

BONDS

- "package" $\left\{ \begin{array}{l} \text{annuity (coupons)} : C \swarrow \begin{array}{l} \text{total} \\ \text{yearly} \\ \text{coupon} \\ \text{payout} \end{array} \\ \text{principal (face value)} : P = \$1,000 \end{array} \right.$

- coupon rate : NOT AN INTEREST RATE!

↳ fraction of face value paid out as coupons PER YEAR.

- bond price : B

- Yield: interest rate that makes

$$B = PV(\text{cash flows})$$

- Yield is a nominal annual rate that must be compounded as many times as there coupon payments in a year.

$$\underline{\underline{Y \rightarrow B}}$$

$$N = 15 \cdot 2 = 30 \text{ (coupon payments, cpr. periods)}$$

$$i/Y = \frac{Y}{2} = \frac{7.5\%}{2} = 3.75\%$$

$$PMT = \frac{C}{2} = \frac{1,000 \cdot 9\%}{2} = \$45$$

$$FV \text{ ~~##~~ } = \$1,000 \text{ (principal)}$$

$$\text{~~####~~ CPT PV} = -\$1,133.72$$

$$\underline{\underline{B \rightarrow Y}}$$

$$N = 10 \times 2 = 20$$

$$i/Y = ?$$

$$PV = -\$850$$

$$PMT = \frac{C}{2} = \frac{1,000 \cdot 8\%}{2} = \$40$$

$$FV = P = \$1,000.$$

$$CPT \ i/Y : 5.23\%$$

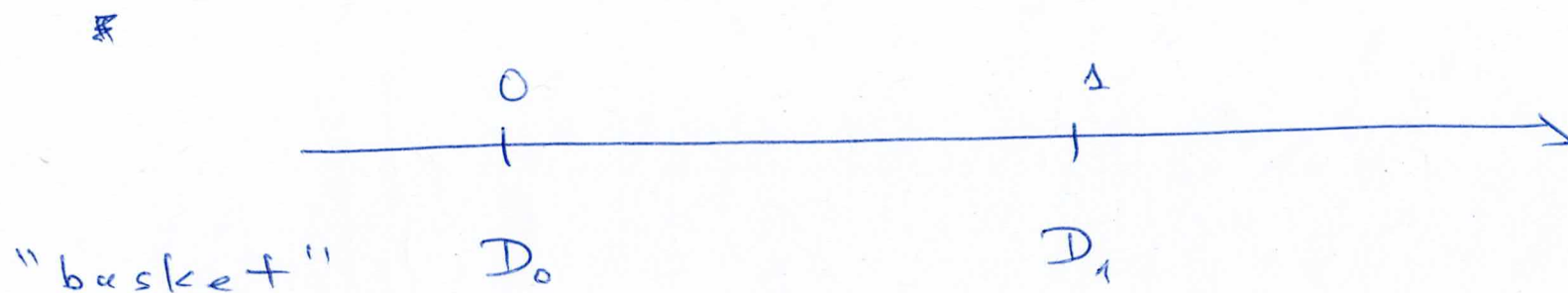
↑

"per [cpn payment] period" = 6 mos.

⚠️ MUST ANNUALIZE!

$$yield = 2 \times 5.23\% = 10.46\% \quad !!$$

INFLATION



$$\frac{D_1}{D_0} > 1$$

$$\frac{D_1}{D_0} = 1 + h$$

↑
inflation rate



"ct. purchasing \$1
power"

$$1+r = \frac{1+R}{1+h}$$