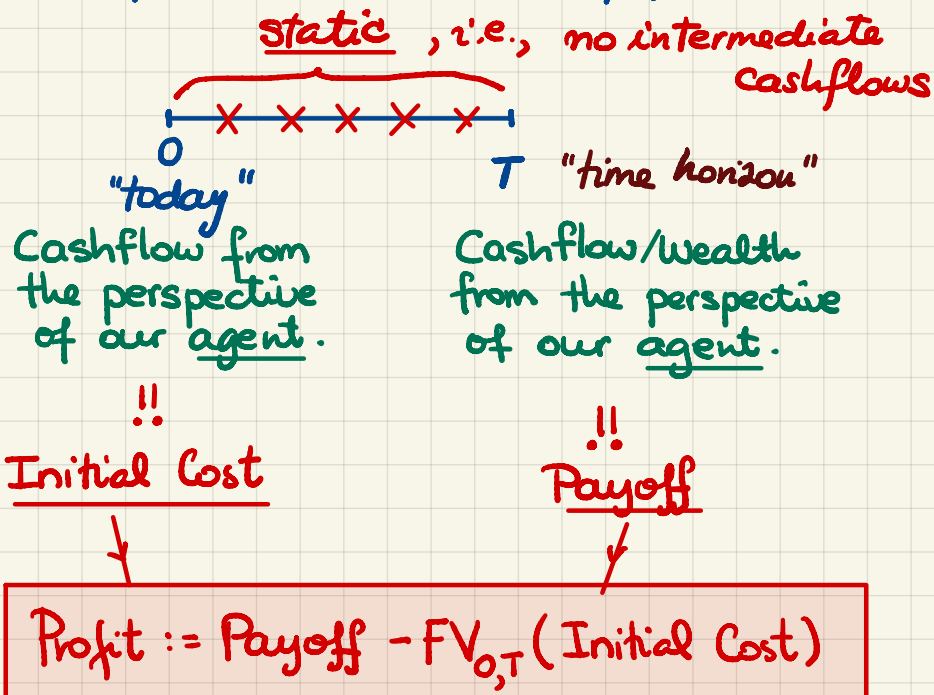


M339D: January 31st, 2024.

Static Portfolios.

Step#1. Decide who your protagonist is!

Step#2. Set up a time line ("on paper" or mentally)!

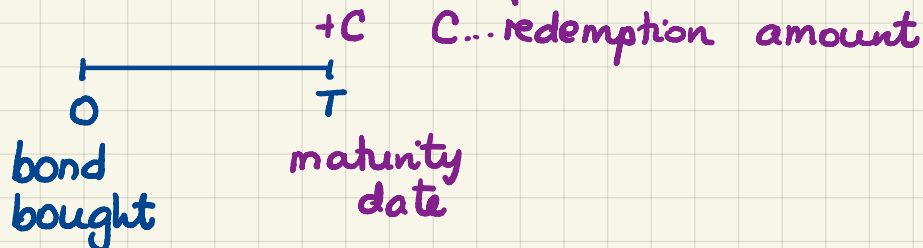


If $\text{Profit} > 0$, we call it a gain.

If $\text{Profit} < 0$, we call it a loss.

If $\text{Profit} = 0$, we say that we break even.

Example. [Investing in a zero-coupon bond]



(r) ... continuously compounded, risk-free interest rate

Initial cost: Ce^{-rT}

Payoff: C

$$\text{Profit} = C - FV_{0,T}(Ce^{-rT}) = 0$$

Example. [Taking a loan]

Initial cost: $-L$

Payoff: $-Le^{rT}$

$$\text{Profit} = -Le^{rT} + FV_{0,T} (+L)$$

$$= -Le^{rT} + Le^{rT} = 0$$