

Written Exam for the M.Sc. in Economics winter 2013-14

International Monetary Economics

Master's Course

February 18, 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 (including this page) in total

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Number of questions: This exam consists of 2 questions.

1. **Evaluation of fixed and flexible exchange-rate regimes and monetary unions**
Consider the following open-economy model. Money demand is given by

$$Md_t = Pi_t + \eta Y_t - \sigma r_t + U_t^1$$

$$Pi_t = \alpha P_t + (1 - \alpha) (S_t + P_t^*)$$

$$Yd_t = \theta (s_t + P_t^* - P_t) - \beta (r_t + P_t - P_{t+1|t}) + \pi Y_n + U_t^2$$

$$Ys_t = \phi (P_t - W_t) + U_t^3$$

$$O(P) = (P - P_n)^2$$

where notation is standard. Assume that $\eta(\theta + \beta) > \alpha$.

- (a) Give a brief interpretation of the main assumptions and economic mechanisms underlying the equations.
- (b) Determine the equilibrium graphically in the price-output plane. Comment!
- (c) What is the optimal exchange rate regime if the economy is affected by aggregate demand or money demand shocks? Explain carefully!
- (d) Assume now that $\eta(\theta + \beta) < \alpha$. Illustrate the model graphically. What is the optimal exchange rate regime if the economy is affected by aggregate demand or money demand shocks? Explain carefully!
- (e) How are the results of the evaluation using the model above related to optimum currency area criteria? What criteria are related to the effects of structural shocks?
- (f) What are the arguments for imposing restrictions of fiscal policy in a monetary union?
- (g) Explain briefly the main ingredients of the Stability and Growth Pact.

2. The ABB model and the Asian crisis

Consider the ABB model of currency crisis. The model consists of the following two main equations: The IPLM-curve

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

and the Wealth-curve

$$y_2 = \sigma f \left((1 + \mu)(1 - \alpha) \left[y_1 - (1 + r_0)d_1^c - (1 + i^*) \frac{E_1}{P_1} d_1^f \right] \right). \quad (2)$$

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

$$\left. \frac{dy_2}{dE_1} \right|_{y_2 > 0} = - \frac{(1 + \mu)(1 - \alpha)(1 + i^*)d_1^f f'(k_2)}{P_1}.$$

- (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 and provide an explanation to the graph.
- (c) What is the appropriate monetary policy response to prevent a currency crisis?
- (d) Consider next the medium term effects of a shock in period 1. The IPLM-curve illustrating the relationship between the exchange rate in period 1 and output in period 3 is given by

$$E_1 = \frac{(1 + i^*)^2}{(1 + i_1)(1 + i_2)} \frac{M_3^s}{m^d(y_3, i_3)} \quad (3)$$

and assuming that the economy evaded a crisis in the first period we have the following expression for output in period 3:

$$y_3 = f \left\{ (1 + \mu)(1 - \alpha) \left[y_2 - (1 + i^*) \frac{P_1}{E_1} d_2 \right] \right\}. \quad (4)$$

It can be shown that the slope of the W3-curve is given by

$$\frac{dy_3}{dE_1} = f'(k_3)(1 + \mu)(1 - \alpha) \left\{ \frac{dy_2}{dE_1} + (1 + i^*)P_1 \left[-\frac{1}{E_1} d_2'(E_1) + \frac{1}{E_1^2} d_2(E_1) \right] \right\} \quad (5)$$

Illustrate the model in the y_3 - E_1 -plane. Explain carefully!

- (e) Discuss how monetary policy used in the short-run to evade or prevent a currency crisis affect the economy in the medium term.
- (f) Is this model and its predictions consistent with developments prior to and during the Asian crisis? Discuss triggers as well as the policy response in the Asian countries.