

**Module M**  
**Arbitrage - Yield Restriction**



# Module M

## Arbitrage - Yield Restriction

### Overview

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**Purpose** Interest on a bond is not excludable from income for federal income tax purposes if the bond is an "arbitrage bond." This module provides an introduction to the statutory provisions and the regulations governing arbitrage bonds.

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**Objectives** At the end of this module you will be able to determine if a bond is an arbitrage bond. In order to meet this objective you will be able to:

1. Define "Arbitrage Bond."
2. Identify the applicable statutory provisions and regulations.
3. Define "Reasonable Expectations."
4. Identify the bond proceeds.
5. Define economic return, issue price, fixed and variable yield.
6. Identify the classes of investments.
7. Define "materially higher."
8. Identify applicable temporary periods.
9. Identify a reasonably required reserve or replacement fund.
10. State the general rule regarding defining "minor portion."
11. Coordinate arbitrage bond determinations with rebate rules.

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## Overview, Continued

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# Section 1

## Introduction

### Overview

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**Purpose** This section defines an arbitrage bond, provides the student with the general rule for treating interest on an arbitrage bond, and provides the statutory provisions and regulatory history related to arbitrage bonds.

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**Contents** This section contains the following topics:

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## Background

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**General Rule** IRC section 103(b)(2) provides that interest on a bond is not excludable from income for federal income tax purposes if the bond is an "arbitrage bond."

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**Arbitrage Bond Defined** According to IRC section 148(a), a bond is an arbitrage bond if at the time of the issuance of the bond, the issuer reasonably expects that all, or a portion, of the proceeds of the bond will be directly or indirectly used to:

1. acquire higher yielding investments

**OR**

2. to replace funds which are used to acquire higher yielding investments.

**In addition:** A bond is an arbitrage bond if the issuer intentionally uses any portion of the proceeds of the bonds as described in (1) or (2) above.

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**Statutory Provisions** Prior to the Tax Reform Act, section 103(c) of the 1954 Code contained the arbitrage rules. After the Tax Reform Act, the arbitrage and rebate rules are in IRC section 148.

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## Background, Continued

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### Regulations

There have been numerous regulations issued by the Service regarding arbitrage and rebate rules applicable to tax-exempt bonds. Following is a chronology of some of the regulations:

- Treas. Reg. sections 1.103-13, 1.103-14 and 1.103-15 were issued in 1979. These regulations only address yield restriction issues.
- The first set of regulations under the 1986 Code was issued in 1989. These regulations generally address the rebate provisions of IRC section 148.
- On January 30, 1992, Treas. Reg. section 1.103-18 was published and it includes rules regarding reimbursement of prior expenditure with bond proceeds.
- On February 12, 1992, the Service published regulations addressing certain provisions under IRC section 148. Two important provisions in these regulations dealt with construction issues and transferred proceeds.
- On May 18, 1992, the Service republished regulations which combined the existing 1992 regulations and the 1989 regulations, as amended. These were issued as final and temporary regulations.
- On November 4, 1992, the Service issued proposed regulations which included many of the provisions of the 1979 regulations, the final and temporary 1992 regulations, and the reimbursement regulations.
- On June 30, 1993, the Service issued final regulations under IRC section 148. These regulations are generally effective for bonds issued after August 15, 1993.
- On May 9, 1997, the Service amended portions of the final regulations.

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## Background, Continued

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NOTE

**This Module does not address the effective dates of the regulations discussed above. To be able to determine whether the issuer followed the appropriate arbitrage and rebate rules, it is important to determine which set of regulations are applicable. To determine which regulations are applicable to a particular bond issue, please see Phase II of this course.**

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## Section 2

### Reasonable Expectations

#### Overview

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**Purpose** The Internal Revenue Code provides that bonds are arbitrage bonds if on the date of issuance the issuer "reasonably expects" to use the proceeds to acquire higher yielding investments. Accordingly, the expectations of the issuer on the issue date as to use of bond proceeds are important and must be established. This purpose of this section is to define reasonable expectations.

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## Reasonable Expectations Defined

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### **Subsequent Intentional Acts**

IRC section 148(a) also provides that a bond will be treated as an arbitrage bond if the issuer intentionally uses any portion of the proceeds of the issue to acquire higher yielding investments, or to replace funds which are used directly or indirectly to acquire higher yielding investments.

Accordingly, an issuer's reasonable expectations may not be sufficient to preserve the tax-exempt status of the bonds, if the issuer intentionally acts contrary to its expectations.

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### **1979 Regulations**

Prior to the issuance of the 1993 Regulations, whether an issuer has reasonable expectations was determined under section 1.103-13(a)(2) of the 1979 Regulations.

- The issuer may, but is not required to, provide a certification setting forth its reasonable expectations as to future events.
  - The certificate of the issuer does not establish conclusions of law. If an issuer provides a certificate, the certificate must state the facts relied upon by the issuer.
  - Subsequent events do not effect a certification made by the issuer. If the certificate contains material misrepresentations, the Service may disqualify the issuer from issuing additional tax-exempt bonds.
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### **NOTE**

**Any reference herein to regulations under IRC section 148 is to the 1993 Regulations and reference to regulations under IRC section 103 is to the 1979 Regulations.**

## Section 3

### Proceeds of the Bonds

#### Overview

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**Purpose**

IRC section 148(a) provides that a bond is an arbitrage bond if the "proceeds" of the bond are reasonably expected, at the time of issuance, to be invested in higher yielding investments. Therefore, to determine whether the bond issue complies with IRC section 148, it is important to determine what is included under "proceeds" of the bond issue. This section will enable the student to identify the various types of proceeds.

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Replacement Proceeds	M - 15
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# Introduction

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**Definition** Proceeds are defined in various sections of the regulations as shown below:

<b>Under Treas. Reg. section...</b>	<b>Proceeds include...</b>
1.148-1(b)	any sale proceeds, investment proceeds, and transferred proceeds.
1.103-13(b)(2)	original proceeds and investment proceeds.
1.103-13(g)	amounts in a sinking fund.

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## Sale Proceeds

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**Definition**

Under Treas. Reg. section 1.148-1(b), sale proceeds means any amounts actually or constructively received from the sale of an issue. This includes amounts paid as underwriter's discount or other compensation, and any accrued interest (other than pre-issuance accrued interest).

Sale proceeds also include any amounts received as a result of a sale of a right associated with the bond. Rights associated with the bond are described in Treas. Reg. section 1.148-4(b)(4) and are more fully described in Phase II of this course.

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## Investment Proceeds

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**Definition**

Treas. Reg. section 1.148-1(b) defines investment proceeds as any amounts actually or constructively received from investing proceeds of an issue.

Treas. Reg. section 1.103-13(b)(2)(ii)(A) defines investment proceeds as amounts received by the issuer, such as interest and dividends, resulting from the investment of proceeds.

Treas. Reg. section 1.103-13(b)(2)(ii)(B) provides that investment proceeds do NOT include receipts from investment of amounts treated as proceeds because they are in a sinking fund.

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## Transferred Proceeds

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### **1993 Regulations**

Transferred proceeds are defined in 1.148-9(b). Any unspent proceeds of a refunded issue become proceeds of the refunding issue as actual payments of the principal of the refunded issue are made. The unspent proceeds "transfer over" to the refunding issue based on to a formula provided in Treas. Reg. section 1.148-9(b)(1).

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### **1979 Regulations**

Treas. Reg. section 1.103-14(e)(2)(ii) defines transferred proceeds. The definition in this section is similar to the definition in Treas. Reg. section 1.148-9(b).

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### **Applicable Regulations**

Due to the various arbitrage regulations issued by the Service under IRC section 148, an agent must determine the regulation applicable to the issue under audit so as to determine the amount and the date on which the transferred proceeds are "transferred" to the refunding issue.

See Phase II of this course for a further discussion of transferred proceeds and refundings.

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## Gross Proceeds

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### Definition

Although IRC section 148(a) only refers to proceeds of the bond, Treas. Reg. section 1.148-2(a) provides that the direct or indirect investment of the "gross proceeds" of an issue in higher yielding investments causes the bond issue to be an arbitrage bond.

Gross proceeds are defined in 1.148-1(b) to include proceeds and replacement proceeds.

Therefore, in determining whether the bonds are arbitrage bonds, the examining agent must determine whether, in addition to the proceeds, the bond issue has any replacement proceeds.

This concept of "**replacement proceeds**" includes moneys held by the issuer or a substantial beneficiary of the bond issue **IF**:

- **these amounts have sufficiently direct nexus to the issue or the governmental purpose of the issue**

**AND**

- **the amounts invested would have been used for the governmental purpose if the bond proceeds were not used for that purpose.**
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## Replacement Proceeds

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**Definition**      Treas. Reg. section 1.148-1(c) defines replacement proceeds:

**Amounts will be replacement proceeds only if there is a sufficient direct nexus to:**

- **the bond issue**

**OR**

- **the governmental purpose of the issue.**

To conclude that there is a nexus with a governmental purpose, it must be determined that the amounts would have been used for the governmental purpose if the bonds were not used for such purpose.

The mere earmarking of funds for a governmental purpose, however, does not establish a nexus to cause the amounts to be replacement proceeds.

If an issuer sets aside moneys to be used to pay debt service on the bonds in the future, such amounts are considered replacement proceeds of the bonds.

Replacement proceeds include, but are not limited to, sinking funds and pledged funds. Replacement proceeds also include amounts held by or derived from a substantial beneficiary of the issue.

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## Replacement Proceeds, Continued

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**Sinking Fund** Treas. Reg. section 1.148-2(c)(2) provides that a sinking fund includes a debt service fund, redemption fund, reserve fund, replacement fund, or any similar fund, to the extent reasonably expected to be used directly or indirectly to pay debt service on the bonds.

### **Example**

City X has certain bonds outstanding. City X sells some real property and the city council decides to set aside the proceeds of the sale of the real property to pay the debt service on the bonds. The proceeds of the sale of the real property are considered replacement proceeds and investments of such moneys must meet IRC section 148. (See also **Rev. Rul. 79-134, 1979-1 C.B. 76; Rev. Rul. 80-13, 1980-1 C.B. 27.**)

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**Pledged Funds** A pledge is any amount that is directly or indirectly pledged to pay the principal of or interest on the bonds. A pledge by the issuer must provide reasonable assurance that such moneys will be available to pay the debt service on the bonds even if the issuer has financial difficulties. A party other than the issuer or conduit borrower may provide a pledge to secure the debt service on the bonds. A pledge of a guarantor of bonds is an indirect pledge. (See **Treas. Reg. section 1.148-1(c)(3)(i)**)

### **Example 1**

County X, a political subdivision of State Y will sell \$50 million principal amount of bonds to finance the construction of a facility. State Y has surplus funds in the amount of \$50 million which it will invest in treasury notes and pledge not to dispose of the notes while the bonds are outstanding. However, State Y does not reasonably expect to use the notes to pay debt service on the bonds. Because the notes are pledged as security for the bonds, the notes form a replacement fund for the bonds. (See **Rev. Rul. 78-348, 1978-2 CB 95**)

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## Replacement Proceeds, Continued

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### **Example 2**

State A issued \$1 million principal amount of bonds and lent the proceeds to Corporation B. Corporation B owns a federally insured mortgage note to be pledged as collateral for bonds. The note has a materially higher yield than the yield on the bonds. There is reasonable assurance that the collateral will be available to pay debt service on the bonds. Accordingly, pledge of the mortgage note creates replacement proceeds. **(See Rev. Rul. 78-348, 1978-2 C.B. 95.)**

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### **Example 3**

City Z issues \$10 million principal amount of bonds and loans the proceeds to Corporation X to construct a facility. Corporation X enters into an agreement with Bank A which will provide a letter of credit as security for the bonds. Corporation transferred \$3 million to Bank A which Bank A sets aside in a separate account which can only be used to pay any draws on the letter of credit. The \$3 million in the special account is a pledged fund. **(See also PLR 8844042.)**

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## Replacement Proceeds, Continued

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**Negative Pledge** A negative pledge is holding certain amounts pursuant to an agreement that such amounts will be maintained at a certain level for the benefit of the bondholders or a guarantor. **Such amounts will be replacement proceeds unless:**

- The issuer or a substantial beneficiary may grant rights in the funds to a party that are superior to the rights of the bondholders or guarantor;

**OR**

- The amounts do not exceed the reasonable needs for which they are maintained;

**AND**

- The amounts may be spent without substantial restrictions, other than the requirement to replenish the amounts by the next testing date.

**(Treas. Reg. section 1.148-1(c)(3)(ii).) (See also PLR 8841027.)**

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### **Other Replacement Proceeds**

Replacement proceeds may arise if on the issue date, the issuer reasonably expects that:

- the bonds will be outstanding longer than necessary for the governmental purpose

**AND**

- there will be amounts available during the time that the bonds are outstanding longer than necessary.

A determination whether the issue will be outstanding longer than necessary is made under Treas. Reg. section 1.148-10.

The replacement proceeds are created at the beginning of each year in an amount equal to the available amounts.

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## Replacement Proceeds, Continued

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<b>Safe Harbor</b>	Treas. Reg. section 1.148-1(c)(4)(B) includes safe harbor against creation of replacement proceeds and rules specific to working capital financings.
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## Disposition Proceeds

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### General

Although this term is not used under IRC section 148 or regulations thereunder, disposition proceeds must also be analyzed under the arbitrage and rebate rules.

- Disposition proceeds occur when an issuer or conduit borrower sells all or a portion of a bond-financed facility and receives cash in return. (See **Treas. Reg. section 1.141-12(c).**)
- Treas. Reg. section 1.141-12(a)(4) provides that disposition proceeds must be treated as gross proceeds for purposes of IRC section 148.

An agent examining a transaction where disposition proceeds may have resulted should analyze the transaction not only under IRC sections 141 and the regulations thereunder, but also under IRC section 148 and regulations thereunder.

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## Section 4

### Yield

#### Overview

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**Purpose** The purpose of this section is to enable the student to define economic return, issue price, and fixed and variable yield.

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# Introduction

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**Definition**      **Yield on a bond issue is the economic return to the bondholders.**

Yield on the bond issue differs from the stated interest rate of the bonds. In addition to the interest rate, the return to the bondholders depends upon the purchase price paid by the bondholders and the term of the bond issue. Therefore, to calculate the yield on a bond issue, the agent must first determine the "issue price" of the bond issue.

Yield is expressed as an annual percentage rate that is calculated to at least 4 decimal places.

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**Issue Price**      According to Treas. Reg. section 1.148-1(b), issue price is generally determined in accordance with IRC sections 1273 and 1274.

Generally, the issue price of a publicly offered bond issue is the first price at which a substantial amount of the bonds is sold to the public. Ten percent is a substantial amount.

The issue price of a bond issue for which a bonafide public offering is made is determined on the sale date.

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**Compounding Intervals**      Yield is computed under the economic accrual method using any consistently applied compounding interval of not more than one year.

A short first compounding interval and a short last compounding interval may be used.

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**Financial Conventions**      Reasonable, standard financial conventions may be used, such as the 30 days per month/360 days per year convention, as long as they are consistently applied.

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## Fixed Yield Issues

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### Fixed Yield Bond

According to Treas. Reg. section 1.148-1(b), a fixed yield bond is any bond whose yield is fixed and determinable on the date of issuance of the bond.

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### Fixed Yield Issue

According to Treas. Reg. section 1.148-1(b), a fixed yield issue is any issue if each bond that is part of that issue is a fixed yield bond.

Therefore, if the yield on any portion of the bond issue is not fixed on its issue date, then the entire issue is not a fixed yield issue.

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### Issue

Treas. Reg. section 1.150T-1(1) provides that two or more bonds are generally part of the same issue if they are :

1. sold at substantially the same time;
2. sold pursuant to the same plan of financing; **and**
3. payable from the same source of funds.

The definition of "issue," and when two or more bonds are treated as one issue, is more fully described in Module G of this text.

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### Computation

Yield on a bond issue is calculated in accordance with Treas. Reg. section 1.148-4.

Treas. Reg. section 1.148-4(b) provides that yield on a fixed yield issue is the discount rate that results in the aggregate present value, as of the issue date, of all unconditionally payable payments over the life of the issue equaling the present value of the issue price as of that date.

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## Fixed Yield Issues, Continued

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**Computation, (Continued)** Yield on a fixed yield issue is computed on the issue date and, except for certain specific circumstances discussed in Treas. Reg. sections 1.148-4(b)(4) and 1.148-4T(h)(3), is not affected by subsequent events

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**Unconditional Payments** Treas. Reg. section 1.148-4(b) provides that in computing yield on a fixed yield issue, the unconditional payments may include:

- the principal payments (including call premiums on early retired bonds);
- the interest payments;
- the amounts paid, or expected to be paid, to a qualified guarantee;
- the amount paid, or expected to be paid, for a qualified hedging transaction.

**NOTE** **This Module provides an introduction into yield calculations and does not deal with qualified guarantees and qualified hedging transactions. Such concepts are discussed in Phase II of this course.**

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## Fixed Yield Issues, Continued

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**EXAMPLE 1** On January 1, 1994, City A issues an issue consisting of four identical fixed yield bonds. The stated final maturity date of each bond is January 1, 2004. No bond is subject to redemption prior to this date. Interest is payable on January 1 of each year at a rate of 6.0000 percent per year on the outstanding principal amount. The total stated principal amount of the bonds is \$20 million. The issue price of the bonds is \$20,060,000.

To compute the yield, all unconditional payments (in this case principal and interest only) are listed on the date such payments are to be made. The yield will be the discount rate at which the aggregate of the present value of each of these payments equals the issue price of the issue (\$20,060,000).

DATE	PAYMENTS	PV (5.8731%)
1/1/1995	\$1,200,000	\$1,132,510
1/1/1996	1,200,000	1,068,818
1/1/1997	1,200,000	1,008,704
1/1/1998	1,200,000	951,973
1/1/1999	1,200,000	898,433
1/1/2000	1,200,000	847,903
1/1/2001	1,200,000	800,216
1/1/2002	1,200,000	755,210
1/1/2003	1,200,000	712,736
1/1/2004	21,200,000	<u>11,883,498</u>
		<u>20,060,000</u>

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Instructions for using the Excel Spreadsheet template “Module M-Yield Calculation (st).xls” to compute yield for Example 1 are provided in **Exhibit M-1**.

The discount rate (compounded semiannually) at which the aggregate of the present value of all principal and interest payments equals the issue price is 5.8731 percent. The yield on the bond issue is therefore 5.8731 percent.

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## Fixed Yield Issues, Continued

### Bonds subject to mandatory or contingent early redemption

According to Treas. Reg. section 1.148-4(b)(2), if a fixed yield issue is subject to mandatory or contingent redemptions, the yield is computed by assuming that the bonds will be redeemed on their reasonably expected early redemption date. In addition, it is assumed that the bonds will be redeemed at their value on the redemption date. Reasonable expectations are determined on the date of issue.

### EXAMPLE 2

The facts are the same as in Example 1, except the bonds are subject to mandatory sinking fund redemption on January 1 of each year, beginning January 1, 2001. The bonds are redeemed at par in their authorized denominations of \$5,000 plus accrued interest.

In computing the yield it is assumed that the bonds will be redeemed on their redemption date, in an amount equal to \$5,000 principal amount plus accrued interest to the redemption date.

DATE	PAYMENTS	PV (5.8678%)
1/1/1995	\$1,200,000	\$1,132,569
1/1/1996	1,200,000	1,068,926
1/1/1997	1,200,000	1,008,860
1/1/1998	1,200,000	952,169
1/1/1999	1,200,000	898,664
1/1/2000	1,200,000	848,166
1/1/2001	6,200,000	4,135,942
1/1/2002	5,900,000	3,714,650
1/1/2003	5,600,000	3,327,647
1/1/2004	5,300,000	<u>2,972,407</u>
		<u>\$20,060,000</u>

Instructions for using the Excel Spreadsheet template “Module M-Yield Calculation (st).xls” to compute yield for Example 2 are provided in **Exhibit M-1**.

The yield on the above issue of bonds is 5.8678 percent because that is the discount rate (compounded semiannually) at which the aggregate present values of the unconditional payments of principal and interest equals the issue price.

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## **Fixed Yield Issues, Continued**

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**NOTE**

**The above two examples discuss computation of yield on a basic fixed yield issue. If a fixed yield issue has any of the following, the computation of yield is more complicated and is discussed in Phase II of this course:**

- **issues which are subject to optional redemption within 5 years of the issue date;**
  - **certain transfer rights attached to the bond; OR**
  - **a qualified guarantee**
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## Variable Yield Issues

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**Definition**      **A variable yield issue is any bond issue that is not a fixed yield issue.**

If the yield on the bond in the issue is not fixed and determinable on the date of issue, the bond issue is a variable yield issue.

If the yield on all or a portion of the bond issue is based on a variable market index, the yield is not fixed and determinable on the date of issue and the bond issue is a variable yield bond issue.

The yield on a variable yield issue will vary on each computation date.

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**Computation Date**      The computation date is each date on which the rebate amount for an issue is computed.

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**Computation Period**      The computation period may be selected by the issuer and is the period between the computation dates.

Treas. Reg. section 1.148-3(e)(1) provides that an issuer may treat as computation dates:

- the last day of any bond year ending on or before the first required rebate payment date, and
- thereafter, the end of each bond year or the end of each fifth bond year.

Once selected, the issuer may not change the computation dates after the first required rebate payment.

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## Variable Yield Issues, Continued

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### Computation Period, continued

#### Example

The issue date for a variable yield issue is January 1, 1993. The issuer wants to determine yield on the bonds on January 1, 1994, when construction of the project is finished. The first computation period would be from January 1, 1993, the date of issue, to January 1, 1994, the first computation date. If the issuer decides to compute yield each bond year, the next computation period is between January 1, 1994 and January 1, 1995.

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### Computation of Yield

The yield on a variable yield issue is computed separately for each computation period.

According to Treas. Reg. section 1.148-4(c)(1), the yield for each computation period is:

- the discount rate at which the present value, as of first day of the computation period, of all payments of principal and interest and qualified guarantees paid on the bond issue during that computation period equals,
  - the present value of the issue price, as of the first day of the computation period.
- 

### Payments Generally Included in the Yield Computation

Under Treas. Reg. section 1.148-4(c)(2), payments included in the yield computations are the following:

- any amounts actually paid for principal of the bond during the computation period;
  - any amounts paid during the computation period for
    - (i) interest accruing on the bonds during such period, and
    - (ii) any interest which accrued in the prior period that was included in the issue price as unpaid accrued interest at the start of the current computation period; AND
  - any amounts paid as fees for a qualified guarantee or a qualified hedging transaction during the computation period.
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## Variable Yield Issues, Continued

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**Actual  
Redemption**

According to Treas. Reg. section 1.148-4(c)(2)(ii), if a bond is actually redeemed during a computation period, an amount equal to the greater of, its value on the redemption date, or the actual redemption price is included as a payment on the redemption date.

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**Bonds  
Outstanding**

According to Treas. Reg. section 1.148-4(c)(2)(iii), if a bond is outstanding at the end of a computation period, a payment equal to the bond's value is taken into account on the last day of the period.

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**Issue Price**

According to Treas. Reg. section 1.148-4(c)(2)(iv), a bond outstanding at the end of a computation period is treated as if it were reissued on the next day for a deemed issue price at a value equal to its value on the day before.

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**Example**

On January 1, 1994, City issues variable interest rate bonds in the principal amount of \$1,000,000. The stated maturity date of the bonds is January 1, 2000. The bonds pay interest on June 1, 1994, 1995, 1996, 1997, and 1998 in the amount of \$30,000, \$55,000, \$57,000, \$56,000 and \$45,000. From June 1, 1998 to January 1, 1999 \$30,000 interest accrues on the bonds. On June 1, 1999, the issuer pays \$65,000 in interest. On January 1, 2000, principal in the amount of \$1,000,000 and \$30,000 accrued interest is paid and the bonds are no longer outstanding.

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## Variable Yield Issues, Continued

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**First Computation Period.** The issuer computes rebate on January 1, 1999. The computation period for such computation date is between January 1, 1994 and January 1, 1999.

The issuer should include the following payments in the yield computation:

- The interest paid on June 1, 1994, 1995, 1996, 1997, 1998.
- Because the issue is outstanding on January 1, 1999, the computation date, it is treated as redeemed on that date. The amount included on January 1, 1999, is its value (\$1,000,000 plus accrued and unpaid interest of \$30,000).

The yield on the issue during the first computation period is the discount rate at which the aggregate of the present value as of January 1, 1994 of all payments made during this period (\$30,000, \$55,000, \$57,000, \$56,000, \$45,000 and \$1,030,000) equals the present value of the issue price of the issue (\$1,000,000) on January 1, 1994.

**Second Computation Period.** The bond is treated as reissued on January 1, 1999 for \$1,030,000. The payments included in the yield computation for this period include:

- Interest paid during the computation period (\$65,000 on June 1, 1999 and \$35,000 on January 1, 2000).
- Redemption price of the bonds on January 1, 2000 (\$1,000,000).

The yield on the issue during the second computation period is the discount rate at which the aggregate of the present value as of January 1, 1999 of all payments made during this period (\$65,000, \$35,000, and \$1,000,000) equals the present value of the issue price of the issue (\$1,030,000) on January 1, 1999.

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## Variable Yield Issues, Continued

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NOTE

**This Module includes yield computations for a basic variable yield bond issue and does not discuss inclusion of fees for a qualified guarantee or a qualified hedging transactions. For a discussion of these concepts see Phase II of this course.**

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## Section 5

### Yield on Investments

#### Overview

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**Purpose** The purpose of this section is to enable you to define purpose, nonpurpose, and program investments to later apply yield rules.

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**Contents** This section contains the following topics:

Topic	See Page
Overview	M - 33
Introduction	M - 34

---

## Introduction

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**General Rule**      Treas. Reg. section 1.148-5(b)(2) provides that yield on investments is calculated in the same manner as the yield on the bonds. The yield on the investments is determined separately on each class of investments.

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**Class of Investments**      Each of the following is a separate class of investments:

- Each category of yield restricted purpose investments and program investments, which is subject to a different definition of materially higher under Treas. Reg. section 1.148-2(d)(2),
- yield restricted nonpurpose investments, AND
- all other nonpurpose investments.

---

**Purpose Investment**      A purpose investment is an investment that is acquired to carry out the governmental purposes of the bond issue.

Acquisition of a residential rental facility by a housing authority is a purpose investment.

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**Nonpurpose Investment**      A nonpurpose investment is any investment property that is not considered a purpose investment.

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**Program Investments**      A program investment is defined in Treas. Reg. section 1.148-1(b) and generally includes student loan bonds, qualified mortgage revenue bonds, and qualified veterans mortgage revenue bonds.

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*Continued on next page*

## Introduction, Continued

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**Valuation of  
Investment**

When calculating yield on the investments, the investments must be valued in accordance with Treas. Reg. section 1.148-5(d).

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**NOTE**

**This Module does not discuss the computation or valuation of yield of investments. For a description of yield on investments, see Phase II of this course.**

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## Section 6

### Yield Restriction Rules

#### Overview

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**Purpose** The purpose of this section is to explain the basic yield restriction rules.

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**Contents** This section contains the following topics

Topic	See Page
Overview	M - 36
Introduction	M - 37
Higher Yielding Investments	M - 38
Investment Property	M - 39
Materially Higher Yield	M - 42

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*Continued on next page*

# Introduction

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## General

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

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

Issuance of bonds for the purpose of investing the bond proceeds in investments that have a yield which is higher 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 "proceeds" of the bond and determine the "yield" on the bond and the investments.

- Section 3 in this module contains the description of "proceeds."
  - Section 4 in this module and Phase II of this course, discuss the computation of yield on a basic fixed yield issue and a basic variable yield issue.
  - Section 5 in this module and Phase II of this course discuss computation of yield on investments.
-

## Higher Yielding Investments

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**Definition**

If the 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 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.

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# Investment Property

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**Definition** IRC section 148(b)(2) provides that investment property generally includes:

- any security,
- any obligation,
- any annuity contract, or
- any investment-type property.

For bonds that are not private activity bonds, acquisition of residential rental property not located in the jurisdiction of the issuer is investment property, unless such acquisition is pursuant to a court order.

---

**Tax-Exempt Bonds** IRC section 148(b)(3)(A) provides that although any security is an investment property under IRC section 148(b)(2), tax-exempt bonds are generally not treated as investment property.

However, for purposes of bonds, other than private activity bonds defined in IRC section 57(a)(5)(C), investment property includes private activity bonds defined in IRC section 57(a)(5)(C).

The private activity bonds defined in IRC section 57(a)(5)(C) are bonds, the interest income on which is subject to alternative minimum tax.

Accordingly, if proceeds of bonds, the interest income on which is not subject to the alternative minimum tax, are used to acquire tax-exempt bonds which are subject to alternative minimum tax, then the proceeds are used to acquire investment property.

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*Continued on next page*

## Investment Property, Continued

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### Investment-type Property

Investment-type property may include any property that is held principally as a passive vehicle for the production of income.

For this purpose, production of income includes any benefit based on the time value of money, including a benefit from making a prepayment.

Except, a prepayment may not be an investment-type property if:

- the prepayment is made for a substantial business purpose and not for receiving an investment return, OR
- a substantial number of persons who are similarly situated as the issuer, but have not issued tax-exempt bonds, make similar prepayments at substantially the same terms as the issuer.

(See **Treas. Reg. section 1.148-1(e).**)

---

### **Example**

City Y issue bonds for its governmental purposes and uses a portion of the bonds to prepay its electronic equipment maintenance contract for the next two years. Prepayment on substantially the same terms is made by persons similarly situated to City Y which persons have not issued tax-exempt bonds. This prepayment is not an acquisition of investment-type property.

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*Continued on next page*

## Investment Property, Continued

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### **Example**

An Authority, under a 15 year contract acquired bulk electricity from a power company. The Authority used the proceeds of bonds to prepay the bulk acquisition and received favorable rates and concessions. In PLR 9142012, the Service ruled that the prepayment did not result in acquisition of investment-type property.

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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 more than 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 nonpurpose investments.

---

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

<b>TYPE OF INVESTMENT</b>	<b>MEANING OF MATERIALLY HIGHER</b>
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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# Section 7

## Temporary Period

### Overview

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**Purpose** This section will enable you to identify initial temporary periods during which the use of bond proceeds to acquire higher yielding investments will not cause the bonds to be arbitrage bonds.

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**Contents** This section contains the following topics

Topic	See Page
Overview	M - 43
Introduction	M - 44
Capital Projects	M - 45
Restricted Working Capital Expenditures	M - 47
Pooled Financings	M - 49
Temporary Period for Other Proceeds	M - 52

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*Continued on next page*

## Introduction

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**General Rule** IRC section 148(a) provides that use of bond proceeds to acquire higher yielding investments results in the bonds being arbitrage bonds. However, such investment of proceeds during an initial temporary period does not cause the bonds to be arbitrage bonds. **(See also Treas. Reg. section 1.148-2(a).)**

According to Treas. Reg. section 1.148-2(e), the length of the temporary period depends upon the purpose for which the bonds are issued. The temporary period applies to both the proceeds and replacement proceeds of the bonds.

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## Capital Projects

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**General Rule** According to Treas. Reg. section 1.148-2(e)(2)(i), the net sale proceeds and investment proceeds of an issue reasonably expected to be allocated to capital projects may be invested without regard to yield limitation for a three year temporary period.

The three-year temporary period begins on the date of issuance of the bonds and applies to each conduit loan financed with the bond issue.

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**Reasonable Expectations** The three-year temporary period only applies if, on the date of issuance, the issuer reasonably expects to meet the:

- expenditure test,
  - time test, and
  - due diligence test.
- 

**Expenditure Test** According to Treas. Reg. section 1.148-2(e)(2)(i)(A), the expenditure test is met if at least 85 percent of the net sale proceeds of the issue are allocated to expenditures on the capital project within three years of the date of issuance of the bonds.

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**Time Test** According to Treas. Reg. section 1.148-2(e)(2)(i)(B), the time test is met if the issuer incurs a substantial binding obligation to a third party to expend at least five percent of the net sale proceeds on the capital project within six months of the date of issuance of the bonds.

A construction contract with a general contractor or a developer of the project or a purchase contract with the seller of the facility stating that the expenditure of proceeds will occur within six months is sufficient for this test.

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*Continued on next page*

## Capital Projects, Continued

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**Due Diligence Test** According to Treas. Reg. section 1.148-2(e)(2)(i)(C), the due diligence test is met if the completion of the project and allocation of net proceeds to the expenditure proceeds with due diligence.

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**Net Sale Proceeds** Net sale proceeds in each case means, the sale proceeds less any amount in a reasonably required reserve or replacement fund and as part of a minor portion.

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**5-year Temporary Period** The three-year temporary period may be extended to five years in certain circumstances. In such case, the issuer and a licensed architect or engineer must certify that a period longer than three years is necessary to complete the project.

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**Certification** An officer of the issuer must certify regarding the reasonable expectations of the issuer. The certification must state the facts and estimates that form the basis of the expectations.

Any intentional actions by the issuer or conduit borrower which are contrary to the reasonable expectations stated in the certification may result in the bond being subject to the yield restriction requirements. **(See IRC section 148(a) and Treas. Reg. sections 1.148-2(b)(2) and (c).)**

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**Mortgage Revenue Bonds** Mortgage revenue bonds and qualified veterans' mortgage bonds qualify for the three-year temporary period under the general rule provided in Treas. Reg. section 1.148-2(e)(2)(i).

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## Restricted Working Capital Expenditures

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**Definition** Working capital expenditures are subject to the rule in Treas. Reg. Section 1.148-6(d)(3)(i). This rule provides that, generally, proceeds of the bonds allocated to working capital are deemed spent after any other amounts available for such expenditure ("proceeds-spent-last rule").

Accordingly, the proceeds of the bonds may be allocated to working capital expenditures only to the extent that such working capital expenditures exceed other amounts available to the issuer or conduit borrower as of the date of the allocation.

---

**General Rule** According to Treas. Reg. section 1.148-2(e)(3)(i), proceeds of a bond issue that are expected to be used for working capital expenditures within 13 months of the date of issuance, may be investment without regard to yield restriction during those 13 months.

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**Exception for TRANs** According to Treas. Reg. section 1.148-2(e)(3)(ii), the 13-month temporary period for restricted working capital expenditures does not apply to tax and revenue anticipation notes ("TRANs") if:

- The TRANs are expected to be paid from tax revenues for a single fiscal year, and
- The TRANs will mature by the earlier of two years after the issue date or sixty days after the last date the tax payments are due.

For TRANs meeting the above requirements, the temporary period is the maturity date of the issue.

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## Restricted Working Capital Expenditures, Continued

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**Reasonable  
Expectation**

Just as in any other bond issue, the reasonable expectations of the issuer as of the issue date are important to determine whether the bond issue qualifies for the 13-month or two-year temporary period.

The expectations of the issuer must be based upon allocations made in accordance with the proceeds-spent-last rule.

The issuer must therefore expect that after spending all other amounts available to it for such expenditures, it will be able to spend proceeds of bonds or TRANS within the applicable temporary period.

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## Pooled Financings

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**Definition** IRC section 149(f)(4)(A) provides that a pooled financing is any bond issue the proceeds of which are reasonably expected, at the time of issuance, to be used to make loans to two or more unrelated borrowers.

See Module C for additional description of pooled financings.

---

**General Rule** IRC section 148(c)(2)(A) provides a six-month temporary period while the proceeds are held by the issuer. Therefore, if the proceeds of a pooled financing issue are loaned to two or more borrowers for a qualified purpose, the proceeds may be invested by the issuer for up to six months without regard to yield limitation. **(See also Treas. Reg. section 1.148-2(e)(4)(i).)**

---

**Exception For Construction Financing** If any portion of the proceeds of the pooled financing are used to make or finance loans for construction expenditures, the temporary period, while the proceeds are held by the issuer is increased to two years. **(See IRC section 148(c)(2)(D) and Treas. Reg. section 1.148-2(e)(4)(iii).)**

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**Temporary Period After Proceeds Loaned** According to Treas. Reg. section 1.148-2(e)(4)(i), the six-month rule and the two-year rule described above, only apply to the bond proceeds invested by the issuer prior to making loans. After the proceeds are loaned to a borrower, the temporary period depends upon the expected use of bond proceeds (such as, capital project, working capital expenditures, etc.)

Any otherwise available temporary period for proceeds held by a borrower is reduced by the period of time during which the proceeds were held by the issuer, before being loaned.

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## Pooled Financings, Continued

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### Example

City X issues a bond issue which properly qualifies as a pooled financing. The temporary period for such financing would be three years under Treas. Reg. section 1.148-2(e). The proceeds are loaned to conduit borrower A, conduit borrower B, and conduit borrower C, within three months, five months and six months, respectively, of the date of issuance of the bonds. Conduit borrower A has an additional temporary period of 33 months, conduit borrower B has an additional temporary period of 31 months, and conduit borrower C has an additional temporary period of 30 months after the date such conduit borrower receives the proceeds of the bonds.

### Example

Assume in above Example that six months after the date of issuance of the bonds, City X has not loaned more than five percent of the proceeds of the bonds to any conduit borrower. City X must not use the remaining proceeds of the bonds held by it to acquire higher yielding investments.

---

### **Loan Repayments**

Proceeds received by the issuer as repayment of loans from the conduit borrowers may be used to make new loans. Such proceeds of repayments may be invested without regard to yield limitation for three months from the date of the repayments. **(See IRC section 148(c)(2)(C) and Treas. Reg. section 1.148-2(e)(4)(ii)(A).)**

According to Treas. Reg. section 1.148-2(e)(4)(ii)(B), bond proceeds loaned to a conduit borrower qualify for the otherwise applicable temporary period less the time the proceeds were held by the issuer prior to making the new loan.

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*Continued on next page*

## Pooled Financings, Continued

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### **Construction Issue**

Under IRC section 148(c)(2)(D), a pooled financing which is reasonably expected to be used to make or finance loans for construction expenditures has a temporary period of two years at the pool level.

**(See also Treas. Reg. section 1.148-2(e)(4)(iii).)**

---

### **Mortgage Revenue Bonds**

IRC section 148(c)(2)(D) provides that although mortgage revenue bonds and qualified veterans' mortgage revenue bonds are pooled financings, the six-month temporary period does not apply to them.

Mortgage revenue bonds and qualified veterans' mortgage bonds qualify for the three-year temporary period under the general rule provided in Treas. Reg. section 1.148-2(e)(2)(i).

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## Temporary Period for Other Proceeds

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**Replacement Proceeds** According to Treas. Reg. section 1.148-2(e)(5)(i), replacement proceeds qualify for a 30-day temporary period from the date the proceeds are first treated as replacement proceeds.

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**Bonafide Debt Service Fund** According to Treas. Reg. section 1.148-2(e)(5)(ii), amounts in a bonafide debt service fund qualify for a 13-month temporary period. If only a portion of the fund qualifies as a bonafide debt service fund, then such portion qualifies for the 13-month temporary period.

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**Investment Proceeds** According to Treas. Reg. section 1.148-2(e)(6), investment proceeds qualify for a one-year temporary period from date of receipt.

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**Other Amounts** According to Treas. Reg. section 1.148-2(e)(7), gross proceeds not otherwise qualifying for a special temporary period exception under IRC section 148(c) or Treas. Reg. section 1.148-2(e), qualify for a 30-day temporary period from date of receipt.

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**Section 8**  
**Reasonably Required Reserve or**  
**Replacement Fund**

**Overview**

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**Purpose** This section will enable you to identify funds which qualify as a reasonably required reserve or replacement fund.

---

**Contents** This section contains the following topics

<b>Topic</b>	<b>See Page</b>
Overview	M - 53
Introduction	M - 54

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## Introduction

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**Definition** According to Treas. Reg. section 1.148-2(f)(2)(ii), a reserve fund is a reasonably required reserve or replacement fund if it does not exceed **the lesser of** :

- 10 percent of the principal amount of the issue.
- Maximum annual debt service on the bonds.
- 125 percent of the average annual debt service on the bonds.

A reserve or replacement fund may be funded with moneys other than sale proceeds of the bond issue. Therefore to determine whether the bond issue meets the yield restriction requirements, a determination must be made as to which funds constitute a reserve fund. Only a portion of the fund, which meets the requirements stated above, qualifies as a reasonably required reserve or replacement fund.

Special rules apply for bonds issued for more than a de minimis amount of discount or premium.

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**General Rule** Amounts held in a reasonably required reserve or replacement fund may be invested without regard to yield limitation.

**(See IRC section 148(d)(1) and Treas. Reg. section 1.148-2(f)(2)(i).)**

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**Limitation on Use of Sale Proceeds** If more than 10 percent of the stated principal amount of the bond issue are used to fund any reserve or replacement fund, the bond issue is an arbitrage issue.

For the bonds to be arbitrage bonds, it is not necessary that the proceeds of the bonds in such a reserve fund be invested in higher yielding investments.

**(See IRC section 148(d)(2) and Treas. Reg. section 1.148-2(f)(1).)**

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## Introduction, Continued

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### **Example**

County A issues \$10 million stated principal amount of bonds. It deposits \$1 million of the sale proceeds into a reserve fund. County A has never issued bonds before and does not have a good credit rating. The bondholders require that County A deposit an additional \$250,000 of its own moneys into the reserve fund. There are no other reserve funds established by County A as security for the bonds.

\$1 million is less than the maximum annual debt service on the bonds or 125 percent of the average annual debt service on the bonds. The reasonably required reserve or replacement fund consists of the \$1 million fund. This amount may be invested without regard to yield limitation. County A may deposit the \$250,000 in the reserve fund, however, such amounts are not part of the reasonably required reserve or replacement fund and are subject to yield restriction and rebate requirements.

### **Example**

Facts are the same as the above example, except, instead of using \$250,000 of its own moneys, County A used \$1,250,000 of the sale proceeds to establish a reserve fund. Because County A used more than 10 percent of the stated principal amount of the bonds to establish a reserve fund, the bonds are arbitrage bonds. It does not matter whether County A invests all of this amount in investments which have a yield less than, or equal to, the yield on the bonds.

---

## Section 9

### Minor Portion

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**General Rule** Bonds will **not** be treated as arbitrage bonds if an amount which is the **lesser** of:

- 5 percent of the proceeds of the issue, OR
- \$100,000.

is invested at a yield which is materially higher than the yield on the bonds.

**(See IRC section 148(e) and Treas. Reg. section 1.148-2(g).)**

---

## Section 10

### Coordination With Rebate Rules

---

#### **General Rule**

As stated in this module, bonds are arbitrage bonds if on the date of issuance the issuer reasonably expects to invest the proceeds in higher yielding investments.

However, during the temporary period the issuer or conduit borrower may invest proceeds in higher yielding investments.

Although any arbitrage earnings received by the issuer during the temporary period may not result in the bonds being arbitrage bonds, the issuer is generally not permitted to retain such arbitrage earnings.

Whether an issuer can retain the arbitrage earnings or it must rebate such earnings to the United States must be determined in each case. The rules regarding rebate and yield reduction payments are discussed in Module N.

---

#### **Taxability of Bonds**

After the applicable temporary period is over, any investment of bond proceeds in higher yielding investments will generally result in the bonds being arbitrage bonds. If yield restriction rules are violated, payment of rebate or yield reduction payments in such cases will not preserve the tax-exempt status of the bonds.

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## Summary

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### Review of Module M

IRC section 103(b)(2) provides that interest on a bond is not excludable from income for federal tax purposes if the bond is an arbitrage bond.

IRC section 148(a) provides that a bond is an arbitrage bond if at the time of the issuance of the bond, the issuer reasonably expects that all, or a portion, of the proceeds of the bond will be directly or indirectly used to acquire higher yielding investments or to replace funds which are used to acquire higher yielding investments.

Additionally, a bond is an arbitrage bond if the issuer intentionally uses any portion of the proceeds of the bonds as described above.

For purposes of IRC section 148(a), “proceeds” generally include sale proceeds, investment proceeds, transferred proceeds, and replacement proceeds. In addition, according to Treas. Reg. section 1.141-12(a)(4) disposition proceeds must be treated as gross proceeds for purposes of IRC section 148(a).

Yield on a bond issue is the economic return to the bondholders. A bond can have a fixed or a variable yield.

Yield on a fixed yield issue is the discount rate that results in the aggregate present value, as of the issue date, of all unconditionally payable payments over the life of the issue equaling the present value of the issue price as of that date.

Yield on a variable yield issue is computed separately for each computation period. The yield for each computation period is the discount rate at which the present value, as of the first day of the computation period, of all payments of principal and interest and qualified guarantees paid on the bond issue during that computation period, equals the present value of the issue price, as of the first day of the computation period.

Yield on investments is calculated in the same manner as the yield on the bonds. The yield on the investments is determined separately on each class of investments.

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*Continued on next page*

## Summary, Continued

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### **Review of Module M, continued**

If the 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 used to acquire higher yielding investments. The definition of “materially higher” differs depending on the type of investment.

IRC section 148(c) and the accompanying regulations provide reasonable temporary periods during which the bond proceeds may be invested without yield restriction. The length of the temporary period generally depends upon the purpose for which the bonds are issued.

Although the arbitrage rules permit some proceeds to be invested without yield restriction, the issuer is generally not permitted to retain such arbitrage earnings. In some cases, the issuer can retain the arbitrage earnings, while in others the earnings must be rebated to the United States.

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### **Preview of Module N**

The rebate rules have the same basic purpose as yield restriction. Any arbitrage that is earned must be paid over to the United States unless an exception applies. There are two types of exceptions; the small issuer exception, and the spending exceptions.

If none of the exceptions applies, then the amount of rebate due must be computed, which is a multi-step process.

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