

## Exam SØK2009 spring 2022

The exam consists of four questions, and all should be answered. Weights in the grading are given in parentheses.

### Question 1 (20%)

- a) As an American investor, the expected rate of return from investing in euro is given by

$$R^* + \frac{E^e - E}{E}$$

where  $R^*$  is the euro interest rate,  $E$  is the current dollar per euro exchange rate, and  $E^e$  is the expected dollar/euro exchange rate in a year. Explain this relationship.

- b) Assume that you are an American investor considering investing in euro or dollar. The dollar and euro interest rates equal 0.5% and 2.5%, respectively. The current dollar per euro exchange rate is 1.13 and is expected to equal 1.105 in a year. Based on this, should you invest in dollar or euro? Explain.
- c) Explain the economic theory behind the Big Mac Index. As of January 2022, the price of a Big Mac in USA, Norway and China equal \$5.81, NOK 57 and 24.40 yuan, respectively. At the same time, the NOK per dollar exchange rate is 8.92 and the yuan per dollar exchange rate is 6.37. Discuss implications of the Big Mac Index for the understanding of the exchange rate levels.

### Question 2 (25%)

Analyze how a temporary expansionary monetary policy influences the interest rate and the exchange rate. Discuss factors that affect the size of the effects.

### Question 3 (20%)

Assume that a country has a fixed exchange rate regime where its currency is fixed against the dollar.

- a) Explain how a fixed exchange rate regime influences the country's economic policy options.
- b) Discuss how the country can defend the fixed exchange rate in a situation with strong expectations of devaluation.
- c) Assume the market thinks there is a 40% probability of devaluation of 5% within the next month. How much must the annual interest rate increase to defend the fixed exchange rate? What if the probability of 5% devaluation within the next month increases to 80%?

### Question 4 (35%)

Discuss factors that determine whether a monetary union is optimal.