30/1999</td>
<td>$23,504,004.00</td>
<td>1999 TAB</td>
<td>06/30/2003</td>
<td>$215,345.89</td>
<td>06/30/2004</td>
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<tr>
<td>12/06/2001</td>
<td>$3,220,000.00</td>
<td>2001 Revenue, Series A</td>
<td>-</td>
<td>-</td>
<td>12/06/2006</td>
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<tr>
<td>10/20/2002</td>
<td>$25,020,000.00</td>
<td>TARB Series 2002</td>
<td>-</td>
<td>-</td>
<td>10/20/2007</td>
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<tr>
<td>04/17/2003</td>
<td>$7,605,000.00</td>
<td>2003 Lease Revenue Bonds</td>
<td>-</td>
<td>-</td>
<td>04/17/2008</td>
</tr>
</tbody>
</table>
Payment Requirements

• Installment Dates
  – Every 5 years from issue date or bond year
  – Bond year election – first year can be shorter than a year
  – 90% payments due within 60 days

• Final Maturity
  – Date bonds matured or redeemed early
  – 100% payment due within 60 days
IRS Form 8038-T

• Form 8038-T only filed when there is a positive liability and/or yield reduction payment needed.
• Check payable to US Treasury.
• Mail rebate or yield reduction payment to IRS Center in Ogden, UT.
Exceptions to Rebate
Exceptions to Rebate

- Small Issuer Exception
- Spending Exceptions
- Bona Fide Debt Service Funds
Small Issuer Exception

• Requirements
  • Issuer must have general taxing powers
  • Not “Private Activity” Bonds
  • 95% or more proceeds used toward local government activities
  • Aggregate tax-exempt debt must not exceed $5 million within a calendar year
Small Issuer Exception for Schools

- Relates to bonds to finance construction of public school facilities
- January 1, 1998 limit increased to $10 million
- January 1, 2002 limit increased to $15 million
  - $10 million must be used for construction of public school facilities
  - $5 million for non-construction purposes (e.g. TRANS)
Spending Exceptions

• Six Month Spending Exception
• Eighteen Month Spending Exception
• Twenty-Four Month Spending Exception
Six Month Spending Exception

- Applies to any type of tax-exempt issue
- 6 months - 100% proceeds spent
- 501(c)(3) and governmental bonds have additional 6 months to spend 5% of proceeds
- Private activity bonds are not afforded the additional 6 months
Eighteen Month Spending Exception

• Requirements
  – Applies to any type of tax-exempt issuance for a capital project including industrial bonds or qualified mortgage bonds

• Schedule
  – 6 months – 15%
  – 12 months – 60%
  – 18 months – 100%
Twenty-Four Month Spending Exception

- Requirements
  - Applies to governmental bonds, 501(c)(3), or private activity bonds used for construction purposes.
  - Issuer reasonably expects that 75% of available construction proceeds will be used for construction expenditures.
  - Construction expenditures must be on property that is to be owned by a governmental unit or 501(c)(3) organization.
Twenty-Four Month Spending Exception

• Schedule
  – 6 months – 10%
  – 12 months – 45%
  – 18 months – 75%
  – 24 months – 100%
De Minimis Exception and Reasonable Retainage

• 18 month and 24 month exceptions
• De Minimis Exception
  – Lesser of 3% of issue price or $250,000
  – Exercise due diligence to complete project
• Reasonable Retainage
  – Additional 12 months to spend 5% of proceeds
  – Amount retained for business purposes relating to the financed property
Bona Fide Debt Service Funds

- Funds used primarily to achieve a proper matching of revenue and debt service within each bond year.
- Funds must deplete annually to zero with exception of reasonable carryover amount.
Exceptions to Yield Restriction
Exceptions to Yield Restriction

- Temporary Periods
- Reasonably Required Reserve
- De Minimus Exception
Temporary Periods

• Three Year Temporary Period
  – Within six months from issue date, issuer incurs a substantial binding obligation to a third party to expend 5% of net sale proceeds.
  – 85% of net sale proceeds expended on capital project(s) within three year period.
  – Issuer proceeds with “due diligence” to complete capital projects.
  – Project Funds, Capitalized Interest and Costs of Issuance qualify for three year temporary period.
Other Temporary Periods

• Five Year Temporary Period
  – Substantial amount of construction expenditures on a complex construction project.
  – Issuer and licensed architect or engineer certifies that five year period is necessary to complete capital project.

• Working Capital Expenditures/Operating Expenses have thirteen months

• Pooled Financings
  – Six Month Period to loan out proceeds.
  – Repayments from loans have only three months.
After the Temporary Period

- Yield restrict remaining proceeds, or
- Yield reduction payment may be permitted under 1993 Regulations
Reasonable Required Reserve Fund

• Should not exceed the lesser of
  – 10% of principal amount
  – Maximum annual debt service
  – 125% of the average annual debt service

• Excess Reserve Portion
  – Must be funded from other source such as revenues, not sale proceeds
  – Excess amount must be yield restricted
Yield Reduction Payments

• 1993 administrative solution to yield restriction.
• Yield Reduction Payments (YRPs) are payments made to the IRS on yield restricted funds.
• Paid at same time and manner as a rebate payment.
Yield Reduction Payments

• YRPs allowed for the following situations:
  – Investments qualified for an original temporary period
  – Investments restricted to a variable yield issue
  – Transferred proceeds associated with a refunding
  – Reserve fund balance in excess of reasonably required limit, but only up to 15% par

• Proposed Regulations will allow yield reduction payments for advance refunding escrows
Refund Requests
Filing for a Refund

- Use Form 8038R for filing.
- An overpayment of less than $5,000 may not be recovered before the final computation date.
- Overpayment can only be recovered to the extent that recovery does not result in additional rebate as of the date requested.
- GFOA & NABL lobbying to recover interest on overpayments.
Refund Rules

• 1992 Regulations
  – Generally applies to bonds issued prior to 6/30/93.
  – Only permits refunds caused by mathematical errors.

• 1993 Regulations
  – Permits refunds whenever an overpayment can be demonstrated.
Protecting Yourself and Your Agency
“At some point in a bond transaction take a look at each participant in the deal and decide if you are willing to be a co-defendant with them. If the answer is no, don’t do the deal.”

Paraphrased from a speech given at the National Association of Bond Lawyers Bond Attorney’s Workshop