

$$A_t = u_t + Q_t$$

$$A = ?$$

$$A_m = R \frac{1 - (1+i)^{-n}}{i}$$

D (A)

$$A = D \cdot \frac{g}{1 - (1+g)^{-n}}$$

$$A_t = Q_t + u_t \quad \text{ROVNOMERNÉ SPLÁCANIE}$$

$$Q_t = A - u_t \quad \text{ANUITNÉ SPLÁCANIE}$$

geometrická postupnosť

$$\frac{Q_{t+1}}{Q_t} = g \quad \text{quotient}$$

$$A_t = Q_t + u_t = Q_t + D_{t-1}g$$

$$D_t = D_{t-1} - Q_t$$

$$A_{t+1} = Q_{t+1} + u_{t+1} = Q_{t+1} + D_t g = Q_{t+1} + (D_{t-1} - Q_t)g$$

$$Q_t + D_{t-1}g = Q_{t+1} + D_{t-1}g - Q_t g$$

$$Q_t(1+g) = Q_{t+1} \quad \Rightarrow \quad \frac{Q_{t+1}}{Q_t} = 1+g$$

VÝPOČET ÚMOROV REKURENTNĚ

$$\begin{cases} Q_1 = D \frac{g}{(1+g)^n - 1} \\ Q_{t+1} = Q_t (1+g) \end{cases}$$

GEOMETRICKÁ POSTUPNOST

$$S_n = a_1 \frac{q^n - 1}{q - 1}$$

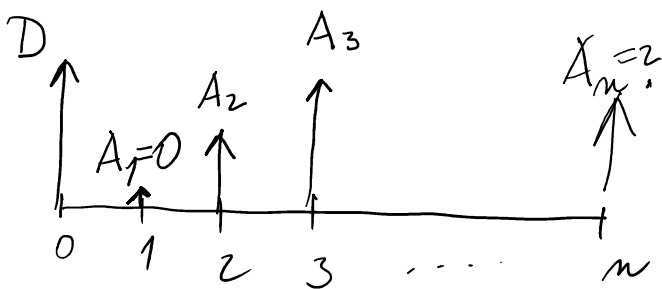
$$q = 1 + g$$

$$Q_2 = Q_1 \cdot (1+g)$$

$$Q_3 = Q_2 (1+g)$$

$$\vdots$$

✓ PŘÍKLAD



$$A_t = w_t + Q_t$$

$$A_1 = 0$$

$$A_2 = 10\,000$$

$$A_3 = 14\,000$$

$$A_4 = 18\,000$$

$$\vdots$$

$$A_t = 10\,000 + (t-2) \cdot 4000$$

$$t \geq 2$$

$$D_0 = D = 40\,000$$

$$w_1 = D_0 \cdot g = 40\,000 \cdot 0,18 = 7\,200$$

$$A_1 = 0$$

$$Q_1 = A_1 - w_1 = 0 - 7\,200 = -7\,200$$

$$D_1 = D_0 - Q_1 = 40\,000 - (-7\,200)$$

$$= 40\,000 + 7\,200 = 47\,200$$

$$A_6 = \cancel{26000}$$

$$D_5 = 12\,346,39027 = Q_6$$

$$W_6 = 2222,35025$$

$$A_6 = Q_6 + W_6$$