

Written Exam for the M.Sc. in Economics autumn 2011-2012

**International Monetary Economics**

Master's Course

February 23, 2012

(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.

If you are in doubt about which title you registered for, please see the print of your exam registration from the students' self-service system.

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

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**Number of questions:** This exam consists of 3 questions.

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**1. Which of the following statements are correct? Remember to provide a brief explanation.**

- (a) According to the efficient market hypothesis, an unanticipated shock can have no effect on the exchange rate.
- (b) If the forward exchange rate is systematically undervalued in relation to the future spot exchange rate, then there exists a positive risk premium attached to the foreign exchange.
- (c) In first generation currency crisis models there is a fundamental inconsistency between monetary policy and the commitment to a fixed exchange rate.
- (d) In second generation currency crisis models, the private sector anticipating a depreciation can increase the costs to the government of not depreciating the currency such that it will be rational for the government to depreciate the currency.

**2. Exchange rate models and efficient markets**

- (a) A standard result from the empirical literature testing exchange rate models is that they often are rejected by data. Explain why it is difficult to model exchange rates empirically.
- (b) Discuss why speculation under floating exchange rates can be destabilizing.

**3. The Dornbusch model**

Consider a version of the Dornbusch overshooting model. The model consists of the following five relations

$$y^d = \alpha (s + p^* - p), \quad (1)$$

$$m - p = \eta y - \sigma r, \quad (2)$$

$$\dot{p} = \pi (y^d - \bar{y}), \quad (3)$$

$$r - r^* = E\dot{s} \quad (4)$$

and

$$E\dot{s} = \theta (\bar{s} - s). \quad (5)$$

- (a) Give a brief interpretation of the main assumptions and economic mechanisms underlying the equations. Characterize long-run equilibrium in this model. What are the three main characteristics?

- (b) Show that the equilibrium price level is given by

$$\bar{p} = m - \eta \bar{y} + \sigma r^* \quad (6)$$

and that the equilibrium exchange rate is given by

$$\bar{s} = \left( \frac{1}{\alpha} - \eta \right) \bar{y} + m + \sigma r^* \quad (7)$$

and explain the economic rationale behind these relations.

- (c) Derive the money market equilibrium and goods market equilibrium, i.e.,

$$p = \bar{p} - \sigma \theta (s - \bar{s})$$

and

$$\dot{p} = \pi \alpha (q - \bar{q})$$

where  $q = s + p^* - p$ . Illustrate the model in the exchange rate–price level plane. What factors explain the size of the overshooting effect in case the monetary authority increases the money supply?

- (d) Assume now that the long-run level of output increases permanently, i.e.,  $\bar{y}$  increases. Will there be an overshooting effect in this case? Carefully consider both long-run and short-run effects and illustrate what happens in a graph.