

EXAM FM QUESTION OF THE WEEK

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You are given the following information about the current term structure of interest rates.

- the annual effective yield rate for a two-year zero-coupon bond is .002 larger than the annual effective yield rate of interest for a one-year zero-coupon bond
- the one-year forward annual effective rate of interest is 4.5204%

Find the annual effective yield for a one-year zero coupon bond, assuming that it is positive.

The solution can be found below.

Week of March 10/08 - Solution

Suppose that the one-year zero-coupon bond yield is x .

Then the annual effective two-year zero-coupon bond yield is $x + .002$.

Then $(1 + x)(1.045204) = (1 + x + .002)^2$.

This results in the quadratic equation

$$x^2 + .958796x - .0412 = 0$$

The roots are $x = .0412$ and -1 . We reject the negative root.