

Written Exam for the M.Sc. in Economics summer 2014

**International Finance**

Master's Course

August 19, 2014

(3-hour closed book exam)

Please note that the language used in your exam paper must correspond to the language of the title for which you registered during exam registration. I.e. if you registered for the English title of the course, you must write your exam paper in English. Likewise, if you registered for the Danish title of the course or if you registered for the English title which was followed by "eksamen på dansk" in brackets, you must write your exam paper in Danish.

**This exam question consists of 3 pages in total**

## Written exam for the M. Sc in Economics International Finance

August 19, 2014

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**Number of questions:** This exam consists of 2 questions.

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### 1. The Portfolio Balance Model

Consider the portfolio balance model.

$$W \equiv M + B + SB^* \quad (1)$$

$$M = M(i, \hat{S}^e, W) \quad (2)$$

$$B = B(i, \hat{S}^e, W) \quad (3)$$

$$SB^* = B^*(i, \hat{S}^e, W) \quad (4)$$

$$CA = \dot{B}^* = T(S/P) + i^* B^* \quad (5)$$

- (a) Derive the asset market schedules.

[Hint: Take the total differential of the wealth equation (1) and the asset demand functions (2), (3) and (4) with respect to  $i$ ,  $W$  and  $S$ ]

- (b) Illustrate the model in a graph and provide an explanation to the asset market schedules.
- (c) From May 2000 until September 2001 the Swedish Krona depreciated relative to the Euro by 16 percent. During the same period, the Swedish interest rate increased slightly. Use the portfolio balance model to explain why this happened.

### 2. Microstructure model

- (a) Give a short overview of how the foreign exchange market is organized and how order flows affect quotes.
- (b) Consider the following version of the micro-based exchange rate model. Assume that all dealers quote the same spot price to both other dealers and to their customers (quotes are publicly announced) and assume that the exchange rate is determined by fundamentals (as in most macro based models)

$$s_t = (1 - b) \sum_{i=0}^{\infty} b^i E[f_{t+i} | \Omega_t^D]$$

Give a short motivation to this equation and explain how the spot exchange rate is determined.

- (c) Show that the model above can be re-written as

$$\Delta s_{t+1} = \frac{1-b}{b} (s_t - E[f_t | \Omega_t^D]) + \varepsilon_{t+1}.$$

How is the spot exchange rate determined? Explain carefully how order flows affect the spot rate. Do public and private information available to customers affect spot rates?

- (d) Explain briefly the underlying assumptions of the portfolio shift model.
- (e) Use the portfolio shift model to explain how spot exchange rates are determined and pay special attention to how order flows affect quotes. Compare the predictions of the portfolio shift model with the macro based model in question (b).