1. The financial press conventionally reports Treasury bill prices as:

    a) Discounts from $100 face value for 360-day
    b) Discounts from $100 face value for 365-day
    c) None of the above

   Answer:

   The correct answer is **a**.

2. What would be the price of a U.S Treasury bill with a face value of $ 100,000 that has 180 days left to maturity and has a discount quote of 0.358%?

    a) 99,821.00
    b) 98,851.36
    c) 99,713.66
    d) 94,456.36

   Answer:

   The correct answer is **a**.

   Recall that the Treasury bill prices can be computed as

   B_0 = Face value × (1 – d×D/360)

   where d = discount, D = days to maturity

   B_0 = 100,000*(1-0.358%*180/360) = 99,821.00

3. A $100,000 face value Treasury bill with 54 days to maturity is selling for $98,999. What is the yield to maturity on this security? Round off to two-digits after the decimal point. State your answer as a percentage rate (if your answer is one point two three percent, input 1.23)

   Answer:

   The correct answer is **6.74**.

   Recall that yield to maturity is expressed as an annual percentage rate. You need to first find the 54-day rate of return and then annualize it to express it as a yield to maturity.

   [((Face value - purchase price)/Purchase price) - 1] x (360/D)

   The 54-day rate of return is (100,000 - $98,999)/$98,999 = 1.011%

We annualize this rate of return to express it as a yield to maturity:

1.01 % x (360/54) = 6.7408%

4. Refer back to question 3. What is the effective annual yield? Round off to two digits after the decimal point. State your answer as a percentage rate (if your answer is one point two three percent, input 1.23)

Answer:

The correct answer is **6.94**.

Remember that $EAR = (1 + APR/m)^m - 1$

Similarly, the effective annual yield will be the compounded rate of return over the year. Think about how many times this investment will compound.

Recall that the 54-day return is 011%. To find the effective annual yield, we need to compound it:

$EAR = (1 + 1.011\%)^{360/54} - 1 = 6.937\%$