FX Swap Explained

Currency Swap

- An FX swap agreement is a contract in which both parties agree to exchange one currency for another currency at a spot FX rate. The agreement also stipulates to re-exchange the same amounts at a certain future date also at a swap FX rate.

- Many people confuse currency swaps with cross currency swaps. They are totally different. A cross currency swap is an interest rate swap in which two parties to exchange interest payments and principal on loans denominated in two different currencies..

- In a currency swap, one party simultaneously borrows one currency and lends another currency to a second party. The repayment obligation is used as collateral and the amount of repayment is fixed at the FX forward rate.

Currency Swap

- FX swaps can be considered riskless collateralized borrowing/lending. The contract virtually allows you to utilize the funds you have in one currency to fund obligations denominated in a different currency, without incurring foreign exchange risk.

- An FX swap is a simultaneous purchase and sale of identical amounts of one currency for another with two different value dates, normally spot to forward.

- Therefore, an FX swap consists of two transactions: a spot transaction and a forward transaction.

- Effectively the FX swap is two exchange contracts packed in one: a spot foreign exchange transaction, and a forward foreign exchange transaction

Currency Swap

- A swap deal can be used if you have a currency, which you do not need before a certain time, but at the same time have a short-term need for another currency

- Swap deals are used for managing currency risks, postponing the term of forward-deal and optimizing financing.

- FX swaps are also used by importers and exporters, as well as institutional investors who wish to hedge their positions.

- They are also used to speculate and, by incurring a risk, attempt to profit from rising or falling exchange rates.

- FX quotation indicates that FX rates for a currency pair are given in terms of amount of quoting currency per one unit of primary currency.

- The quotation EUR/USD 1.25 means that one Euro is exchanged for 1.25 USD. Here EUR (nominator) is the base or primary currency and USD (denominator) is the quote currency. One can convert any amount of base currency to quote currency by

$$QuoteCurrencyAmount = FxRate * BaseCurrencyAmount$$

- A currency pair requires a specification of the number of days between the quotation date and the spot date on which the two parties actually exchange the two currencies.

- The number of days between the quotation date (trade date) and the exchange date is called Spot Date. Spot days can be different for each currency pair, although typically it is two business days.

- Each currency pair has a set of holidays associated with it. The holidays of a currency pair is the union of the holidays of the two currencies.

Currency Swap

- An FX swap is a simultaneous purchase and sale of identical amounts of one currency for another with two different dates: spot date and forward date.

- Therefore, an FX swap has two legs – a spot transaction and a forward transaction.

- In the spot leg, a particular quantity of a currency is bought or sold versus another currency at an agreed upon rate on the spot date.

- In the forward leg, the same quantity of currency is then simultaneously sold or bought versus the other currency at a second agreed upon rate on the forward date.

- From valuation perspective, an FX swap can be viewed as a combination of two forward contracts: a long and a short.

- Typically, one leg of the outstanding contract would have already expired. Therefore, in many situations, an FX swap is equivalent to an FX forward contract.

- The present value of an FX forward contract is given by

$$PV(t) = N_b D_b(t, T) X_0 - N_q D_q(t, T)$$

where

t	the valuation date
T	the payment date
X_s	the spot FX rate quoted as base/quote
$D_b(t, T)$	the discount factor of base currency
$D_q(t, T)$	the discount factor of quote currency
N_b	the notional principal amount for base currency
N_q	the notional principal amount for quote currency

Thank You

Reference:

https://finpricing.com/lib/EqConvertible.html