

TAX TREATMENT

September 1999

I. Preferential Tax Treatment in US

- A. Interest on U.S. Government Bonds taxed only at federal level.**
- B. Interest on Municipal Bonds taxed only at state level and generally tax exempt in state of issuance.
Capital gains are fully taxed.**

II. Determining capital gain or ordinary income:

- A. For dealers generally not an issue since generally all gains and interest are considered ordinary income.**
- B. When bond is purchased at premium or discount from par or if bond was issued at premium or discount, what is classified as interest for tax purposes may not equal the coupon paid.**

III. Tax Treatment of accrued interest

- (1) When you sell a bond, accrued interest is treated as interest for tax purposes. E.g., if quoted price is 980 and accrued interest is \$40, \$40 is treated as ordinary income and 980 - (cost basis) is capital gain or loss.**

- (2) When purchase bond, cost is considered invoice price. First year interest is interest paid less accrued interest at time of purchase. E.g., if quoted price is 980, accrued interest is \$20, then invoice price and cost basis is \$1000. If coupon is \$60 per year and one coupon is paid in the first year, interest is 30-20 or \$10.**

- (3) Special rules apply to bonds in default. Essentially all defaulted payments and accrued interest if subsequently paid are considered a return of principal and the cost basis is adjusted accordingly.**

IV. Techniques for determining amortized interest and therefore capital gains and ordinary interest.

(1) Straight line

Assume five years to maturity, purchase a zero coupon bond at \$500 which will mature at \$1000. Yearly amount taxed as interest if straight line.

$$\frac{1000 - 500}{5} = 100 \text{ per year}$$

(2) Constant yield method

Interest that is taxed is yield to maturity times original price in year one, and times adjusted price in year two. Adjusted price is original price plus amortized interest.

Example:

Price	95
Coupon	10%
Maturity	5 years
Semi-annual interest	
Yield to Maturity is	11.34%

First year's taxable interest

$$950 * \frac{11.34}{100} = \$107.73$$

This interest is \$100 actual interest plus \$7.73 of amortized interest.

Second year's base

$$950 + 7.73 = 957.73$$

Second year's taxable interest

$$957.73 * \frac{11.34}{100} = \$108.61$$

2. Rules for determining which rule to use to determine taxable interest.

I. Original issue Premium or discount bonds

(1) Must compute amortized interest:

U.S. Government Bonds (corporate) issued before July 2, 1982 (May 28, 1969) use straight line

Issued after July 1, 1982 (May 27, 1969) use constant yield method

Exceptions:

- (a) Series E E and E U.S. Government bonds can elect to have discount taxed at sale**
- (b) Treasury bills are taxed at sale**
- (c) Small “*de minimis*” discounts are not taxed**

(2) Bonds purchased at premium or discount but issued at par

(a) Premium bonds

Issued after September 27, 1985 investor has option to amortize premium using constant yield method.

Issued before September 28, 1985 investor has option to amortize premium using straight line method or all at maturity.

For municipal bonds, premium must be amortized but Loss cannot be used to reduce taxes. Therefore amortization only reduces cost basis.

For callable bonds, amortization is to call date or maturity which ever results in lower amortization. This distinction is generally not important in practice.

Obviously, in general it pays to exercise the option and amortize, since it reduces interest and capital gain is postponed.

(3) Purchase at discount

Bond issued before July 19, 1984 - no amortization. All change in value is treated as capital gain.

Bond issued after July 18, 1984 - interest is accrued using either straight line or constant yield method, but is taxed as interest only when sold with a maximum interest equal to the appreciation.

VI. Examples:

- A. Newly issued original discount bond with five years to maturity. Cost is \$845.56 and bond is purchased at that price. Interest is 6% paid semiannually. Yield to maturity is 10%**

constant yield method				
	cost	taxable	interest	original
year	basis	interest	paid	discount
	845.56			amortized
0.5	857.84	42.28	30	12.28
1	870.73	42.89	30	12.89
1.5	884.27	43.54	30	13.54
2	898.48	44.21	30	14.21
2.5	913.40	44.92	30	14.92
3	929.07	45.67	30	15.67
3.5	945.53	46.45	30	16.45
4	962.80	47.28	30	17.28
4.5	980.94	48.14	30	18.14
5	999.99	49.05	30	19.05

**B. Original issue discount bond. Issued 1980.
Bond pays 6% paid semi-annually. Five
years to maturity.**

$$(1000-845.56)=154.44$$

		straight line		
	cost	interest	original	taxable
year	basis	paid	discount	interest
	845.56		amortized	
0.5	861.00	30	15.44	45.44
1	876.45	30	15.44	45.44
1.5	891.89	30	15.44	45.44
2	907.34	30	15.44	45.44
2.5	922.78	30	15.44	45.44
3	938.22	30	15.44	45.44
3.5	953.67	30	15.44	45.44
4	969.11	30	15.44	45.44
4.5	984.56	30	15.44	45.44
5	1000.00	30	15.44	45.44

C. Bond purchased at discount. Investor analyzes choice of straight line or constant yield when sold after 2 1/2 years: Cost is \$845.56.

		constant	yield	straight	line
sale price	total gain or loss	amortized interest	capital gain or loss	amortized interest	capital gain or loss
1100	254.44	67.84	186.60	77.22	177.22
1000	154.44	67.84	86.60	77.22	77.22
950	104.44	67.84	36.60	77.22	27.22
900	54.44	54.44	0.00	54.44	0
850	4.44	4.44	0.00	4.44	0
800	-45.56	0	-45.56	0	-45.56

Which would the investor choose?

I. Terms

- a. Amortization**
- b. Constant yield method**
- c. Straight line method**

II. Concepts

- a. That bonds even of one type (e.g., government) can have different tax treatment**
- b. That tax treatment affects value**

III. Calculations

- a. Amortized interest**
- b. Cost basis**