

# Module B

## Yield and Valuation of Investments

### Overview

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#### Introduction

IRC section 148(a) prohibits use of bond proceeds to acquire "higher yielding investments."

The basis for this rule is that municipal issuers can issue tax-exempt debt, which is generally at lower interest rates than taxable debt, and then invest the bond proceeds in taxable securities having a higher investment return.

Issuing bonds for the purpose of investing the proceeds in investments that have higher yield than the yield on the bonds is prohibited under IRC section 148.

In order to determine whether the investment of proceeds will result in the bond being an arbitrage bond, the agent must determine the "yield" on the bonds and the investments.

- Module M in the TEB Phase I Training as well as the previous section in Phase II Training discusses computation of the bond yield.
  - This module will discuss yield restriction requirements, computation of yield on investments and valuation of investments.
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#### Objectives

At the end of this module, the student will be able to:

- Identify investments and investment property
- Classify investments into separate classes
- Determine the applicable definition of materially higher yield
- Compute the yield on each class of investments
- Define yield reduction payments and determine when they can and cannot be used.
- Determine the value of investments

Identify qualified administrative costs and determine whether or not they are taken into account when computing the yield of the investments.

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## Overview, Continued

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# Section 1

## Statutory Provisions and Regulations

### Overview

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**Introduction** This section discusses the statutes and regulations used in calculating the yield on investments.

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**In this section** This section contains the following topics:

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**General Rule** provide guidance on the:

- calculation of yield on investments,
- use of yield reduction payments, and
- valuation of investments.

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**Statutes** Prior to the Tax Reform Act (1986), IRC section 103 of the 1954 Code contained the arbitrage rules. After the Tax Reform Act, the arbitrage and rebate rules are in IRC section 148. Note that some of the older still applicable regulations for bonds and arbitrage are found in section 1.103 of the Income Tax Regulations if they have not been superceded or revoked by IRC section 148 or other Treas. Regs. under sections 1.141 through 1.150.

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## Overview, Continued

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### Section 148

(a) Arbitrage bond defined. – For purposes of section 103, the term “arbitrage bond” means any bond issued as part of an issue any portion of the proceeds of which are reasonably expected (at the time of issuance of the bond) to be used directly or indirectly –

- (1) to acquire higher yielding investments, or
- (2) to replace funds which were used directly or indirectly to acquire higher yielding investments.

For purposes of this subsection, a bond shall be treated as an arbitrage bond if the issuer intentionally uses any portion of the proceeds of the issue of which such bond is a part in a manner described in paragraphs (1) or (2).

(b) Higher Yielding Investments.

- (1) In General. The term “higher yielding investments” means any investment property which produces a yield over the term of the issue which is materially higher than the yield of the issue.

The four underlined portions of the statutory provisions are the focus of this Module.

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## Treasury Regulations

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**General Rules** Since 1979 the Service has issued more than 12 sets of regulations, amendments, and proposed regulations relating to arbitrage. Many of these regulations affect the computation of yield on investments.

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**Current Regulations** The current Treas. Reg. section 1.148-5, originally published in November 1992, 1992-2 C.B. 688, was effective for bonds issued after June 30, 1993. These Temporary Regulations were amended on June 14, 1993 by T.D. 8476, 1993-2 C.B. 13. On May 9, 1997, in T.D. 8718, 1997-1 C.B. 47, these regulations were finalized. These regulations provide guidance on yield calculation, the use of yield reduction payments and the valuation of investments.

The current regulations apply to bonds sold on or after July 8, 1997. An issuer of bonds sold before that date may elect to apply these regulations in whole, but not in part, to issues issued before July 8, 1997.

Regulations sections 1.148-5(d)(6)(iii) (relating to determining fair market value of GICs and refunding escrows) and (e)(2)(iv) (relating to bidding agent fees for refunding escrows) became effective March 1, 1999.

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**Prior Regulations** Since current printed material containing regulations does not necessarily (depending on the publisher) contain the prior regulations, references for any particular set of regulations should be made to the original Treasury Decision (T.D.), as published in the Federal Register or the Internal Revenue Cumulative Bulletin.

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**1993 Regulations** Generally, the original 1993 regulations apply to issues issued after July 1, 1993. These provisions are now found in Treas. Reg. section 1.148-5A of the current regulations and may apply to bonds issued prior to July 8, 1997.

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## Treasury Regulations, Continued

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### **1992 Regulations**

Treas. Reg. section 1.148-2, published on May 18, 1992, dealt with the computation of rebatable arbitrage. Generally, Treas. Reg. section 1.148-2 applied to all bonds to which IRC section 148(f) applies. These regulations remain in effect for issues prior to July 1, 1993, unless the issuer chooses to use the 1993 Regulations. **See Treas. Reg. section 1.148-0(b)(2).**

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### **Temporary Regulations**

Temporary Treas. Reg. section 1.103-15AT was published on January 7, 1985 and withdrawn on June 14, 1993.

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## Section 2

### Investments

#### Overview

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##### **Introduction**

If investment property acquired with the proceeds of the bond issue produces a yield which is "materially higher" than the yield on the bond issue, then the proceeds of the bond issue are considered to be used to acquire higher yielding investments.

To determine whether the bond is an arbitrage bond, the agent must first determine whether investment property is acquired with the proceeds of the bond. If investment property is acquired, the agent must then determine if the investment property produces a yield which is materially higher than the yield on the bonds.

Acquisition of investment property with proceeds of a bond, in and of itself, does not result in the bond being an arbitrage bond. A bond is an arbitrage bond only if the yield on the acquired investment property is materially higher than the yield on the bond.

An issuer may have many different investments, and the regulations separate these investments into different classes. The yield on each of these separate classes of investments is computed separately.

This section discusses the definitions of investment and related terms, separate classes of investments and the concept of materially higher.

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##### **In this section**

This section contains the following topics:

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# Introduction to Investments

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**Definition of  
Investment**

According to Treas. Reg. section. 1.148-1(b), investment means any investment property as defined in IRC sections 148(b)(2) and 148(b)(3), and any other tax-exempt bond.

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## Types of Investment Property

IRC section 148(b)(2) defines “investment property” as:

- any security within the meaning of IRC section 165(g)(2)(A) or (B).
  - IRC section 165(g)(2)(A) = a share of stock in a corporation,
  - IRC section 165(g)(2)(B) = a right to subscribe for, or to receive, a share of stock in a corporation.
- any obligation - **See Treas. Reg. section 1.150-1(b)**. A broader definition than the “certificates of indebtedness” described in IRC section 165(g)(2)(C) because “obligations” are investments described under bond provisions.
- any annuity contract - **See Treas. Reg. section 1.148-1(b)**, which defines this as meaning an annuity contract as defined in **IRC section 72**.
- For governmental bonds, certain residential rental property located outside the jurisdiction of the issue, **See IRC section 148(b)(2)(E)**. and
- any investment-type property - **Treas. Reg. 1.148-1(e)**: property (other than that described above) that is held principally as a passive vehicle for the production of income. This includes any benefits based on the time value of money, including certain prepayments:
  - A prepayment is investment-type property if a principal purpose is to receive an investment-type return from the time payment is made until the time payment would otherwise be made.
  - A prepayment is not investment-type property if:
    - \* It is made for a substantial business purpose other than investment return and the issuer has no economically reasonable alternative to making the prepayment, OR
    - \* It is on substantially the same terms as are made by a substantial percentage of persons who are similarly situated to the issuer but are not beneficiaries of tax-exempt financing.

Recent decisions in the City of Columbus v. C.I.R. may be reviewed for a discussion of this area. See 106 T.C. 325 (May 14, 1996), 72 T.C.M. (CCH) 260 (July 30, 1996), 112 F. 3<sup>rd</sup> 1201 (May 13, 1997) and 75 T.C.M. (CCH) 2127 (April 6, 1998). See Exhibit B-4.

**NOTE: Proposed regulations were issued in April, 2002 which revise Treas. Reg. 1.148-1(e) and include guidance on prepayments to acquire a supply of natural gas.**

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## Introduction to Investments, Continued

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### Types of Investment Property (continued)

- Certain hedges are also investment-type property. This includes the investment element of a contract that is a hedge within the meaning of Treas. Reg. section 1.148-2(h)(2)(i)(A) and that contains a significant investment element because a payment by the issuer relates to a conditional or unconditional obligation by the hedge provider to make a payment at a later date. (See section 5 of Module B, Phase II.)
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### Investment Property?

Bond Issue	Investments Acquired	
	AMT	Non- AMT
AMT	no	no
Non-AMT	yes	no

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### Most Tax Exempt Bonds are Not Investment Property

IRC section 148(b)(3) states that tax-exempt bonds are not investment property **except** that for non-private activity bonds, investments in private activity bonds are considered investment property.

For example, proceeds of a governmental bond invested in AMT bonds would be considered investment property. This exception exists because of the arbitrage potential of investing non-AMT bond proceeds in slightly higher yielding AMT bonds. The AMT bonds carry a slightly higher rate to compensate investors for having to pay AMT.

Following is a summary of this concept:

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### What is Not Investment Property?

Bond proceeds used for:

- buildings and equipment, i.e. spent proceeds for bricks, concrete and mortar,
- buying and paying for the real purpose of issuing the bonds,
- salaries and administrative costs, and
- fees incurred in issuing the bonds

are not investment property.

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## Introduction to Investments, Continued

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**Purpose Investment**      Treas. Reg. section 1.148-1(b) provides that a purpose investment means an investment that is acquired to carry out the governmental purpose of an issue.

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**Non-purpose Investment**      Treas. Reg. section 1.148-1(b) provides that a non-purpose investment means any investment property, as defined in section 148(b), that is not a purpose investment.

- A **financing lease** may be treated as a non-purpose investment. In PLR 9144001 a Subchapter S corporation constructed an airplane hangar that was then leased to a 501(c)(3) organization. The IRS concluded that the “lease” should be treated as a conditional sale agreement and that it should be treated as a non-purpose obligation.
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**Program Investment**      Treas. Reg. section 1.148-1(b) provides that a program investment is a purpose investment, which is part of a governmental program and generally includes student loan bonds, qualified mortgage bonds and qualified veterans' mortgage bonds.

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**Guaranteed Investment Contracts**      Treas. Reg. section 1.148-1(b) provides that a guaranteed investment contract ("GIC") includes any non-purpose investment that has a specifically negotiated withdrawal or reinvestment provisions and a specifically negotiated interest rate, and also includes any agreement to supply investments on two or more future dates (e.g. a forward supply contract).

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**Investment Proceeds**      Treas. Reg. section 1.148-1(b) provides that investment proceeds means any amounts actually or constructively received from investing proceeds of an issue.

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## Classes of Investments

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**Introduction** An issuer may have many different investments. The regulations specify separate classes of investments and how these classes are treated.

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**General Rule** An issuer may have many different investments. The regulations specify separate classes of investments and how these classes are treated.

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**Blended Yield** Treas. Reg. section 1.148-5(b)(2)(i) provides that in determining the yield on a separate class of investments, each individual investment within the class is blended with the all of the other individual investments within the class, whether or not held concurrently, by treating those investments as a single investment.

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**Different Classes** Treas. Reg. section 1.148-5(b)(2)(i) provides that the yields on different classes of investments are not blended.

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**Separate Classes** Treas. Reg. section 1.148-5(b)(2)(ii) provides that each of the following is a separate class:

(A) Each category of yield restricted purpose investment and program investment that is subject to a different definition of materially higher under section 1.148-2(d)(2) is a separate class:

- Student loans - materially higher is 2percent
- Program investments other than student loans - materially higher is 1 ½ points,

(B) Yield-restricted non-purpose investments,

(C) All other non-purpose investments.

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## Special Rules for Classes of Investments

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### **Special Rules for Certain Sinking Funds**

Treas. Reg. section 1.148-5(b)(2)(iii) provides that if the issuer reasonably expects as of the issue date to establish and maintain a sinking fund solely to reduce the yield on the investments in a refunding escrow, then the issuer may treat all of the yield restricted non-purpose investments in the refunding escrow and that sinking fund as a single investment having a single yield.

The issuer may not treat non-purpose investments in a reasonably required reserve fund, a type of sinking fund, and a refunding escrow as a single investment having a single yield.

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### **Mandatory Blending: Refunding Escrows**

Treas. Reg. section 1.148-5(b)(2)(iv) provides that in computing the yield on yield restricted investments allocable to proceeds of a refunding issue that are held in one or more refunding escrows, the individual investments are treated as having a single yield, whether or not held concurrently.

Under the mandatory blending rule a single investment includes both the individual investments allocable to the sale and investment proceeds of a refunding issue that are held in one refunding escrow for a prior issue and the investments allocable to transferred proceeds of that refunding issue that are held in another refunding escrow.

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### **Consistency Redemption Assumptions on Purpose Investments**

Treas. Reg. 1.148-5(b)(4) provides that yield on purpose investments allocable to an issue is computed using the same redemption assumptions used to compute the yield on the issue.

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## Special Rules for Classes of Investments, Continued

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### **Special Rule for Mortgage Bonds**

Yield on purpose investments allocable to an issue of qualified mortgage bonds and qualified veterans' mortgage bonds must be determined in a manner that is consistent with, and using the assumptions required by IRC section 143(g)(2)(B).

- Subparagraph (A) provides the effective rate of interest on the mortgages cannot exceed the yield on the bonds by more than 1.125 percentage points
  - Subparagraph (B) provides rules for the effective rate of interest on the mortgage investments. This includes what fees, charges, etc. are borne by the mortgagor and what fees etc. are NOT borne by the mortgagor and other assumptions.
  - Subparagraph (C) provides rules for determining yield on the mortgage bond issues.
  - Paragraph (3) of section 143(g) provides special rules on Arbitrage and Investment gain to be used to reduce costs of owner financing.
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# Temporary Periods

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## **Review and Discussion of Temporary Periods**

The previous section defined the three separate classes of investments as:

1. Each category of yield restricted purpose investment and program investment that is subject to a different definition of materially higher
2. Yield-restricted non-purpose investments,
3. All other non-purpose investments.

Ignoring purpose/program investments for the moment, we can summarize the remaining classes as:

1. Yield restricted investments
2. Non-yield restricted investments

Remember, investments in different classes may not be blended, so we must separate the yield-restricted investments from the non-yield-restricted investments. It may be useful to think that all proceeds start off as yield restricted, but some are given “temporary” unrestricted status by the temporary periods in Treas. Reg. Section 1.148-2(e). Determining the applicable temporary period to the proceeds of an issue will allow the proceeds to be separated into the appropriate classes. Please see Phase I Training, Module M, Section 7 for a detailed discussion of temporary periods and Section 10 for the ability to waive temporary periods.

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# Materially Higher Yield

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**General Rule** According to Treas. Reg. section 1.148-2(d)(2)(i), if an investment purchased with proceeds of tax-exempt bonds produces a yield which is at or above one-eighth of one percent above the bond yield, the yield on the investment is materially higher than the yield on the bonds.

This general rule applies for both purpose investments and non-purpose investments.

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**Exception to General Rule** Treas. Reg. section 1.148-2(d)(2) provides exceptions to the general rule for certain investments listed below:

Type of Investment	Meaning of Materially Higher
Refunding Escrow	one-thousandth of one percent
Replacement Proceeds	one-thousandth of one percent
Program Investments, other than student loans	one and one-half percent
Qualified Student Loans that are program investments	two percent
Tax-exempt Obligations that are NOT considered investment property	there is no yield limitation

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**Lowest Permitted Yield Applies** If yield restricted investments in the same class are subject to different definitions of materially higher, the applicable definition of materially higher that produces the lowest permitted yield applies to all the investments in that class.

For example, if an issue has replacement proceeds and also has construction fund proceeds remaining 3 years after issuance, the post-temporary period construction funds will be restricted to 1/1000<sup>th</sup> percent, rather than the usual 1/8<sup>th</sup> percent allowable spread. **See Treas. Reg. section 1.148-2(d)(1).**

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## Separating Investments into Classes – An Exercise

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### Introduction

This exercise combines many types of situations, which would normally NEVER occur in the same single bond issue. However, the exercise allows for consideration of many elements of the rules regarding investments and separating them into classes. You should know the temporary period rules from Module M of Phase I beforehand.

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### Facts

State S issued a \$100,000,000 6percent bond on April 1, 1996, maturing in 12 years. Interest is payable to bondholders each April 1 and October 1.

Amount	Explanation
\$2,000,000	Paid to underwriters for issuance costs
\$20,000,000	Used to set up a student loan program. Initially invested in a regulated investment company's money market fund, while loan applications are processing
\$19,000,000	Used to set up the qualified mortgage loan program, 8 banks will make the mortgage loans.
\$11,000,000	Used to Advance Refund (on September 1, 1999) all of an outstanding G.O. bond. Proceeds remain in the construction fund for the prior issue
\$10,000,000	Used to create a reasonably-required reserve and replacement fund
\$25,000,000	Placed in a dormitory construction fund to be used over the next three years
\$13,000,000	Placed in a 5 year construction fund to be used for hydroelectric connection between State's state-owned generating plant and the regional electric grid, invested as follows: \$8,000,000 in commercial bonds 2,000,000 in G.O. Bonds of State T 3,000,000 in new private activity bonds, half of which are 501(c)(3) hospital bonds

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## Separating Investments into Classes – An Exercise, Continued

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### **Thought Process**

Before solving the questions below, make sure you consider things logically:

- A. Are the proceeds placed into investments?
  
  - B. If the proceeds are placed into investments, is there an applicable temporary period during which there may be no yield restriction?
  
  - C. If there are no applicable temporary periods, is there a special definition allowing for a different “materially higher yield” for that investment?
  
  - D. What happens if any applicable temporary period expires?
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### **Questions**

Based only on the facts given:

- 1. Identify what are the investments
  
  - 2. Separate the investments into classes
  
  - 3. How many classes are there? Should any be combined?
  
  - 4. Can you determine yield on the bonds from the information presented?
  
  - 5. Can you determine yield on the investments?
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## Section 3

### Introduction to Computation of Yield on Investments

#### Overview

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**Introduction** The yield on investments represents the rate of return on the investments.

The yield on an investment is needed to determine if an investment is properly yield restricted.

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**In this section** This section contains the following topics:

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Basic Yield Computation Exercise	B-8
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## Basic Yield Computation Terms and Definitions

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**General Rule:  
Method,  
Interval and  
Conventions**

The yield on an investment is computed under the economic accrual method, using the same compounding interval and financial conventions used to compute the yield on the issue. For example, if the yield on the issue is computed using the 30/360 days convention, with semi-annual compounding, then the same methodology must be used to compute the yield on the investments. **Treas. Reg. section 1.148-5(b)(1).**

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**Definition of  
Yield**

Treas. Reg. section 1.148-5(b)(1) provides that the yield on an investment allocated to an issue is the discount rate that, when used in computing the present value as of the date the investment is first allocated to the issue of all unconditionally payable receipts from the investment, produces an amount equal to the present value of all unconditionally payable payments for the investment.

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**Definition of  
Payments**

Treas. Reg. section 1.148-5(b)(1) provides that payments means amounts to be actually or constructively paid to acquire the investment

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**Definition of  
Receipts**

Treas. Reg. section 1.148-5(b)(1) provides that receipts means amounts to be actually or constructively received from the investment, such as earnings and return of principal.

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## Basic Yield Computation Exercise

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### Computing the Yield

Yield calculations are normally performed with a computer, however an understanding of the underlying concepts and formula can be useful. Let's take a look at how to compute the yield on this investment.

### FACTS

Part	Function
1. Date of investment	March 1, 2000
2. Proceeds used to buy investment	\$980,000
3. Par amount of investment	\$1,000,000
3. The nominal investment rate	8%
4. The anticipated interest receipt dates	March 1 and September 1
5. The term	2 years
6. Day count convention	30/360
7. Compounding interval	Semi-annual

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The first step is to create a schedule of the payments and receipts over the term of the investment, as follows:

Date	(Payments)/Receipts
3/1/90	(980,000)
9/1/00	40,000
3/1/01	40,000
9/1/01	40,000
3/1/02	1,040,000

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## Basic Yield Computation Exercise, Continued

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**Computing the Yield,**  
(continued)

The definition of yield above requires some present value analysis, so let's look at the formula for present value:

$$PV = \frac{FV}{(1 + i)^n}$$

**where:**

***i = rate/c***

***n = number of days between dates/360/c***

***c = number of compounding intervals per year***

According to the definition, our goal is to determine the rate (“i”) that will cause (1) the present values of all the payments to equal (2) the present value of all of the receipts, with all of those present values computed as of the date the investment is first allocated to the issue. A formula does not exist to solve directly for “i” – we must find it through trial and error. So, we’ll take a guess at what the rate might be and determine the results using the formula above. We’ll continue doing that, making better and better guesses at what the rate is until eventually, we get exactly the right yield.

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## Basic Yield Computation Exercise, Continued

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**Computing the Yield,**  
(continued)

In our example, the investment is purchased at a discount, so we know the yield will be something more than the 8 percent nominal investment rate. Let's guess that the yield will be 10 percent and determine the results.

<u>Date</u>	<u>Cash Flow</u>	<u>n</u>	<u>i</u>	<u>Present Value on 3/1/00</u>
3/1/00	(980,000)	0.00	0.05000	(980,000)
9/1/00	40,000	1.00	0.05000	38,095
3/1/01	40,000	2.00	0.05000	36,281
9/1/01	40,000	3.00	0.05000	34,554
3/1/02	1,040,000	4.00	0.05000	855,611
			Difference	(15,460)

Again, we're trying to make the present values of the payments equal the present value of the receipts, or said another way, make the difference between the two numbers equal to zero. It turns out that our guess of 10 percent was a little high, so let's try 9 percent:

<u>Date</u>	<u>Cash Flow</u>	<u>n</u>	<u>i</u>	<u>Present Value on 3/1/00</u>
3/1/00	(980,000)	0.00	0.04500	(980,000)
9/1/00	40,000	1.00	0.04500	38,278
3/1/01	40,000	2.00	0.04500	36,629
9/1/01	40,000	3.00	0.04500	35,052
3/1/02	1,040,000	4.00	0.04500	872,104
			Difference	2,062

Our "difference" is getting closer to zero, and we can continue to narrow our guesses closer and closer to the correct answer. Using interpolation, we continue to substitute figures for "i" until the difference is zero. In this case, the investment yield is 9.1165 percent, computed as follows:

<u>Date</u>	<u>Cash Flow</u>	<u>n</u>	<u>i</u>	<u>Present Value on 3/1/00</u>
3/1/00	(980,000)	0.00	0.0455825	(980,000)
9/1/00	40,000	1.00	0.0455825	38,256
3/1/01	40,000	2.00	0.0455825	36,588
9/1/01	40,000	3.00	0.0455825	34,993
3/1/02	1,040,000	4.00	0.0455825	870,162
			Difference	0

## Special Rules

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### **Variable Rate Instruments**

Treas. Reg. section 1.148-5(b)(1) provides that the yield on a variable rate instrument is determined in a manner comparable to the determination of the yield on a variable issue. **See Treas. Reg. section 1.148-4(c) for computation of yield on a variable yield issue.**

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### **Mortgage Revenue and Qualified Student Loan Bonds**

Treas. Reg. section 1.148-5(b)(1) also provides that for an issue of qualified mortgage bonds, qualified veterans' mortgage bonds, or qualified student loan bonds on which the interest is paid semiannually, all regular monthly loan payments received during a semi-annual debt service period may be treated as received at the end of that period.

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### **Payments Made by the Conduit Borrower**

Treas. Reg. section 1.148-5(b)(1) provides that for any conduit loan, payments made by the conduit borrower are not treated as paid until the conduit borrower ceases to receive the benefit of earnings on those amounts.

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## Section 4

# Yield Reduction Payments

## Overview

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### Introduction

Bond proceeds that are invested outside a temporary period must not be invested at a yield in excess of the materially higher amounts described in Treas. Reg. Section 1.148-2(d)(2). For such proceeds, an issuer has 3 choices. It can:

1. Buy tax-exempt investments, as described in Section 2 of this Module
2. Buy yield restricted investments (either on the open market, if available at a low enough rate, or SLGS through Bureau of Public Debt)
3. Make yield reduction payments.

Making yield reduction payments will often have economic advantages over the other choices and is most likely the least burdensome administratively. However, yield reduction payments are only available for certain types of investments. This section discusses the use of yield reduction payments to comply with the yield restriction rules.

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### In this section

This section contains the following topics:

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## General

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### Terms of Payment

Treas. Reg. section 1.148-5(c)(2)(i) provides that yield reduction payments must be paid to the United States at the same time and in the same manner as rebate payments. The provisions that apply to rebate payments, such as due dates, making 90 percent installment payments, correction of late payments, and recovery of overpayments, all apply to yield reduction payments as well.

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### Treatment as Payments

Treas. Reg. section 1.148-3(d)(v) provides that yield reduction payments on non-purpose investments are treated as payments for purposes of rebate calculations. This treatment prevents an issuer from having to pay the same arbitrage twice, once as a rebate payment and then again as a yield reduction payment.

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### Special Rule for Purpose Investments

For purpose investments allocable to an issue:

- No yield reduction payments need be made until the earlier of:
  - the tenth bond year after the issue date; or
  - 60 days after the issue is no longer outstanding.
- For payments made prior to the issue's retirement, only 75 percent of the amount need be paid.

**See Treas. Reg. section 1.148-5(c)(2)(ii).**

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# Eligible Investments

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## Introduction

An issuer may only make yield reduction payments for the following types of investments pursuant to Treas. Reg. section 1.148-5(c)(3):

- Non-purpose investments allocable to proceeds that qualified for an initial temporary period. Initial temporary periods include capital projects, restricted working capital expenditures, pooled financings and or certain investment proceeds.
  - Investments allocable to an issue in which at least five percent of the bonds are variable yield bonds, unless the issue is an issue of hedge bonds.
  - Non-purpose investments allocable to transferred proceeds of a current refunding issue.
  - Non-purpose investments allocable to transferred proceeds of an advance refunding issue if investment of sale and investment proceeds in zero-yielding non-purpose investments (commonly called “SLUGs”) is insufficient to comply with yield restriction.
  - Federally guaranteed student loans under IRC section 144(b)(1)(A).
  - Non-purpose investments allocable to gross proceeds of an issue in a reasonably required reserve or replacement (4-R) fund in a fund that, except for its failure to satisfy the three-part size limitations of Treas. Reg. section 1.148-2(f)(2)(ii) (i.e. the least of 10 percent of the principal amount of the issue, maximum annual debt service; and 125 percent of average annual debt service), would qualify as a 4-R (reasonably required reserve or replacement fund). This provision, allowing yield reduction payments, is limited to either:
    1. the value of the non-purpose investments in the fund are not greater than 15 percent of the stated principal amount of the issue, or
    2. the amounts in the fund are not reasonably expected to be used to pay debt service on the issue other than in connection with reductions in the amount required to be in that fund; e.g. a reserve fund for a revolving fund loan program.
  - Non-purpose investments allocable to replacement proceeds of a refunded issue as a result of the universal cap.
  - Certain reserve or replacement funds required by the pre-1978 legislation described in Treas. Reg. section 1.148-11(f).
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## Example - Yield Reduction Payments

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### Example 1

On January 2, 1998, City issues fixed rate Bonds to construct a new hospital building. The issue qualifies under IRC section 148(f)(4)(C) as a construction issue. City does not elect to pay penalty in lieu of rebate. Also, City sets up a 4-R fund equal to 10 percent of the proceeds of Bonds and elects to exempt the earnings on the 4-R fund from ACP.

[NOTE: “ACP” means the Available Construction Proceeds. It is defined in Code section 148(f)(4)(C)(vi), and generally applies for capital construction projects. Technically ACP = issue price plus earnings on both the investment proceeds and a 4-R fund not funded by the issue, reduced by issuance costs and the 4-R fund]

Further, assume that Bonds qualify for a three-year temporary period under section 1.148-2(e)(2).

Accordingly, City may invest the construction issue proceeds without regard to yield restriction for three years and is exempt from rebate if it complies with the two year spending schedule of IRC section 148(f)(4)(C)(ii). Also, City may invest the 4R fund without regard to yield restriction, but must rebate any arbitrage earnings from the date of issue.

City fails to spend all of the ACP by the 2<sup>nd</sup> anniversary date of the issue. City earns negative arbitrage on the unspent ACP during the three-year temporary period.

Because of a change in market conditions, City earns positive arbitrage during Years 2001 and 2002 (Years 4 and 5) on its unspent ACP. City expends all ACP on the project by January 2, 2003.

January 2, 2003 is the first rebate computation date. Under Treas. Reg. section 1.148-5(b)(2)(ii), the non-purpose investments held in the 4R fund and those allocated to the construction issue for the three-year temporary period are treated as a single investment class. The yield must be separately calculated for this class of investments.

Also, under Treas. Reg. section 1.148-5(b)(3), on January 2, 2001, the investments allocable to the construction issue are treated as being sold for an amount equal to their value and reinvested in a separate class of non-purpose investments. The yield must be separately calculated for this class in order to test the yield reduction rules.

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## Example - Yield Reduction Payments, Continued

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**Example 1**  
(continued)

Assume that, because of the large amount of negative arbitrage earned during the three-year temporary period, no rebate is due on January 2, 2003.

Because investments allocable to the construction issue after the end of the temporary period were invested in higher yielding investments, City must make a yield reduction payment in the amount of the positive arbitrage earned during Years 4 and 5. No offset is allowed for the negative arbitrage earned during the three-year temporary period because the investment during that 3-year period is treated as a separate class of investments.

Note: For simplicity, the above example ignores the materially higher spread of 1/8 percent provided for in Treas. Reg. section 1.148-2(d)(2)(i). The correct yield reduction payment would blend the yield down to the bond yield plus 1/8 percent.

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# Yield Reduction Payments for Advance Refunding Issues

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**Introduction** This section discusses when yield reduction payments may be used for advance refunding issues.

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**General Rule** Generally, yield reduction payments are not allowed to reduce yield on advance refunding issues. See **Treas. Reg. section 1.148-5(c)(3)(ii)**.

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**Exceptions** Yield reduction payments may only be used for advance refunding issues in the following limited circumstances:

- Non-purpose investments allocable to transferred proceeds of an advance refunding issue if investment of sale and investment proceeds in zero-yielding investments is insufficient to comply with yield restriction.
  - Non-purpose investments allocable to replacement proceeds of a refunded issue as a result of the universal cap, AND
  - Transferred proceeds allocable to an oversized 4R fund, but only to the extent necessary to satisfy yield restriction under IRC section 148(a) on those proceeds treating all investments allocable to those proceeds as a separate class.
- 

**Example 2** City issues floating rate refunding bonds to advance refund a prior fixed rate issue. City might want to use the proceeds of the refunding issue to create a fixed rate refunding escrow to defease the prior issue, while using the revenues of the escrow to make yield reduction payments based on the difference between the fixed and floating rates. The regulations prohibit use of yield reduction payments in this manner.

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## Section 5

### Valuation of Investments

#### Overview

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**Introduction** There are occasions when the value of investments purchased with gross proceeds must be computed. Examples include any date the proceeds are allocated to another issue due to transferred proceeds or the universal cap and when investments are outstanding as of a computation date. This section discusses rules applicable to the valuation of investments.

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**General Rule** Treas. Reg. section 1.148-6(c) provides that upon the purchase or sale of a non-purpose investment, gross proceeds of an issue are not allocated to a payment or a receipt in an amount greater than, or to a receipt from that non-purpose investment in an amount less than, the fair market value of the non-purpose investment as of the purchase or sale date.

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**Definition of Fair Market Value (FMV)** Treas. Reg. section 1.148-5(d)(6)(i) defines FMV to mean the price at which a willing buyer would purchase the investment from a willing seller in a bona fide, arm's length transaction.

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**Determination Date** Generally, FMV is determined on the date on which a contract to purchase or sell the non-purpose investment becomes binding (i.e. the trade date rather than settlement date).

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**Rebuttable Presumption** Treas. Reg. section 1.148-5(d)(6)(i) provides that an investment that is not of a type traded on an established securities market, is rebuttably presumed to be acquired or disposed of for a price that is NOT equal to its FMV. However, safe harbors exist for typical examples of these types of securities, such as CD's and Guaranteed investment contracts.

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*Continued on next page*

## Overview, Continued

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**In this section** This section contains the following topics:

<b>Topic</b>	<b>See Page</b>
Overview	B-28
Valuation Methods	B-29
Yield Burning	B-33

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## Valuation Methods

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### Introduction

The value of an investment on a date must be determined using one of the methods specified in Treas. Reg. section 1.148-5(d) consistently for all purposes of IRC section 148. The valuation methods are as follows:

- Outstanding principal amount plus accrued interest
  - Present value
  - Fair market value
- 

### Outstanding Principal Amount plus Accrued Interest

A plain par investment may be valued at its outstanding stated principal amount, plus any accrued unpaid interest. **See Treas. Reg. section 1.148-5(d)(1)(i).**

A plain par investment generally is an investment purchased for a premium or discount of 2percent or less. **See Treas. Reg. section 1.148-1(b).**

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### Present Value

A fixed rate investment may be valued at its present value. **See Treas. Reg. section 1.148-5(d)(1)(ii).**

A fixed rate investment as an investment whose yield is fixed and determinable on its issue date. **See Treas. Reg. section 1.148-1(b).**

The present value of an investment is computed under the economic accrual method, using the same compounding interval and financial conventions used to compute the yield on the issue. **See Treas. Reg. section 1.148-5(d)(5).**

**An example of computing the present value of an investment is shown in Exhibit B-1 of this Module.**

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### Fair Market Value

An investment may be valued at its fair market value (FMV) on that date. **See Treas. Reg. section 1.148-5(d)(1)(iii).**

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*Continued on next page*

## Valuation Methods, Continued

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### Mandatory Rules

There are two mandatory valuation rules:

#### Mandatory use of present value

Yield restricted investments must be valued at present value. **See Treas. Reg. Section 1.148-5(d)(2).** Note, however, that investments held as of the expiration of a temporary period may be valued using either present value or fair market value (or par plus accrued interest for plain par investments) as of the end of the temporary period. **See Treas. Reg. Section 1.148-5(b)(3).**

Example – an investment outstanding in an issuer’s Construction Fund as of the expiration of the three-year temporary period may be valued as of that date using any of the three methods mentioned above. The issuer would use the method that produces the highest price and therefore, the lowest yield. However, no choice in valuation methods is available if the investment remains outstanding as of the computation date - the issuer must value the investment as of that date using present value.

#### Mandatory use of fair market value

An investment must be valued at FMV on the date that it is first allocated to an issue or first ceases to be allocable to an issue as a consequence of a deemed acquisition or disposition. Example - an issuer deposits existing investments into a sinking fund for an issue. **See Treas. Reg. section 1.148-5(d)(3)(i).**

---

### Exceptions to Mandatory Valuation at FMV

Investments are not required to be valued at FMV if:

- the investment is allocated from one issue to another (both of which are exclusively tax-exempt bonds) because of the transferred proceeds allocation rule under Treas. Reg. section 1.148-9(b) or the universal cap rule under Treas. Reg. section 1.148-6(b)(2), or
  - investments in a commingled fund (other than a bona fide debt service fund) unless it is an investment being initially deposited in or withdrawn from a commingled reserve or sinking fund.
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## Valuation Methods, Continued

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### **Special Transition Rule for Transferred Proceeds**

The value of an investment allocated to transferred proceeds of a refunding issue may not exceed the value of that investment used for the refunded issue. This transition rule would apply when an issue under the 1993 Regulations refunds an issue under the 1992 Regulations. The 1992 Regulations required transferred proceeds to be valued at fair market value, while the 1993 Regulations permit either present or fair market value. If the present value of the transferred proceeds was greater than the fair market value on a transfer date, this transition rule would limit the value of the transferred proceeds for the refunding issue to their fair market value. **See Treas. Reg. section 1.148-5(d)(4).**

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### **Special Rule for Treasury Obligations**

The value of an investment allocated to transferred proceeds of a refunding issue may not exceed the value of that investment used for the refunded issue. This transition rule would apply when an issue under the 1993 Regulations refunds an issue under the 1992 Regulations. The 1992 Regulations required transferred proceeds to be valued at fair market value, while the 1993 Regulations permit either present or fair market value. If the present value of the transferred proceeds was greater than the fair market value on a transfer date, this transition rule would limit the value of the transferred proceeds for the refunding issue to their fair market value. **See Treas. Reg. section 1.148-5(d)(4).**

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### **Investments held beyond Redemption Date**

Treas. Reg. section 1.148-5(b)(3) provides that for investments held beyond the reasonably expected redemption date of the issue, those investments are treated as sold for an amount equal to their value on that date.

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*Continued on next page*

## Valuation Methods, Continued

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### Safe Harbors for Establishing FMV – Use of Purchase Price

The following safe harbors exist for the valuation of investments:

- Certificates of Deposit – Purchase price is treated as fair market value provided that the yield on the CD is not less than the yield on reasonably comparable Treasury obligations and reasonably comparable CD's offered to the public. **See Treas. Reg. section 1.148-5(d)(6)(ii).**
  
- Guaranteed Investment Contracts (GICs) and Yield Restricted Defeasance Escrows – Purchase price is treated as fair market value provided that the following requirements are met:
  1. The issuer makes a bona fide solicitation for the purchase of the investment to at least 3 reasonably competitive providers. The solicitation must include bid specifications in writing, that include all material terms of the bid and such specifications must be commercially reasonable. For GIC's, the issuer's reasonable expected deposit and drawdown schedule must be taken into account. All providers must have an equal opportunity to bid, with no "last looks".
  2. At least 3 bids must be received from disinterested parties, at least one of which is a reasonable competitive provider. If the issuer used an agent to conduct the bidding process, the agent may not bid.
  3. The winning bid must be the investment providing the highest yield (or lowest cost), determined net of broker's fees.
  4. The provider of the investments must certify the administrative costs that it pays to third parties in connection with supplying the investments AND
  5. The issuer maintains detailed records regarding the investments until 3 years after the bonds are redeemed.**See Treas. Reg. section 1.148-5(d)(6)(iii).**

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### Note

Note that Treas. Reg. section 1.148-5(d)(6)(iii) applies to bonds sold on or after March 1, 1999. Issues may apply this rule to bonds sold from December 30, 1998 to March 1, 1999. For bonds sold before December 30, 1998, the 1993 regulations (as amended by the 1994 regulations) apply.

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# Yield Burning

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## **Introduction**

Yield burning is an industry term that refers to the improper transfer of arbitrage from the Federal government to some other party because of manipulation of the yield on the issuer's investments.

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## **Yield Burning in Advance Refunding Transactions**

Yield burning may exist in any type of tax-exempt financing, but is believed to have occurred most often in advance refunding transactions when an issuer pays more than FMV to a provider for escrow securities. Because an investment's price moves inversely to its yield, yield is "burned" if an issuer pays greater than FMV for an investment.

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## **Curing Yield Burning Violations**

Revenue Procedure 96-41, 1996-2 C.B. 301, outlines a procedure for issuers to enter into a closing agreement with the IRS to cure yield burning violations. **(See also Notice 96-49, 1996-2 C.B. 215)**

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## Section 6

### Administrative Costs of Investments

#### Overview

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**Introduction** This section discusses the treatment of qualified administrative costs in the determination of yield of an investment.

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**General Rule** Computation of yield on an investment does not take into account any costs or expenses paid to purchase, carry, sell, or retire the investment (i.e. administrative costs) UNLESS those administrative costs are qualified. See **Treas. Reg. section 1.148-5(e)(1)**.

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**Effect of General Rule** Unless the administrative costs are qualified, administrative costs do NOT increase the payments for, or reduce the receipts from investments. See **Treas. Reg. section 1.148-5(e)(1)**.

---

**In this section** This section contains the following topics:

Topic	See Page
Overview	B-34
Qualified Administrative Costs of Purpose Investments	B-35
Qualified Administrative Costs of Non-purpose Investments	B-36

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## Qualified Administrative Costs of Purpose Investments

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### **Definition of Qualified Administrative Costs: Purpose Investments**

Treas. Reg. section 1.148-5(e)(3)(ii)(A) provides that qualified administrative costs **for purpose investments** include costs:

- to purchase, carry, sell, or retire the investment,
- of issuing, carrying, or repaying the issue, and

for any underwriters' discount.

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### **Payments Made by a Conduit Borrower**

Treas. Reg. section 1.148-5(e)(3)(i) provides that in a conduit borrowing, the qualified administrative costs of the conduit borrower are taken into account. This rule applies even if these payments merely reimburse the issuer.

Although the actual payments by the conduit borrower may be made at any time, for this purpose, a pro rata portion of each payment made by a conduit borrower is treated as a reimbursement of reasonable administrative costs, if the present value of those payments does not exceed the present value of the reasonable administrative costs paid by the issuer, using the yield on the issue as the discount rate.

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### **Limitation for Program Investments**

Treas. Reg. section 1.148-5(e)(3)(ii)(B) provides that for program investments, qualified administrative costs include only:

- costs of issuing, carrying, or repaying the issue, and
  - any underwriters' discount.
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*Continued on next page*

## Qualified Administrative Costs of Purpose Investments,

Continued

**Example of Accounting for Qualified Administrative Costs in the Yield Computation of Conduit Loans that are NOT Tax-Exempt Bonds**

County X issues a pool financing issue at a principal amount of \$10,500,000 at a yield of 5percent. The arrangement requires County X to pay \$500,000 of issuance costs, but the county will be reimbursed by Corporations X and Y. After these costs are paid, the proceeds of the bonds are split equally and loaned to Corporations Y and Z, both of which are 501(c)(3) organizations. Both loans meet the definition of a program investment under Treas. Reg. section 1.148-1(b).

The yield on the pooled financing bonds is 4.99999 percent. (See **Figure B-1**)

When computing the yield of the purpose investments, because they are both program investments, Treas. Reg. section 1.148-5(b)(2)(ii) permits the investments to be treated as a single investment. A portion of principal will be repaid each year along with five percent of the interest on the outstanding principal. Corporations Y and Z will each pay \$725,819 as a loan repayment each year for ten years. This payment is broken down as follows:

<u>Purpose</u>	<u>Amount</u>
Principal and interest on loan of \$5M	\$ 1,387,078
Reimbursement of Issuance Costs	<u>64,560</u>
Total payment	\$ 1,451,638

**Figure B-2** shows that the yield on each of the investments is equal to 7.42144 percent.

According to Treas. Reg. section 1.148-2(d)(2)(iii) the yield on program investments cannot exceed the bond yield by more than 1.5 percentage points. The yield on these investments exceeds the bond yield by 2.42145 percent (7.42144 minus 4.99999.)

However, Treas. Reg. sections 1.148-5(e)(3)(i) and (ii)(B) provide that the reimbursement of issuance costs is taken into account when computing the yield on the investment, by increasing the payments or decreasing the receipts. Therefore, if each receipt is reduced by \$64,560 (amount for issuance costs), then the yield becomes 6.43899, which is within the permitted spread (4.99999 + 1.5 = 6.49999.) (See **Figure B-3**.)

*Continued on next page*

## Qualified Administrative Costs of Purpose Investments, Continued

**Caution!** Note that this example is NOT illustrating the waiver of the 1.5 percent permitted spread to allow the issuer to deduct loan costs. The issuer is permitted to take issuance costs into account when computing the investment yield without waiving the 1.5 percent spread.

**Figure B-1:**

### Bond Yield Computation

Issue Date: 1/1/98      Issue Price: \$10,500,000    1 compounding interval  
Yield: 4.999999

<u>Payment Date</u>	<u>Debt Service Payments</u>	<u>Present Value</u>
1-1-99	\$1,359,798.03	\$1,295,045.76
1-1-00	1,359,798.03	1,233,376.92
1-1-01	1,359,798.03	1,174,644.70
1-1-02	1,359,798.03	1,118,709.25
1-1-03	1,359,798.03	1,065,437.39
1-1-04	1,359,798.03	1,014,702.28
1-1-05	1,359,798.03	966,383.14
1-1-06	1,359,798.03	920,364.90
1-1-07	1,359,798.03	876,538.01
1-1-08	<u>1,359,798.03</u>	<u>834,798.11</u>
	\$13,597,980.00	\$10,500,000.45

**Figure B-2:**

### Loan Yield Computation

Loan Date: 1/1/98      Loan Amount: \$10,000,000    1 compounding interval  
Yield: 7.42144

<u>Payment Date</u>	<u>Gross Loan Receipts</u>	<u>Present Value</u>
1-1-99	\$ 1,451,638	\$ 1,351,348.42
1-1-00	1,451,638	1,257,987.56
1-1-01	1,451,638	1,171,076.75
1-1-02	1,451,638	1,090,170.35
1-1-03	1,451,638	1,014,853.56
1-1-04	1,451,638	944,740.18
1-1-05	1,451,638	879,470.75
1-1-06	1,451,638	818,710.59
1-1-07	1,451,638	762,148.18
1-1-08	<u>1,451,638</u>	<u>709,493.51</u>
	\$ 14,516,380.00	\$ 9,999,999.86

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*Continued on next page*

**Qualified Administrative Costs of Purpose Investments,**  
Continued

**Figure B-3:**

**Loan Yield Computation**

Loan Date: 1-1-98    Loan Amount: \$10,000,000    1 compounding interval  
Yield: 6.43899

<u>Payment Date</u>	<u>Net Loan Receipts</u>	<u>Present Value</u>
1-1-99	\$ 1,387,078.02	\$ 1,303,167.23
1-1-00	1,387,078.02	1,224,332.59
1-1-01	1,387,078.02	1,150,267.02
1-1-02	1,387,078.02	1,080,682.02
1-1-03	1,387,078.02	1,015,306.55
1-1-04	1,387,078.02	953,885.93
1-1-05	1,387,078.02	896,180.94
1-1-06	1,387,078.02	841,966.79
1-1-07	1,387,078.02	791,032.31
1-1-08	<u>1,387,078.02</u>	<u>743,179.09</u>
	\$ 13,870,780.02	\$10,000,000.47

## Qualified Administrative Costs of Non-purpose Investments

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**General** Qualified administrative costs are taken into account in determining payments and receipts for non-purpose investments. These costs increase the payments for, or decrease the receipts from, the investment. **See Treas. Reg. section 1.148-5(e)(2)(i).**

---

**Definition of Qualified Administrative Costs** Qualified administrative costs are reasonable, direct administrative costs, **other than carrying costs**, such as separately stated brokerage or selling commissions, but NOT legal and accounting fees, record-keeping, custody, and similar costs. **See Treas. Reg. section 1.148-5(e)(2)(i).**

---

**Definition of Reasonable** In general, administrative costs must be comparable to administrative costs that would be charged for comparable investments if acquired with a source of funds other than gross proceeds of tax-exempt bonds. **See Treas. Reg. section 1.148-5(e)(2)(i).**

---

**Overhead and Rebate Computation Costs NOT Qualified Administrative Costs** General overhead costs and similar indirect costs such as employee salaries and office expenses and costs associated with computing the rebate amount are NOT qualified administrative costs. **See Treas. Reg. section 1.148-5(e)(2)(i).**

---

**Special Rule for RICs and Commingled Funds** Treas. Reg. section 1.148-5(e)(ii) provides that generally, for regulated investment companies (RICs) and external commingled funds, qualified administrative costs include all reasonable administrative costs including indirect costs.

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*Continued on next page*

## Qualified Administrative Costs of Non-purpose Investments, Continued

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### **Prior Treatment of External Commingled Funds**

The current regulations, effective for issues issued on or after July 8, 1997, changed the treatment of external commingled funds to include only widely held commingled funds. (See **Treas. Reg. section 1.148-5A(e)(2)(ii)(B) for the prior treatment of external commingled funds.**)

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### **Special Rule for GICs**

Treas. Reg. section 1.148-5(e)(2)(iii) provides that a broker's commission or similar fee paid on behalf of the issuer or the provider for a GIC is treated as an administrative cost. Except in the case of an issue that is a \$5,000,000 small governmental issue (as described in section 148(f)(4)(D)(i)), it is also a qualified administrative cost to the extent that the present value of the commission, as of the date the contract is allocated to the issue, does not exceed the lesser of a reasonable amount or the present value of annual payments equal to 0.05 percent of the weighted average amount reasonably expected to be invested each year of the term of the contract.

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### **Prior Special Rule for GICs**

The current regulations, effective for issues issued on or after July 8, 1997, rephrased the special rule for administrative costs associated with GICs. See **Treas. Reg. section 1.148-5A(e)(2)(iii)** for bonds issued prior to July 8, 1997.

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# Example – Computation of Present Value of Investment

Yield: 5.12994%

Date	Principal	Interest	Total	PV of at 3/15/92
3/15/92	(2,491,050.00)	(20,800.00)	(2,511,850.00)	(2,511,850.00)
7/1/92		62,500.00	62,500.00	61,574.77
1/1/93		62,500.00	62,500.00	60,034.89
7/1/93		62,500.00	62,500.00	58,533.53
1/1/94		62,500.00	62,500.00	57,069.71
7/1/94		62,500.00	62,500.00	55,642.50
1/1/95		62,500.00	62,500.00	54,250.98
7/1/95		62,500.00	62,500.00	52,894.26
1/1/96		62,500.00	62,500.00	51,571.46
7/1/96		62,500.00	62,500.00	50,281.75
1/1/97	2,500,000.00	62,500.00	2,562,500.00	2,009,996.15
	8,950.00	604,200.00	613,150.00	(0.00)

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## Example – Computation of Present Value of Investment,

Continued

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### Present Value of Investment

In certain issues, an investment may require allocation to another issue, due to transferred proceeds or the universal cap. Also, an issue may have investments outstanding as of a computation date. In these cases (and others), the investments must be “valued”.

Present value is one of the valuation methods provided in Treas. Reg. Section 1.148-5(d)(1). This exhibit will demonstrate such a calculation.

Treas. Reg Section 1.148-5(d)(5) defines the present value of an investment on a date as the present value of all unconditionally payable receipts to be received from and payments to be paid for the investment after that date, using the yield on the investment as the discount rate.

We can break this definition down into three tasks:

1. Compute the yield on the investment
2. Create a cash flow of all the receipts and payments occurring after the present value date
3. Present value the cash flow created above

Let’s look at an example:

### FACTS

Face Amount:	\$2,500,000
Cost:	\$2,491,050
Purchased accrued interest	\$20,800
Coupon:	5.000%
Purchase Date:	3/15/92
Maturity Date:	1/1/97

**Step 1:** Compute the yield on the investment

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*Continued on next page*

## Example – Computation of Present Value of Investment, Continued

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**Step 1:** Compute the yield on the investment.

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**Step 2 and 3:** Create a cash flow of activity occurring after the present value date and present value such activity to the valuation date at the yield computed in Step 1.

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Date	Principal	Interest	Total	PV at 1/1/95
1/1/95		62,500.00	62,500.00	62,500.00
7/1/95		62,500.00	62,500.00	60,936.99
1/1/96		62,500.00	62,500.00	59,413.06
7/1/96		62,500.00	62,500.00	57,927.24
1/1/97	2,500,000.00	62,500.00	2,562,500.00	2,315,622.08
	2,500,000.00	312,500.00	2,812,500.00	2,556,399.37
			Cost	(2,491,050.00)
			Accrued Interest	65,349.37

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*Continued on next page*

## Example – Computation of Present Value of Investment, Continued

We can test our calculation by creating a cash flow to the present value date and “artificially maturing” the investment at the value computed above. The yield on this investment should be the same as the yield to maturity computed in Step 1.

Yield: 5.12994%

Date	Principal	Interest	Total	PV of at 3/15/92
3/15/92	(2,491,050.00)	(20,800.00)	(2,511,850.00)	(2,511,850.00)
7/1/92		62,500.00	62,500.00	61,574.77
1/1/93		62,500.00	62,500.00	60,034.89
7/1/93		62,500.00	62,500.00	58,533.53
1/1/94		62,500.00	62,500.00	57,069.71
7/1/94		62,500.00	62,500.00	55,642.50
1/1/95	2,491,050.00	65,349.37	2,556,399.37	2,218,994.60
	0.00	357,049.37	357,049.37	0.00

# Summary

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## Review of Module B

- Module B discussed the computation of the yield on investments. It is necessary to compute this yield in order to determine compliance with yield restriction rules.
- Yield on an investment is the discount rate that, when used in computing the present value as of the date the investment is first allocated to the issue of all unconditionally payable receipts from the investment, produces an amount equal to the present value of all unconditionally payable payments for the investment.
- Payments are amounts actually or constructively paid to acquire the investment.
- Receipts are amounts to be actually or constructively received from the investment, such as earnings and return of principal.
- Investments are investment property as defined in IRC sections 148(b)(2) and 148(b)(3).
- Treas. Reg. section 1.148-5(b)(2)(ii) separates investments into different classes. The yields on all investments within the same class can be blended.
- Yield reduction payments can be used to reduce the yield on certain investments.
- Investments are valued using one of three methods specified in Treas. Reg. section 1.148-5(d). These methods are outstanding principal plus accrued interest, present value and fair market value.
- Only qualified administrative costs of investments are taken into account when computing the yield on the investments. The definition of qualified administrative costs is different for purpose investments, program investments, and non-purpose investments.

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END OF MODULE B

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