YIELD TO MATURITY:

hold to maturity: Imagines: you pay price P today, then

For example: A coupon bond has YTM, i, satisfying

$$P = \frac{C}{1+i} + \frac{C}{(1+i)^2} + \ldots + \frac{C}{(1+i)^N} + \frac{F}{(1+i)^N}$$

Today's price

All coupon payments until maturity

face value payment at maturity

RATE OF RETURN:

Imagines: you pay price P_t today, hold for 1 year, collect any payments, then Sell for P_{t+1} tomorrow.

Rate of return: r

e.g. For a coupon bond

$$P_t = \frac{C}{1+r} + \frac{P_{t+1}}{1+r}$$

collect 1 coupon payment

Sell after 1 year

With some algebra

$$P_t + r P_{t+1} = C + P_{t+1}$$

$$\Rightarrow \boxed{r = \frac{C}{P_t} + \frac{P_{t+1} - P_t}{P_t}}$$

The usual ← formula