ECON 1550: International Finance

Exchange Rates and the Foreign Exchange Market: An Asset Approach

A model of exchange rate determination

Exogenous variables

Variable	Description
R	Domestic interest rate
R^*	Foreign interest rate
E^e	Expected exchange rate

Endogenous variables

Variable	Description	Equation	Type of equation
E	Exchange rate	$R = R^* + \frac{E^e - E}{E}$	Equilibrium condition

A model of exchange rate determination

- Two investment opportunities
  - Domestic bond with return $R_{\$}$ in Dollars
  - Foreign bond with return R^* in Euros

Uncovered Interest Parity

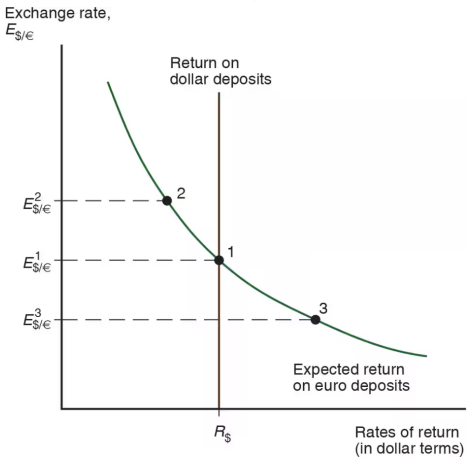
- To be indifferent between the two investments, we must have

$$1 + R_{\$} = \frac{E^{e}_{\$/\text{EUR}}}{E_{\$/\text{EUR}}} (1 + R^{*})$$

- Re-arranging and approximating gives the Uncovered Interest Parity (UIP) condition

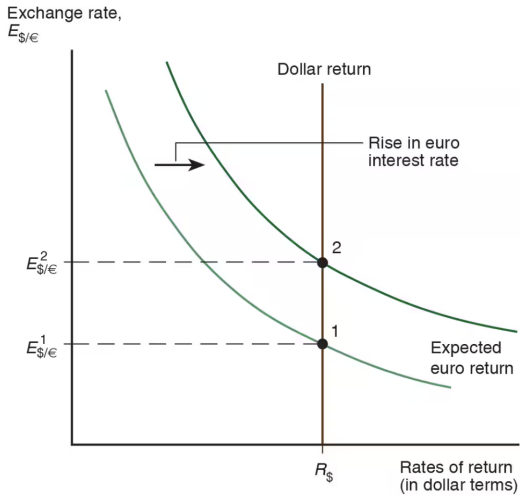
$$R_{\$} = R^{*} + \frac{E^{e}_{\$/\text{EUR}}}{E_{\$/\text{EUR}}} - 1$$

Equilibrium in Foreign Exchange Market



$$\text{UIP: } R_\$ = R^* + \frac{E^e_{\$/\text{EUR}}}{E_{\$/\text{EUR}}} - 1$$

Shocks


Exchange rate,
$E_{\$/€}$
Dollar return
Rise in euro
interest rate
$E^2_{\$/€}$
2
$E^1_{\$/€}$
1
Expected
euro return
$R_\$$
Rates of return
(in dollar terms)

The carry trade

- Borrowing at low rates and lending at high rates is called a carry trade

$$R = R^* + \frac{E^e}{E} - 1 + \text{risk premium}$$

- Risk: Future exchange rate is not known when we start the carry trade, E^e can be different from the realized future exchange rate