The power of tax-equivalent yield

What is tax-equivalent yield?

The pretax yield a taxable bond needs to possess for its yield to be equal to that of a tax-exempt bond is the tax-equivalent yield. The tax-equivalent yield helps to fairly compare the yield of a taxable and tax-exempt bond. When considering an investment in a tax-exempt security, such as a municipal bond, an investor may forget that the yield on this type of security is not directly comparable to the yield on a taxable security. Unlike the yield on a tax-exempt security, which is not subject to federal income tax and, in some cases, state and local income taxes, the yield on a taxable security reflects its pre-tax yield—which can create an unfair comparison to the benefits of a tax-exempt security.

Tax-Exempt Investments Appear Attractive, Particularly in Higher Tax Brackets

An investor’s tax rate has a significant impact on the results of a tax-equivalent yield. The chart below displays the amount of additional yield that is required from a “taxable” fixed-income investment to equal the “tax free” yield of a municipal bond.

Calculating tax-equivalent yield

Tax-equivalent yield is determined by taking the yield of a tax-exempt bond and dividing it by one minus an investor’s federal income tax bracket. For instance, if an investor is in the 32.0% federal income tax bracket, and is looking to compare a taxable bond with a 4.0% yield to a tax-exempt bond with a 3.5% yield, the tax-equivalent yield would be calculated as follows:

$$\frac{3.5%}{1-0.320} = \frac{3.5%}{0.680} = 5.15%$$

In this instance, the tax-equivalent yield of the tax-exempt bond (5.15%) is greater than the 4.0% yield of the taxable bond by 1.15%.

<table>
<thead>
<tr>
<th>Income*</th>
<th>2021 Federal Income Tax Rate</th>
<th>You need to find a taxable investment yielding :</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.00%</td>
<td>1.50%</td>
</tr>
<tr>
<td>$0 - $9,950</td>
<td>10.0%</td>
<td>1.11%</td>
</tr>
<tr>
<td>$9,951 - $40,525</td>
<td>12.0%</td>
<td>1.14%</td>
</tr>
<tr>
<td>$40,526 - $86,375</td>
<td>22.0%</td>
<td>1.28%</td>
</tr>
<tr>
<td>$86,376 - $164,925</td>
<td>24.0%</td>
<td>1.32%</td>
</tr>
<tr>
<td>$164,926 - $209,425</td>
<td>32.0%</td>
<td>1.47%</td>
</tr>
<tr>
<td>$209,426 - $523,600</td>
<td>38.8%**</td>
<td>1.63%</td>
</tr>
<tr>
<td>$523,601 +</td>
<td>40.8%**</td>
<td>1.69%</td>
</tr>
</tbody>
</table>

*Tax brackets shown are for single filers.**Includes additional 3.8% net investment income tax that may be imposed on single filers with modified adjusted gross income exceeding $200,000.

INVESTMENTS

INVESTING ESSENTIALS

Not FDIC/NCUA Insured
Not a Deposit
May Lose Value
No Bank Guarantee
Not Insured by Any Government Agency
Benefits of state tax-exempt securities

Since tax-exempt bonds can potentially be both federal and state income tax free, an investor can combine both income tax rates to determine their overall tax-equivalent yield.

For instance, if an investor is in the 32.0% federal income tax bracket and lives in the state of New York, their combined income tax rate would be 40.8% (using the maximum state income tax rate of 8.8%).

When comparing a taxable bond with a 4.0% yield to a tax-exempt bond with a 3.5% yield, the tax-equivalent yield when using the combined income tax rate would be calculated as follows:

$$\frac{3.5\%}{1-0.408} = \frac{3.5\%}{0.592} = 5.91\%$$

In this instance, the tax-equivalent yield of the tax-exempt bond (5.91%) is greater than the 4.0% yield of the taxable bond by 1.91%—highlighting the additional impact of state tax advantaged securities.

*As of January 2021, there appear to be some challenges to the increased rate in Arizona, therefore, this rate is subject to change.*