FX Forward Curve Introduction

Yield Curve

- An FX curve is a yield curve in FX market, which is bootstrapped from forward FX rate and the discount rates of the two currencies based on the arbitrage-free relationship.

- The arbitrage-free relationship between forward FX rates and the discount rates of two currencies is called interest rate parity.

- Forward FX rate is determined by FX forward spread that is the difference between spot rate and forward rate. It is quoted as the number of basis points.

- The FX forward rate after the spot date is defined by

$$R_{fwd}(T)^{ASK} = R_{SPOT}^{BID} \frac{D_B(T_{SPOT}, T)^{ASK}}{D_Q(T_{SPOT}, T)^{BID}}, \quad T > T_{SPOT}$$

where all quantities have BID or ASK superscripts to identify the quote side.

- The FX forward rate prior to the spot date:

$$R_{fwd}(T)^{ASK} = R_{SPOT}^{BID} \frac{D_Q(T, T_{SPOT})^{BID}}{D_B(T, T_{SPOT})^{ASK}}, \quad T < T_{SPOT}$$

- Using BID and ASK spreads as inputs can result in unrealistic spreads on the resulting interest rates.

- For this reason, many market practitioners prefer to use MID rates and only add in a spread when making a trade.

- We usually generate curve date based on FX forward points as inputs and then adjust points for O/N, T/N market conventions.

Thank You

You can find more details at

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