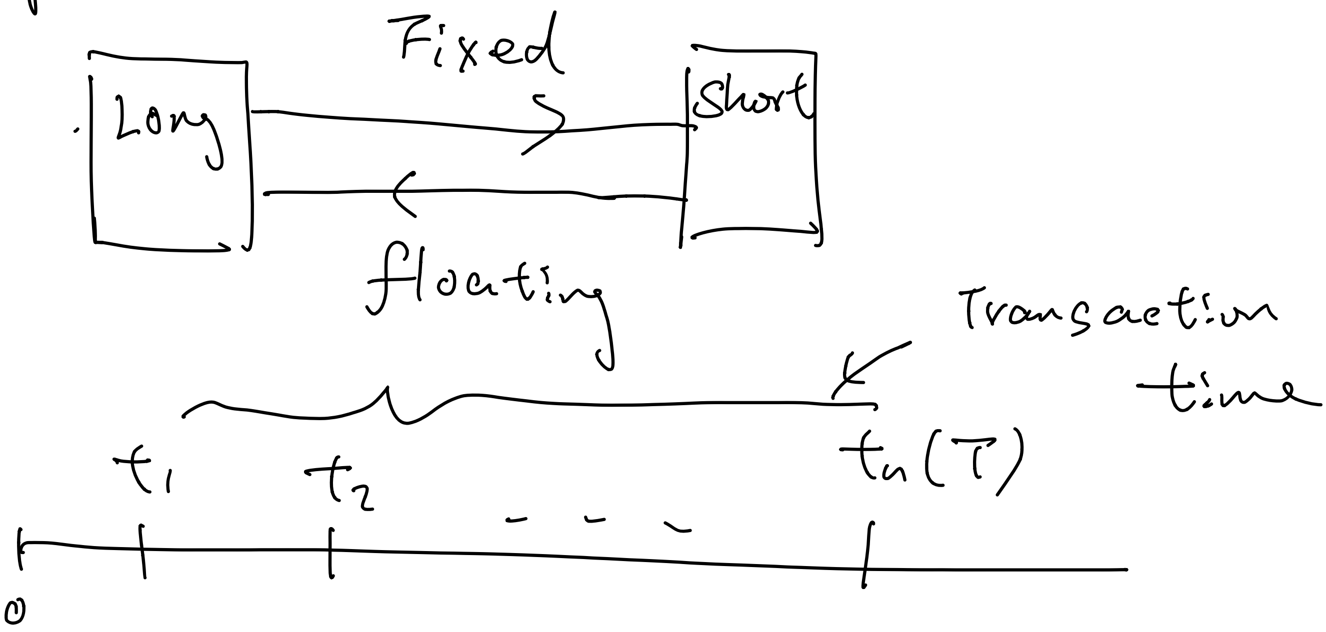
Points to Note

Chapter 7 Swap

1. How does the swap compare with the forward contracts? See P.3 – 5.
2. What are the meaning of the long and short positions?
3. What is the difference between the physical settlement and financial settlement?
4. Understand TWO different ways in which the dealer uses to hedge his swap positon. See P.13 – 15.
5. The market value of the a swap. See P.16 – 18.
6. Computing the swap rate. See P.19 – 24.

Swap

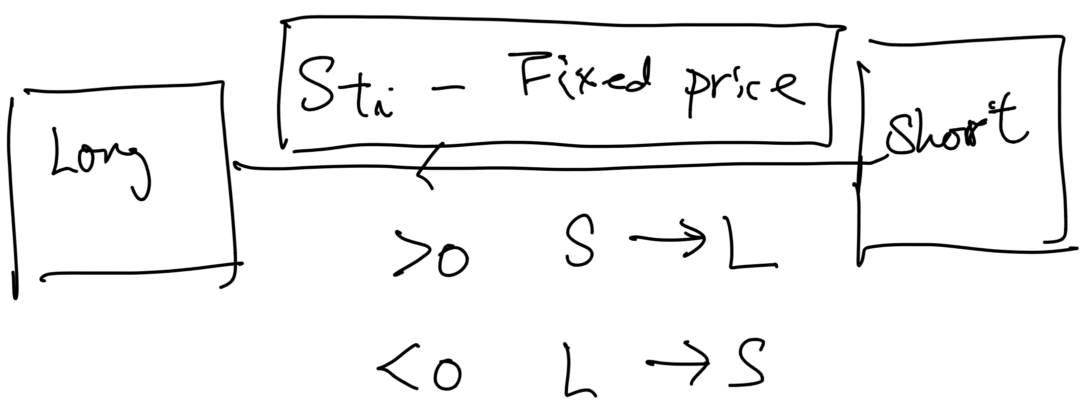


1. swap : portfolio of forward contract.

Determine : swap rate (fixed price)

PV(fixed payments) = PV(forward prices)

Financial Settlement



Hedging

① Back to Back transaction

- Credit risk of the opposite party

Call option

strike price

$\max(S_T - K, 0)$

Right to give up \$K in exchange for the underlying.

General Call option

Underlying asset (S)   Striking Asset (Q)

$\max(S_T - Q_T, 0)$

Right to give up Q in exchange for S.

$C(S_t, Q_t, \underbrace{T-t})$

underlying   striking asset

General Put option

$\max(Q_T - S_T, 0)$

Right to give up the underlying in exchange for the striking asset. $P(S_t, Q_t, T-t)$

① Put - Call parity

$$C(S_t, Q_t, T-t) - P(S_t, Q_t, T-t)$$

$$= F^P_{t,T}(S) - F^P_{t,T}(Q)$$

② $C(S_t, Q_t, T-t) = P(Q_t, S_t, T-t)$