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Management

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INVESTMENT, TAX AND LIFESTYLE PERSPECTIVES FROM RBC WEALTH MANAGEMENT SERVICES

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## Discount instruments

### Reporting on your income tax return

Discount instruments don't pay regular coupon interest, don't have a stated interest rate, and the taxable interest isn't reported on a tax slip — therefore, you may wonder how to appropriately report the income associated with these investments on your income tax return.

Discount instruments are fixed-income investments, such as T-bills, strip bonds, strip coupons, banker's acceptance notes and commercial paper, that don't pay regular coupon interest.

This article addresses the tax implications for individuals only. It does not discuss tax implications for corporations, partnerships, unit trusts and trusts where any of these entities are beneficiaries.

#### Discount instruments held to maturity

A discount instrument held to maturity will appear in the "Discount Instruments" section of your year-end "Summary of Security Dispositions" statement. This statement also includes the sale of stocks and bonds during the year. It's for you, or your qualified tax advisor, to use to calculate your capital gains and losses on these investments.

However, a Canadian dollar discount instrument that's held to maturity does not create a capital gain or loss. The difference between the par value at maturity and the price paid to purchase the discount instrument is considered interest income for tax purposes. This means the difference

between the price you paid for the discount instrument and the amount you receive at maturity is taxable to you as interest income.

Note that this interest income will not appear on a T5 slip. You will need to manually calculate this interest income on the maturity of the discount instrument and include it on your personal income tax return as interest income.

If you hold a discount instrument to maturity and it matures in one year or less, the interest income should be reported in the year of maturity.

If the discount instrument matures later than one year, you'll need to report the accrued interest earned each year, except in the year

acquired. Accrued interest is the interest you earned in the year even if it's not paid in the year. The accrued interest is calculated every year on the "anniversary day" and is based on the yield-to-maturity rate, at the time of purchase. The anniversary day is one year less a day after the date of issue, and every successive year after that. For example, a bond issued on January 6, Year 1 would have an anniversary day of January 5; Year 2 and each year after that it would also be January 5. For individuals, no interest would need to be reported in the year the discount instrument is acquired, unless it's sold in the year (this is not the case for corporations, partnerships, unit trusts and trusts where any of these entities are beneficiaries — they must accrue interest at year-end, including the year of purchase).

### Example 1: Holding period of less than one year and held to maturity

On June 1, Luc purchased a 90-day T-bill for \$9,900 with a yield of 4.11%, which matures on August 30 at \$10,000. Luc reports the following interest income on his income tax return:

$$\begin{aligned}\text{Accrued interest} &= \$10,000 - \$9,900 \\ &= \$100\end{aligned}$$

The interest can also be calculated this way:

$$\begin{aligned}\text{Accrued interest} &= [\text{base} \times (1 + \text{yield})^{\text{number of days held}/365}] - \text{base} \\ &= [\$9,900 \times (1.0411)^{90/365}] - \$9,900 \\ &= \$100\end{aligned}$$

For individuals, if the T-bill or other discount instrument was purchased in one calendar year and matured in the following year (for example, if the 90-day T-bill was purchased on December 1), the interest would only be reported in the second year. (As mentioned, this is not the case for corporations, partnerships, unit trusts and trusts where any of these entities are beneficiaries — they must accrue interest at year-end, including the year of purchase.)

### Example 2: Holding period of more than one year and held to maturity

Xavier purchased a coupon on December 17, Year 6, for \$9,248 with a yield of 3.86%, which had an original issue date of January 10, Year 1, and will mature on January 9, Year 9, at \$10,000. This means the total interest he would receive if the security is held to maturity is \$752 (\$10,000 – \$9,248). Since, for individuals, accrued interest is reported on an anniversary day basis (every 365 days based on the day before the issue date, January 9 in this example) and not a calendar basis, he will not report any interest on his Year 6 tax return.

However, Xavier will need to report interest starting in Year 7. This will include interest for 14 days of Year 6, plus 9 days of Year 7 (23 days total) that Xavier held the bond at the anniversary day in Year 7. The interest to be reported on his tax return for each year is calculated as follows:

Tax year	Base for interest compounding (purchase price plus previously reported interest)	Taxable interest
Year 7	\$9,248	\$22 <sup>1</sup>
Year 8	\$9,270	\$358 <sup>2</sup>
Year 9	\$9,628	\$372 <sup>3</sup>
Maturity value/total interest	\$10,000	\$752

$$\begin{aligned}1) \text{ Year 7 taxable interest} &= [\text{base} \times (1 + \text{yield})^{\text{number of days held}/365}] - \text{base} \\ &= [\$9,248 \times (1 + 0.0386)^{23/365}] - \$9,248 \\ &= \$22\end{aligned}$$

$$\begin{aligned}2) \text{ Year 8 taxable interest} &= [\text{base} \times (1 + \text{yield})^{\text{number of days held}/365}] - \text{base} \\ &= [\$9,270 \times (1 + 0.0386)^{365/365}] - \$9,270 \\ &= \$358\end{aligned}$$

$$\begin{aligned}3) \text{ Year 9 taxable interest} &= [\text{base} \times (1 + \text{yield})^{\text{number of days held}/365}] - \text{base} \\ &= [\$9,628 \times (1 + 0.0386)^{365/365}] - \$9,628 \\ &= \$372\end{aligned}$$

## Selling a discount instrument prior to maturity

If you sell a discount instrument prior to maturity, there will generally be a combination of interest and a capital gain or loss realized for tax purposes. You (or your qualified tax advisor) must manually calculate this interest and capital gain or loss and report them on your tax return.

First, you need to calculate the accrued interest as noted in Example 1. To calculate the capital gain or loss, subtract the accrued interest from the proceeds of disposition (POD) and then subtract your adjusted cost base (ACB) as usual.

### Example 3: Holding period of less than one year and sold prior to maturity

As in Example 1, Luc purchased a 90-day T-bill for \$9,900 on June 1 with a yield of 4.11%, which matures on August 30 at \$10,000. However, this time he decides to sell the T-bill prior to its maturity on August 11 (71 days) for \$9,980. His accrued interest and capital gain/loss is calculated as follows:

$$\begin{aligned} \text{Accrued interest} &= [\text{base} \times (1 + \text{yield})^{\text{number of days held}/365}] - \text{base} \\ &= [\$9,900 \times (1.0411)^{71/365}] - \$9,900 \\ &= \$79 \end{aligned}$$

$$\begin{aligned} \text{Capital gain/(loss)} &= (\text{POD} - \text{Accrued Interest}) - \text{ACB} \\ &= (\$9,980 - \$79) - \$9,900 \\ &= \$1 \end{aligned}$$

Thus, Luc must report interest income of \$79 and a capital gain of \$1 on his personal income tax return.

### Example 4: Holding period of more than one year and sold prior to maturity

As in Example 2, Xavier purchased a coupon on December 17, Year 6 for \$9,248 with a yield of 3.86%, which matures on January 9, Year 9, at \$10,000. However, rather than holding the coupon to maturity, Xavier decides to sell the coupon on February 10, Year 8, for \$9,800 (32 days after the anniversary day). Since he sold the instrument prior to maturity, Xavier will have a combination of interest and a capital gain or loss to report on his Year 8 tax return.

Xavier's interest to be reported on his tax returns is calculated as follows:

Tax year	Base for interest compounding (purchase price plus previously reported interest)	Taxable interest
Year 7	\$9,248	\$22 <sup>1</sup>
Year 8	\$9,270	\$358 <sup>2</sup>
Year 8 (from Jan 10 to Feb 10)	\$9,628	\$33

1) The Year 7 reportable interest is calculated as it was in Example 2.

2) The Year 8 interest is calculated in two parts:

$$\begin{aligned} \text{Year 8 annual accrued interest to Year 8 anniversary day} &= [\text{base} \times (1 + \text{yield})^{\text{number of days held}/365}] - \text{base} \\ &= [\$9,270 \times (1 + 0.0386)^{365/365}] - \$9,270 \\ &= \$358 \end{aligned}$$

$$\begin{aligned} \text{Plus Year 8 accrued interest from Jan 10, Year 8 to the date of sale, Feb 10} &= [\text{base} \times (1 + \text{yield})^{\text{number of days held}/365}] - \text{base} \\ &= [\$9,628 \times (1 + 0.0386)^{32/365}] - \$9,628 \\ &= \$33 \end{aligned}$$

His total interest to be reported on his Year 8 tax return is \$391.

### Capital gain or loss

Since accrued interest was reported in the prior year, the prior year's accrued interest and this year's accrued interest must be deducted from the POD to calculate the gain or loss on the sale.

$$\begin{aligned} \text{Capital gain/(loss)} &= (\text{POD} - \text{Accrued Interest}) - \text{ACB} \\ &= (\$9,800 - \$22 - \$391) - \$9,248 \\ &= \$139 \end{aligned}$$

Thus, Xavier must report interest income of \$391 and a capital gain of \$139 on his Year 8 personal income tax return.

## Foreign exchange

For individuals, all amounts you report on your Canadian tax return must be reported in Canadian dollars, regardless of the actual currency of the instrument. If the instrument is denominated in a foreign currency, the proper amount of interest must be determined in Canadian dollars using the appropriate foreign exchange rate.

First, interest is calculated in the foreign currency as previously described. The resulting interest must then be converted to Canadian dollars using an appropriate foreign exchange rate. There is flexibility in how the annual accrued interest is converted to Canadian dollars (e.g. foreign exchange rate on anniversary day or average exchange rate for the year), so you should consult with your professional tax advisor to determine the appropriate foreign exchange rate to use. However, the Canada Revenue Agency has commented that interest accrued up to the date of maturity or disposition should be converted using the “spot rate in effect on that date.”

If you hold a Canadian denominated discount instrument until maturity, the difference between the par value at maturity and the price you paid to purchase the instrument will be taxable to you as interest income.

When dealing with a discount instrument denominated in a foreign currency, a capital gain or loss calculation must be done if the discount instrument is sold prior to maturity or if it matures at par. This is because there may be a foreign currency gain or loss at maturity, even if it matures at par. Generally, the appropriate exchange rates to use are the rates prevailing at the time of purchase and at the time of disposition.

Let's look at an example where a discount instrument, denominated in U.S. dollars, is purchased and sold before maturity.

### Example 5: Foreign currency denominated discount instrument sold prior to maturity

Helena purchased a U.S. dollar 90-day T-bill for US\$19,842 on June 1 with a yield of 3.22%, which matures on August 30 at US\$20,000. She decides to sell the T-bill prior to its maturity on July 31 for US\$19,955.

Her accrued interest and capital gain or loss is calculated as follows:

$$\begin{aligned} \text{Accrued interest} &= [\text{base} \times (1 + \text{yield})^{\text{number of days held}/365}] - \text{base} \\ &= [\text{US\$19,842} \times (1.0322)^{60/365}] - \text{US\$19,842} \\ &= \text{US\$105} \end{aligned}$$

Assume the exchange rates for the year were as follows:

June 1	1.3630
July 31	1.3432

To calculate the capital gain or loss, the figures must first be converted to Canadian dollars, using the rates in effect on the date the transactions occurred. Converting the interest, ACB and the POD, using the earlier noted rates, Helena gets the following Canadian dollar results to complete her calculations:

$$\begin{aligned} \text{Interest:} & \text{US\$105 @ 1.3432} = \text{C\$141} \\ \text{ACB:} & \text{US\$19,842 @ 1.3630} = \text{C\$27,045} \\ \text{POD:} & \text{US\$19,955 @ 1.3432} = \text{C\$26,804} \end{aligned}$$

$$\begin{aligned} \text{Capital gain/(loss)} &= (\text{POD} - \text{Accrued Interest}) - \text{ACB} \\ &= (\text{C\$26,804} - \text{C\$141}) - \text{C\$27,045} \\ &= (\text{C\$382}) \text{ This is a capital loss for Canadian tax purposes.} \end{aligned}$$

Since reporting for discount instruments denominated in a foreign currency can be complicated, you may want to seek the assistance of a qualified tax advisor.

## Conclusion

If you hold a Canadian denominated discount instrument until maturity, the difference between the par value at maturity and the price you paid to purchase the instrument will be taxable to you as interest income.

If the discount instrument has a holding period of more than one year, you will need to report the accrued interest earned each year on the anniversary day using the effective interest rate.

If you sell a discount instrument prior to maturity, there may be a combination of interest and a capital gain or loss realized for tax purposes.

When discount instruments are denominated in a foreign currency, the interest and capital gain or loss must be reported on your Canadian income tax return in Canadian dollars.

Since reporting for discount instruments require you to manually calculate your interest and capital gain or loss, if any, you may want to seek the assistance of a qualified tax advisor.

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