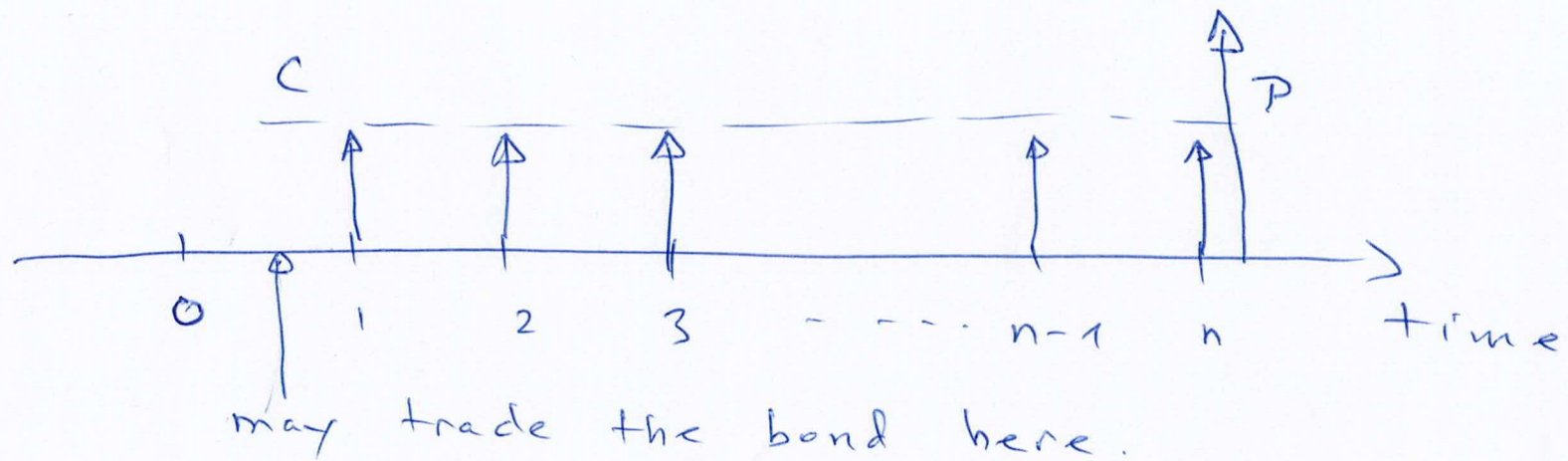


[PLAIN-VANILLA] BOND

BOND = ANNUITY [ORDINARY] + CF @ END
OF THE ANNUITY



P: principal (face value) $P = \$1,000$.

C: coupon.

B: price of the bond ; $B(t)$

zero-coupon bond $\Leftrightarrow C = 0$

MATURITY

- 3mos, 6mos, 9mos, 1 year, ..., 10 years, 20 yrs, 30 yrs.
- very short maturity \Rightarrow may not have coupons.
- long maturities \Rightarrow typically have coupons.
- zero coupon bonds
 - are simple
 - are useful b/c they have advantageous features wrt ~~the~~ risk management.
 - rare for long maturities

COUPON

C - expressed as % of face value.

$$\left. \begin{array}{l} P = \$1,000 \\ C \text{ is } 8\% \end{array} \right\} \Rightarrow \text{coupon payments are} \\ P \cdot 0.08 = \$80 \text{ per year} \\ \text{(total)}$$

Typically, there 2 coupon payments per year.
(semi-annual coupons). Other choices are possible.

"bond pays 8%, coupons are semi-annual"

\Rightarrow \$80 are paid out as coupons per year
each coupon is $\frac{\$80}{2} = \40

CALCULATOR

$$N = 10$$

$$i/y = 10\% \quad [\text{period} = 1 \text{ year}]$$

$$\text{PMT} = \$80$$

$$\text{FV} = \$1,000$$

$$\text{CPT PV} : -\$877.11$$

Yield : Example 3

Calculator :

$$N = 2 \cdot t = 20 \text{ periods}$$

$$i/Y = \frac{10\%}{2} = 5\%$$

$$PMT = \frac{80}{2} = \$40$$

$$FV = \$1,000$$

$$CPT \ PV = \$875.38$$