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# Understanding Arbitrage

California Debt and Investment Advisory Commission

March 14th 2008

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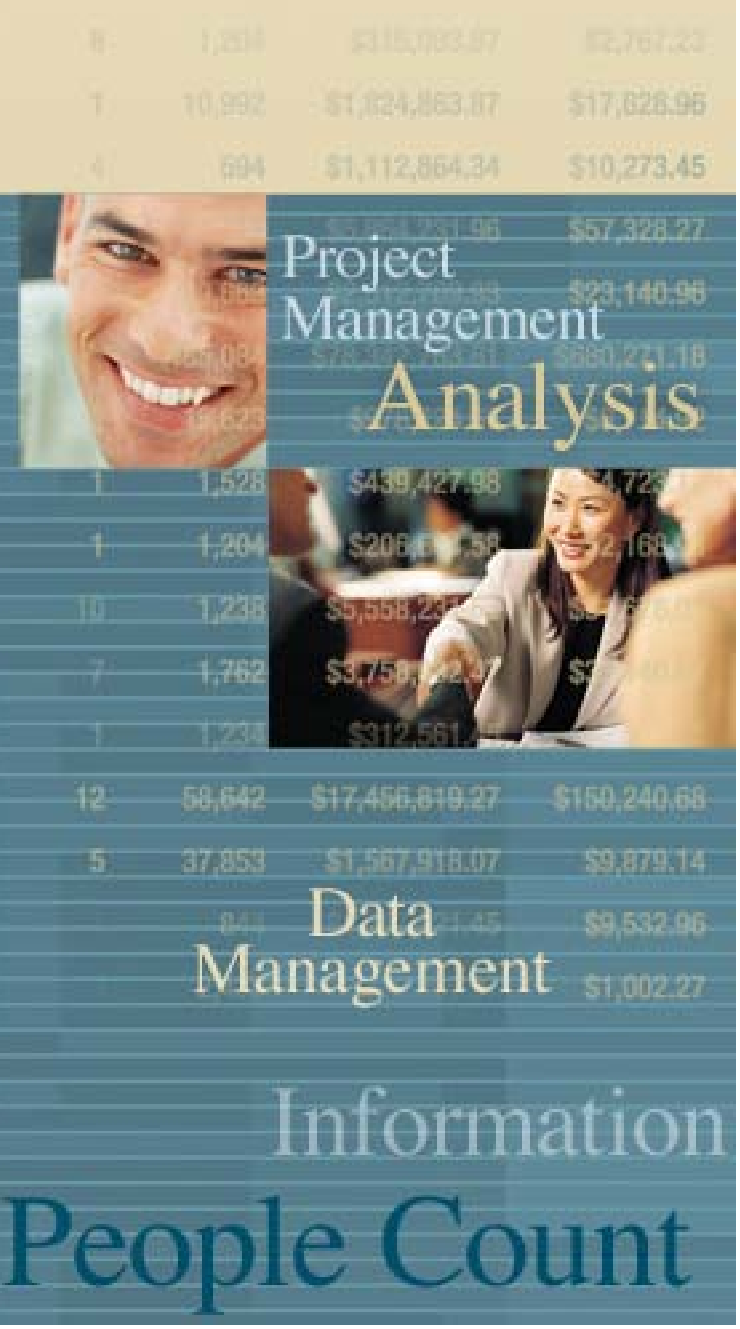
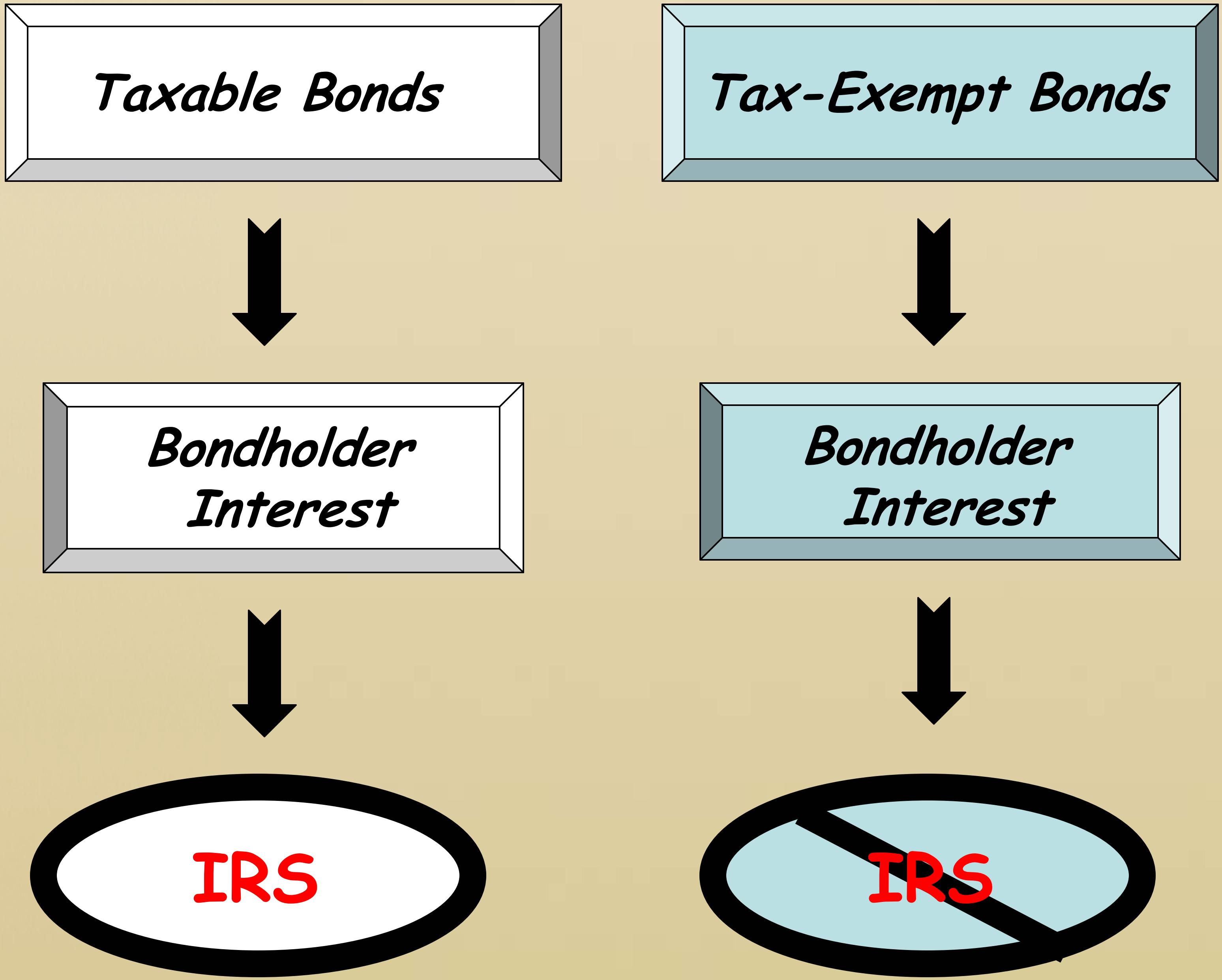
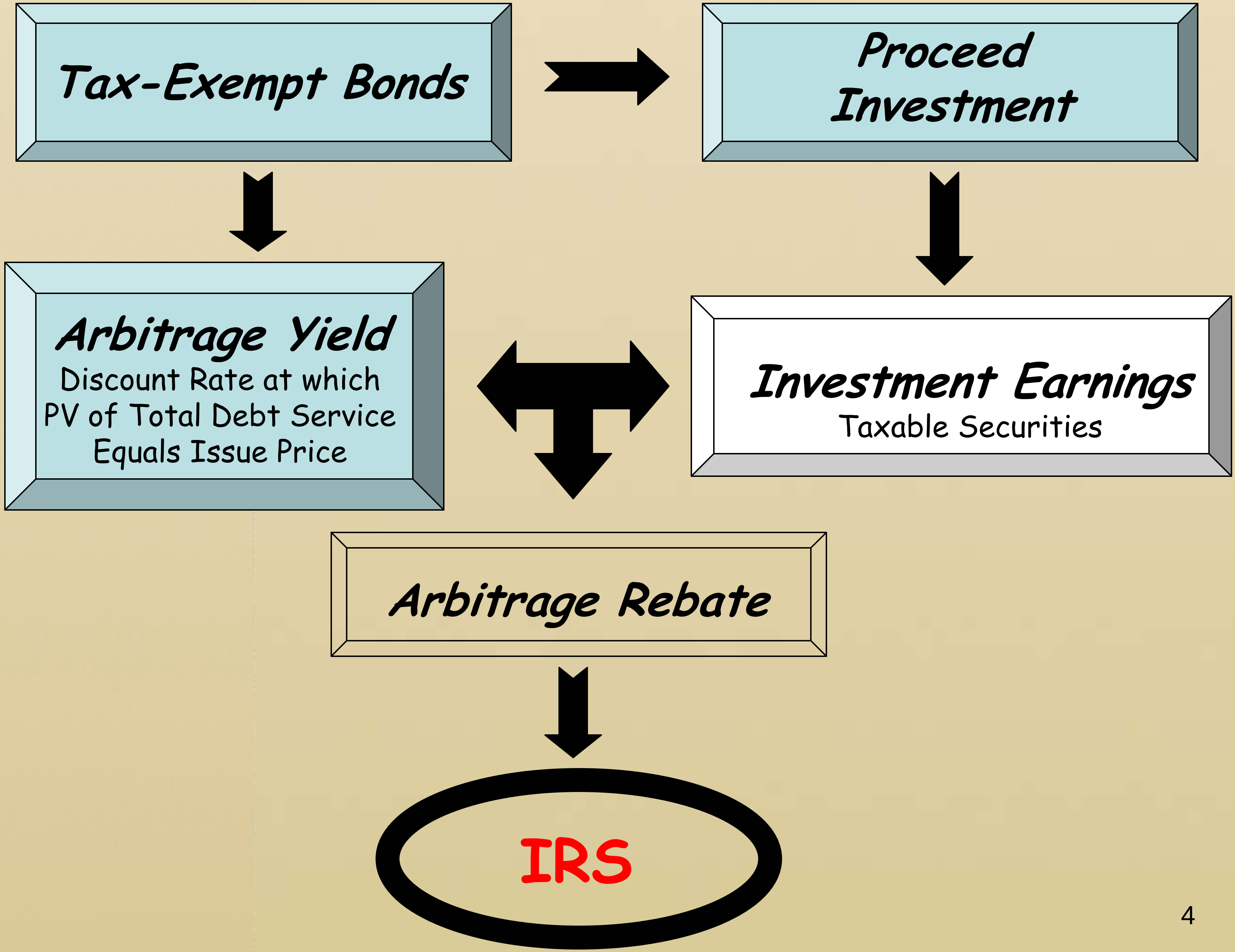


***“Muni Interest Tax Exemption to Cost Government $35B in ’09”***

*… The Bond Buyer 2/5/08*


Taxable Bonds
Tax-Exempt Bonds
Bondholder Interest
Bondholder Interest
IRS
IRS


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

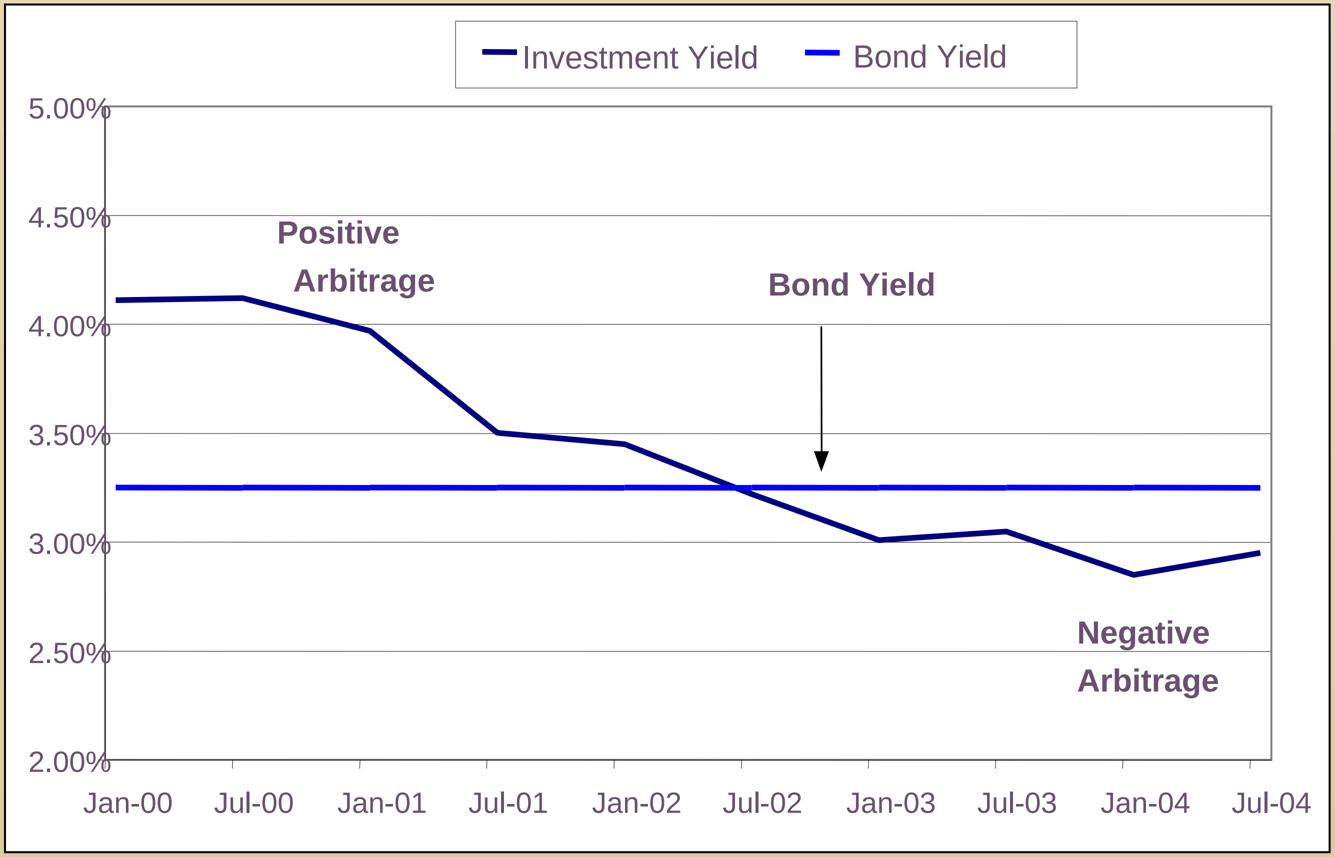
# Hedge Rules

- 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 .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



# 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.

| | | Arbitrage Earned | | |
|---|---|---|---|---|
| | Period | Example No. 1 | Example No. 2 | Example No. 3 |
| **Years 1-3** | Unrestricted | $10,000 | ($9,000) | $8,000 |
| **Years 4-5** | Restricted | $5,000 | $7,000 | ($2,000) |
| | | | | |
| **Rebate Payment** | | $10,000 | $0 | $6,000 |
| **Yield Reduction Payment** | | $5,000 | $7,000 | $0 |

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# Managing Arbitrage Rebate Compliance

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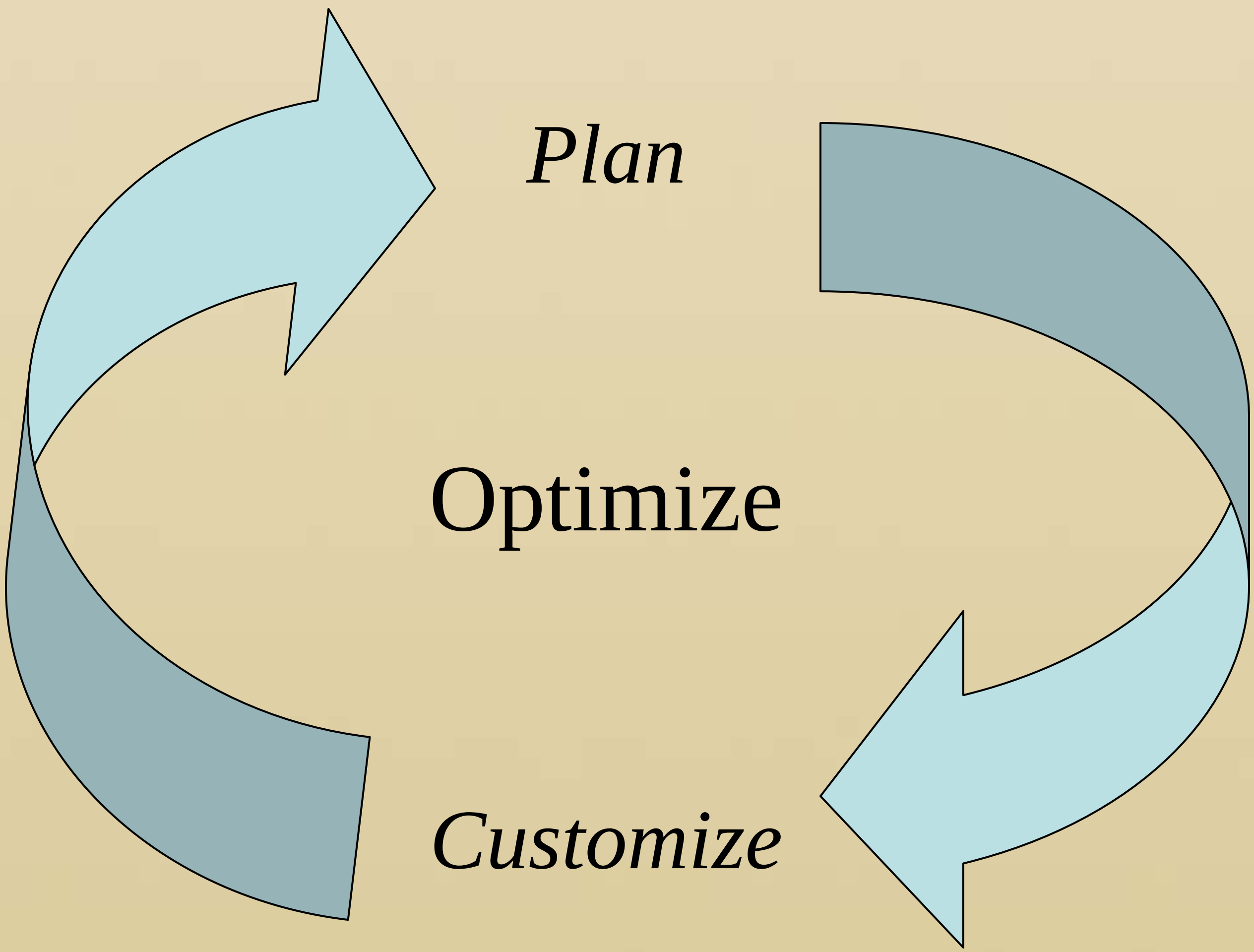
*The best way to predict the future*
*is to invent it…*



*Plan*
Optimize
*Customize*

# 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

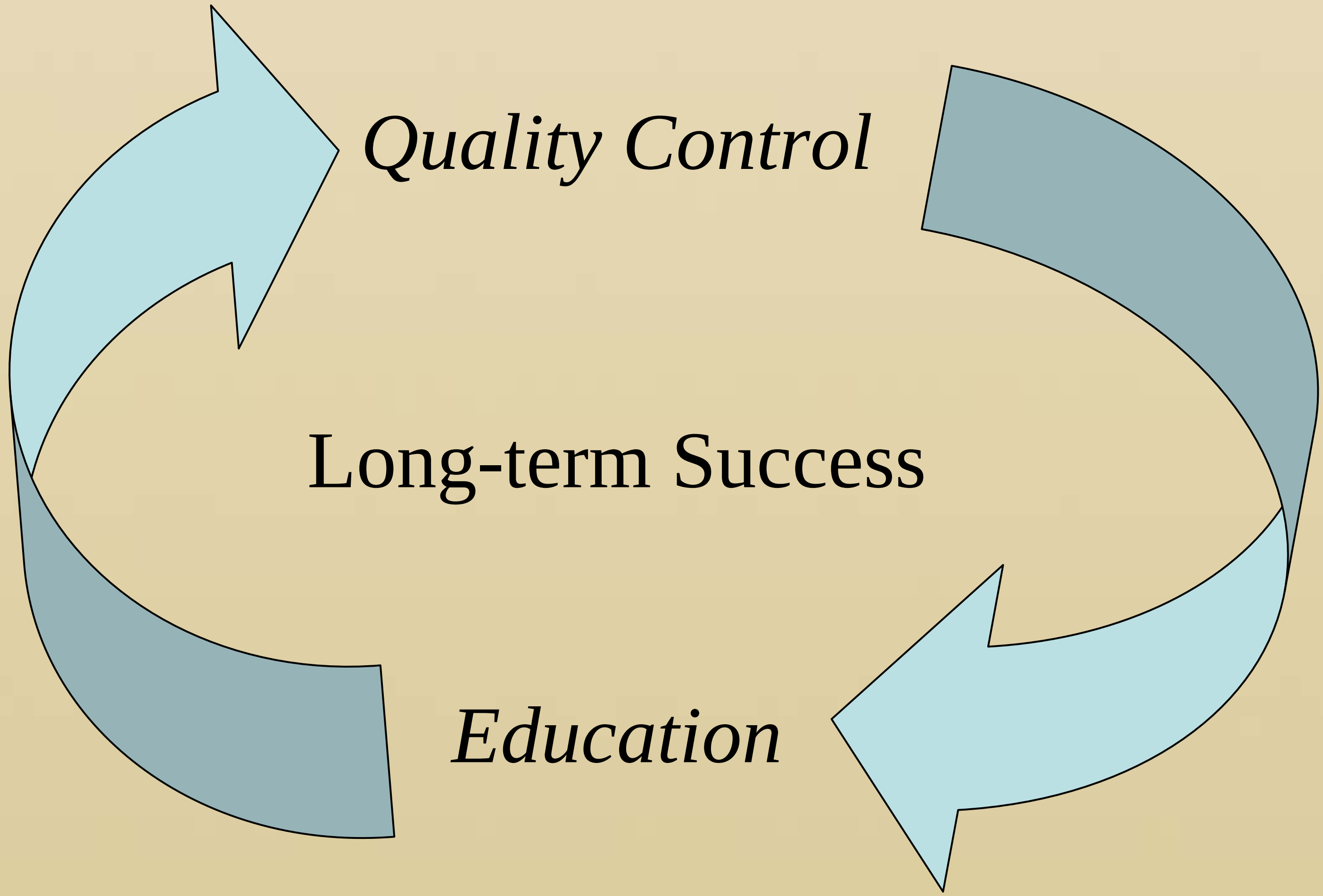
- Take advantage of the investment rules and aim to meet exceptions.
- Earn arbitrage whenever and wherever you can.
- Use maximum allowable earnings to supplement construction costs or retire bonds early.
- Surprise auditors with comprehensive rebate analysis and bond covenant compliance.

# 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.
- 1$^{st}$ year, 3$^{rd}$ year, 5$^{th}$ year schedule for fixed rate bonds with no accruing liability.
- Minimum computation schedule, every 5 years.


Quality Control
Long-term Success
Education

# 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.

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# Calculating Arbitrage Rebate

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# 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

## 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**

| | | |
|---|---|---|
| Costs of Issuance | $ | 74.46 |
| Site Lease Payment | | 5,108.91 |
| Reserve | | 19,884.06 |
| FV Computation Date Credit – 10/01/98 | | (1,196.33) |
| FV Computation Date Credit – 10/01/99 | | (1,143.90) |
| FV Computation Date Credit – 10/01/00 | | (1,093.77) |
| FV Computation Date Credit – 10/01/01 | | (1,045.83) |
| Computation Date Credit – 10/01/02 | | (1,000.00) |
| **Total** | **$** | **19,587.60** |
| **Rebate Liability (90% of Total)** | **$** | **17,628.84** |

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

| | | |
|---|---|---|
| Reserve | $ | 269,672.63 |
| **Total** | **$** | **269,672.63** |

# Sample Fund Analysis

Fund/Account: Costs of Issuance

Exhibit C

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

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

| Date | Receipts | Payments | Earnings | Balance | Future Value |
|---|---|---|---|---|---|
| 09-Oct-97 | $ 69,242.82 | $ 0.00 | $ 0.00 | $ 69,242.82 | $ (86,547.39) |
| 09-Oct-97 | | (3,780.00) | | 65,462.82 | 4,724.67 |
| 09-Oct-97 | | (6,104.68) | | 59,358.14 | 7,630.31 |
| 09-Oct-97 | | (29,994.62) | | 29,363.52 | 37,490.62 |
| 27-Oct-97 | | (4,500.00) | | 24,863.52 | 5,612.01 |
| 03-Nov-97 | | | 85.53 | 24,949.05 | |
| 04-Nov-97 | | (85.53) | | 24,863.52 | 106.57 |
| 01-Dec-97 | | | 103.15 | 24,966.67 | |
| 02-Dec-97 | | (103.15) | | 24,863.52 | 128.08 |
| 02-Jan-98 | | | 106.59 | 24,970.11 | |
| 05-Jan-98 | | (106.59) | | 24,863.52 | 131.81 |
| 02-Feb-98 | | | 106.35 | 24,969.87 | |
| 02-Feb-98 | | (106.35) | | 24,863.52 | 131.07 |
| 24-Feb-98 | | (6,800.00) | | 18,063.52 | 8,357.76 |
| 02-Mar-98 | | (4,000.00) | | 14,063.52 | 4,911.43 |
| 02-Mar-98 | | | 91.38 | 14,154.90 | |
| 03-Mar-98 | | (91.38) | | 14,063.52 | 112.19 |
| 01-Apr-98 | | | 60.71 | 14,124.23 | |
| 02-Apr-98 | | (60.71) | | 14,063.52 | 74.27 |
| 15-Apr-98 | | (14,063.52) | | 0.00 | 17,175.83 |
| 01-May-98 | | | 28.92 | 28.92 | |
| 04-May-98 | | (28.92) | | 0.00 | 35.24 |
| **Total Rebatable Arbitrage** | | | | | **$ 74.46** |

# Compliance Monitoring

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

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

# 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.

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# Exceptions to Rebate

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# 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.

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# Exceptions to Yield Restriction

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# 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

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# Refund Requests

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# 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.

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# Protecting Yourself and Your Agency

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*"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*