

Exam 422 Lec 6

Note Title

7/29/2010

Solve

$$90.70295 - \frac{100}{(1+r)^2} = 0$$

$$\Rightarrow 90.70295 = \frac{100}{(1+r)^2}$$

$$\Rightarrow (1+r)^2 = \frac{100}{90.70295}$$

$$\Rightarrow r = \left(\frac{100}{90.70295} \right)^{1/2} - 1$$

For 2-yr coupon bond, to find YTM r
we solve

$$98.14 - \left[\frac{4}{(1+r)} + \frac{104}{(1+r)^2} \right] = 0$$

$\underbrace{\hspace{10em}}_P \quad - \quad \underbrace{\hspace{10em}}_{PV(r)}$

$$98.14 - \frac{4}{(1+r)} - \frac{104}{(1+r)^2} = 0$$

$$98.14(1+r)^2 - 4(1+r) - 104 = 0$$

$$98.14 (1 + 2r + r^2) - 4(1 + r) - 104 = 0$$

→ rearrange into a quadratic equation in r

$$ar^2 + br + c = 0$$

Use quadratic

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = r$$