

A Course on Open Economy Macroeconomics,
Aalto University SB, Spring ~~2017~~ 2019
Problem set 3

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INTEREST RATE ARBITRAGE

$$r_t = r_t^f + \mathbb{E}_t \Delta s_{t+1} \text{ and}$$
$$r_t = r_t^f + f_t - s_t$$

where r_t and r_t^f denote, resp., domestic and foreign interest rate, while $\mathbb{E}_t \Delta s_{t+1}$ signifies expected (as of time t) rate of depreciation of the domestic currency = $\frac{\mathbb{E}_t S_{t+1} - S_t}{S_t}$ (t refers to time or current period, S_t is euro price of a US dollar, ie. euros per one US dollar). f_t is the (log of the) forward rate. Assume home = Euroarea.

Exercise 1 *Suppose that the interest rate differential between the Euroarea and US is 0.5% and that the euro is expected to depreciate by 1.5%; what is the risk premium on the underlying Euroarea bond as implied by the covered interest rate parity, CIP?*

Exercise 2 *Suppose the rate of return on a Eurobond is 4.3%, and that of an identical Dollarbond is 4.05%; assume also that the risk premium on the Euroarea bond is 0.25%. What is the forward premium as implied by the CIP?*

Exercise 3 *Use the interest rate parity equation to calculate the spot exchange rate (S_t) when $r = 0.045$, $r^f = 0.043$, and $S_{t+1}^e = \mathbb{E}_t S_{t+1} = 1.094$. Is the resulting S_t greater or less than 1.094?*

Exercise 4 *Suppose r_t , r_t^f , and S_{t+1}^e are at the values specified in Ex3, but suppose that the spot exchange rate S_t is initially equal to 1.094. Describe the market forces that would drive the spot rate to the answer you found in Ex3.*

~~Please return by Monday, March 20, 2017.~~

Please return by Thursday, March 28, 2019 to my email jouko.vilmunen@utu.fi