



DEPARTMENT OF THE TREASURY  
BUREAU OF THE PUBLIC DEBT  
WASHINGTON, DC 20239-0001

Rcvd 2 Aug 00  
Ref: Summer TRS /  
18 May 00

July 26, 2000

Mr. Joel R. Anderson

Dear Mr. Anderson:

This is in response to your letter dated May 18, 2000, regarding your concern about computing the investment rates for Treasury Securities. I apologize for the late response.

In answer to your question number one regarding Treasury bills:

The quote you referenced on our website is not specific as to when the 366-day period begins and ends. The complete formulas for calculating the purchase price, discount rate, and investment rate are published in the Uniform Offering Circular for the Sale and Issue of Marketable Book-Entry Treasury Bills, Notes, and Bonds (31 CFR Part 356, as amended). This circular can be found on our website by going to <http://www.publicdebt.treas.gov/of/ofguide.htm> and scrolling down and clicking on Section 9, "Uniform Offering Circular (Treasury Auction Rules)". The formulas are located in Appendix B, beginning on page 357. Please note the Uniform Offering Circular is in pdf format. Adobe Acrobat Reader must be installed on your PC to view files in pdf format. The Acrobat Reader is included in many Web browsers, but if your browser does not read Acrobat's pdf files, you can obtain Acrobat Reader for free at <http://www.adobe.com>.

f. Sec 4.5. 5.1 f  
P 33, 34, 35  
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I have enclosed copies of pages 370 and 371 from this circular, which give the formula for calculating the investment rates for Treasury bills. As highlighted, the definition of "y" is the number of days in the year following the issue date--normally 365; but if the year following the issue date includes February 29, then "y" is 366.

To participate competitively in a bill auction, a competitive bid must be expressed as a discount rate with three decimals in increments of .005 percent. For cash management bills (CMBs), a competitive bid must show the discount rate bid expressed with two decimals in increments of .01 percent. CMBs traditionally have a very short period to maturity. If three-decimal bidding is used for bills with a very short maturity, you will not get a unique price for each bid. For example, bids of 5.123% and 5.124% may result in the same calculated price, but bids of 5.12% and 5.13% will more likely have different prices. To avoid the confusion of having a single price apply to multiple bids, we use two-decimal bidding for short-term bills.

In answer to your question number two regarding Treasury notes and bonds:

The Treasury does not use formulas that calculate the yield from a price because auctions of Treasury notes and bonds are conducted only on a yield basis. The formula for the conversion of a price from a yield is found on page 364 of the Uniform Offering Circular.

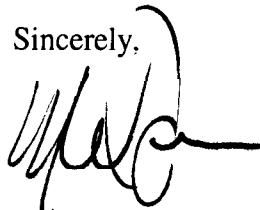
In all auctions of Treasury notes and bonds, there is a relationship among the given security's yield (which is determined in the auction), its corresponding interest rate, and its purchase price. The higher the security's yield is in relation to its interest rate, the lower the price for that security. The reverse is also true in that the lower a security's yield is in relation to its interest rate, the higher the price.

In auctions of all notes and bonds, investors are awarded their securities at the highest yield accepted from the competitive bidders in the auction. This yield and the interest rate will be roughly equivalent. Accordingly, the investor's purchase price usually is under but relatively close to par, and the amount returned to the investor does not constitute a significant portion of the return on his investment.

However, in the case of a reopened security such as the 29-1/2-year Treasury bond (912810FH6) referenced in your letter, the yield determined in the auction can be either higher or lower than the already-established interest rate. If the yield determined in the auction is significantly higher than the security's interest rate, the purchase price will be significantly less than par, and the amount of discount returned to investors will actually be, along with future interest payments, a major component of the return on their investment. If the yield is significantly lower, the purchaser will pay a premium (par plus an additional amount). In either case, the yield to maturity will correspond to the current market price.

I hope this information is of help.

Sincerely,



Michael W. Sunner  
Deputy Assistant Commissioner  
(Financing)

Attachments

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