Written Exam at the Department of Economics summer 2021

Economics of Exchange Rates

Final Exam

August 18, 2021

(3-hour closed book exam)

Answers only in English.

This exam question consists of 3 pages in total

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Number of questions: This exam consists of 2 questions.

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1. **Portfolio Balance Model**

   Consider the standard Portfolio Balance Model comprised of the following functions

   $$W \equiv M + B_p + SF_p \tag{1}$$

   $$M = m\left(r, E\dot{s}, Y, W\right) \quad m_r < 0, m_{E\dot{s}} < 0, m_y > 0, m_w > 0 \tag{2}$$

   $$B_p = b\left(r, E\dot{s}, Y, W\right) \quad b_r > 0, b_{E\dot{s}} < 0, b_y < 0, b_w > 0 \tag{3}$$

   $$SF_p = f\left(r, E\dot{s}, Y, W\right) \quad f_r < 0, f_{E\dot{s}} > 0, f_y < 0, f_w > 0 \tag{4}$$

   Notation is standard.

   (a) Derive the three asset market equilibrium schedules, illustrate the model in the exchange rate-interest rate plane and explain why the following condition must hold

   $$\frac{1 - f_w}{f_r} > -\frac{b_w}{b_r}.$$

   (b) On January 15, 2015 the Swiss central bank decided to abandon the cap on the Swiss Franc against the euro. Investors viewed this policy change as a change in the relative riskiness of domestic and foreign assets and they started buying "safe haven" (Euro) assets. Use the portfolio balance model to show the effects of a change in risk perceptions where domestic (Swiss) assets are viewed as more risky than foreign (Euro) assets.

   (c) The change in the demand for domestic and foreign assets caused by the Swiss central bank also affected the foreign country (Euro). Explain how and design a Euro central bank policy response to mitigate the effects on the exchange rate.

   (d) How effective is this central bank intervention policy likely to be? Summarize the empirical evidence on central bank interventions.

2. **Evaluation of fixed and flexible exchange–rate regimes and monetary unions**

   Consider the following open–economy model:

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

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

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

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

   $$O(P, y) = \omega(Y - Yn)^2 + (1 - \omega)(P - Pn)^2$$

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

   (a) Provide an explanation of the main assumptions and economic mechanisms underlying this model.

   (b) Illustrate the model in the price–output plane and explain intuitively the implied slopes of the curves.

   (c) Denmark and Sweden, both being small open economies, have chosen different exchange rate policies. Denmark has a fixed exchange rate versus the euro whereas Sweden has a freely floating exchange rate. Use the model above to analyze the effects of supply shocks under both fixed and floating exchange rate regimes. Does the model unambiguously support the choices made by Denmark or Sweden?

   (d) From the empirical literature we know that the supply shocks are more important than other shocks in the Swedish economy whereas supply shocks are relatively less important in Denmark than in Sweden. Does this affect the evaluation of exchange rate regimes in the two countries? If so, explain how!

   (e) When comparing the economic development of Denmark and Sweden since the early 1990's we find only minor differences. Can these findings be explained? What are the main results in the literature evaluating the macroeconomic consequences of exchange rate regimes?