

DURATION =

VARIAZIONE del prezzo del titolo dolla

posizionato in seguito variazione  
tasso di interesse

$$f(x) - f(x_0) = f'(x_0)(x - x_0) \quad 1^{\circ} \text{ ordine}$$

$$f(x) - f(x_0) = f'(x_0)(x - x_0) + \frac{1}{2} f''(x_0)(x - x_0)^2 \quad 2^{\circ} \text{ ordine}$$

$$f(x) - f(x_0) = f'(x_0) (x - x_0)$$

$\underbrace{\hspace{10em}}_{\Delta P \text{ or } \Delta y} = \underbrace{\hspace{5em}}_{\frac{dP}{dR}} \underbrace{\hspace{10em}}_{\Delta R}$

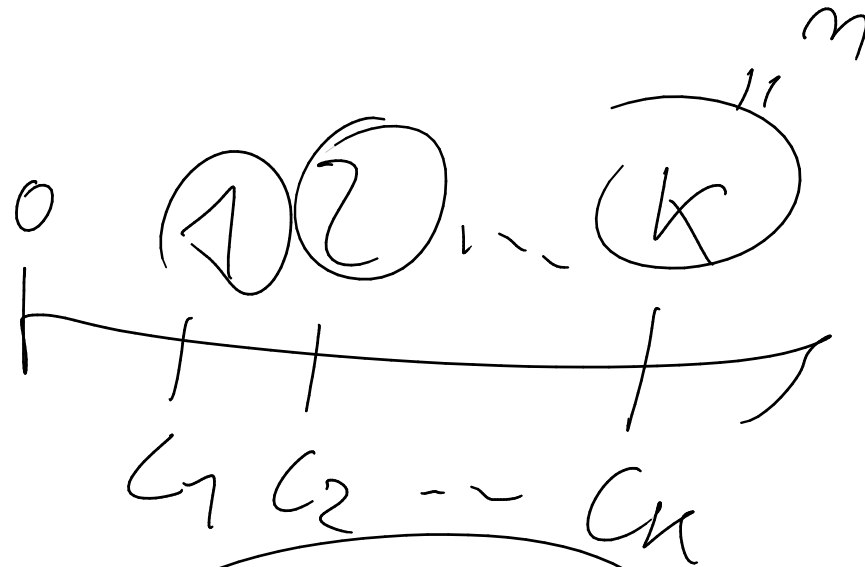
$f = \text{brech}$   
 $x = \text{totho}$   
 $\uparrow \text{int.}$   
 $= R$

$$P(R) - P = \sum_{k=1}^m c_k (1+R)^{-k}$$

$$f'(x) = P'(R) = \sum_{k=1}^m c_k (-k) (1+R)^{-k-1} \cdot P$$

$$-\frac{dP}{dR} = \sum_{k=1}^m c_k (+k) (1+R)^{-k} \cdot P$$

DURATION =



$$D = \sum_{k=1}^m C_k$$

$$\frac{\sum_{k=1}^m C_k (1+r)^{-k}}{P}$$

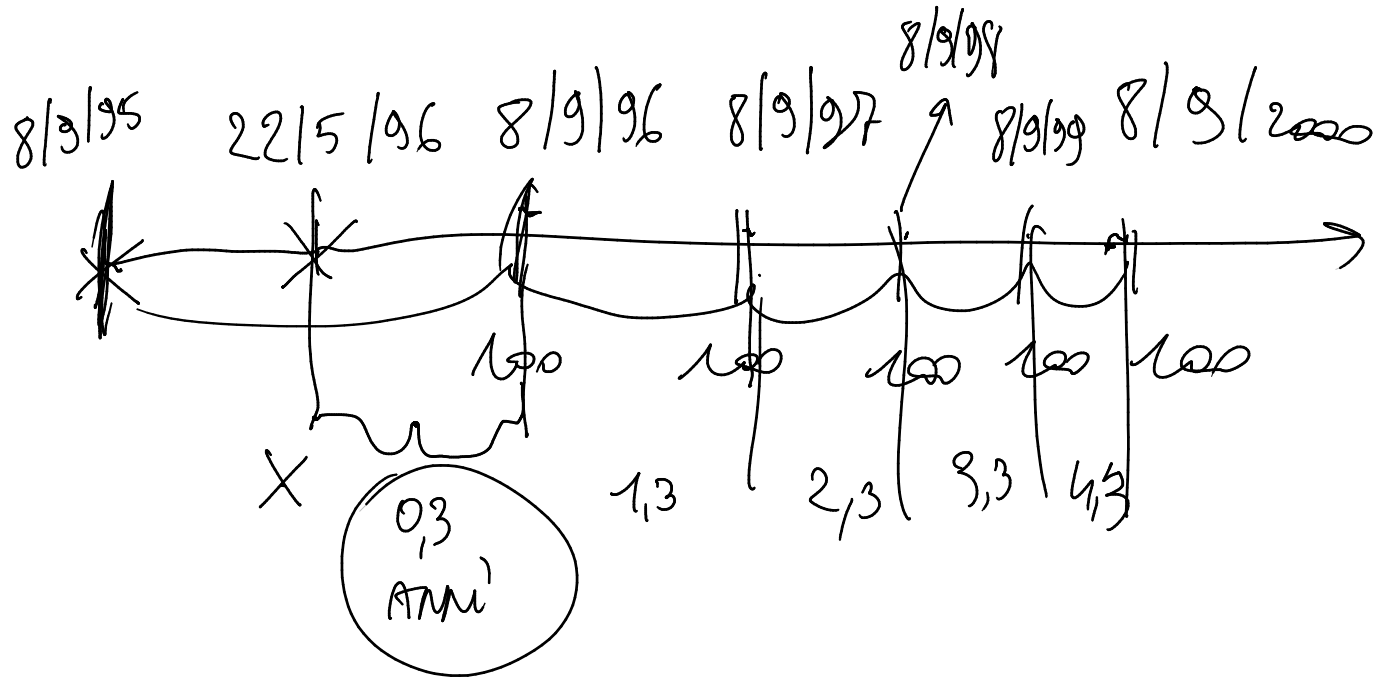
$$D = \sum_{k=1}^m C_k \cdot P_k$$

$$\Delta P = - \frac{D \cdot P}{A \cdot r} \cdot \Delta r \rightarrow (A_1 r_1 - A_2 r_2)$$

$$\Delta P = - D \cdot P \cdot \Delta r$$

$$\frac{\Delta P}{P} = - D \cdot \Delta r$$

Esempio DURATION CON PAGAM IRREGOLARI



$$\text{DUR}_{\text{PAGAM IRR}} = \text{DURATION}_{\text{PAGAM REG.}} + \alpha - 1$$

↓
0,3