Written Exam for the M.Sc. in Economics autumn 2012-2013

International Monetary Economics

Master's Course

January 9, 2013

(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.

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Number of questions: This exam consists of 3 questions.

1. **Which of the following statements are correct? Remember to provide a brief explanation.**
   (a) The Eurosystem comprises the Governing Council and governors from all national central banks.
   (b) Quantitative easing is when the central bank provides liquidity to the market.
   (c) According to the FPMM an increase in the domestic interest rate leads to a depreciation of the domestic currency.
   (d) If the foreign exchange market is efficient, then the forward exchange rate is equal to the future spot exchange rate.

2. **The Dornbusch model**
   Consider the Dornbusch overshooting model comprised of the following equations

$$r - r^* = \Delta s^e \tag{1}$$

$$\Delta s^e = \theta\left(\bar{s} - s\right) \tag{2}$$

$$m - p = ky - lr \tag{3}$$

$$y^d = h\left(s - p\right) \tag{4}$$

$$\dot{p} = \pi\left(y^d - \bar{y}\right) \tag{5}$$

   where the expectations coefficient $\theta = -\pi h\left[1 + \frac{1}{l\theta}\right]$.
   (a) Give a brief interpretation of the main assumptions and economic mechanisms underlying the equations of the model.
   (b) Derive the money market and goods market equilibrium curves and illustrate the model in a graph [Hint: Start by deriving the equilibrium price level, then the expression for the equilibrium exchange rate].

(c) Show how an unanticipated money shock affects both the nominal and the real exchange rate in the short– and long–run. Explain carefully.

(d) Prove that the exchange rate overshoots in this model by deriving an expression for $\frac{d\dot{s}}{dp}$. What factors determine the size of the overshooting effect? Assume that $\pi \to \infty$ in equation (5), how would this affect the size of the overshooting effect.

3. **The ABB model**

Consider the ABB model of currency crisis where the credit multiplier is a function of the real interest rate. The model consists of the following two main equations: The IPLM-curve

$$E_1 = \frac{1+i^*}{1+i_1}\frac{M_2^s}{m^d\left(y_2, i_2\right)} \tag{6}$$

and the Wealth-curve

$$y_2 = \sigma f\left((1+\mu_2)(1-\alpha)\left[y_1 - (1+r_0)d_1^c - (1+i^*)\frac{E_1}{P_1}d_1^f\right]\right). \tag{7}$$

It can be shown that the slope of the Wealth-curve is given by

$$\frac{dE_1}{dy_2} = \frac{P_1}{\sigma f'\left(k_2\right)(1-\alpha)(1+\mu)\left[\frac{\mu'}{1+\mu}\Pi_1 - (1+i^*)\,d_1^f\right]}.$$

The credit multiplier is given by

$$\mu_2 = \frac{c}{(1-q)\,(1+i^*)\,\frac{P_1}{E_1} - c}.$$

(a) Explain the main underlying assumptions of this model including how currency crises are generated.

(b) Illustrate the model in the y_2-E_1-plane.

(c) What is the appropriate monetary policy response to prevent a currency crisis?