Prestamo

$U_0 = 100\,M$

pago: 10M, 20M, 30M

$i = 10\%$

$U_1 = U_0(1.1) - P$

$U_2 = U_1(1.1) - P$

$U_3 = U_2(1.1) - P$

$\rightarrow U_N = U_{n-1}(1.1) - P$

$$\Rightarrow U_n = (1.1)^{n-1}(100) - \frac{P}{0.1}\left(1.1^{n-1} - 1\right)$$

Hallar n para $u_n = 0$

$$0 = 10\left[(1.1^{n-1})10 - P(1.1)^{n-1} + P\right]$$

$$0 = 1.1^{n-1}(10 - P) + P$$

$$1.1^{n-1} = P/(P-10)$$

$$-1 + n\log(1.1) = \log(P) - \log(P-10)$$

$$\left[n = \frac{\log(P) - \log(P-10)}{\log(1.1)}\right] + 1$$

✓ $P = 10$

n = No se puede pagar nunca

$\log(0) \notin \mathbb{R}$

✓ $P = 20$

$n = 7.27$

Aproximadamente tardo 8 años

✓ $P = 30$

$n = 4.25$

Aproximadamente tardo 5 años