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## The Global Economy II

Nova SBE – Fall 2019 Miguel Lebre de Freitas, Sharmin Sazedj Mid-term assessment 28/10/2019 – Duration: 2h00

### I (4.5)

Define *three* of the following concepts (3-5 lines each):

i. Twin deficits

ii. Relative PPP

iii. PPP exchange rate

iv. Dollarization

v. Sterilization



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### IV (2.0)

*In each question, choose one (correct answer: +0.5; wrong answer: -0.125):* 

- a. When the productivity of investment increases: (i) the interest rate decreases if the economy is closed; (ii) the trade balance improves if the economy is open; (iii) the life-time wealth remains unchanged if the economy is open; (iv) none of the above.
- b. When the degree of impatience of consumers increases: (i) investment decreases if the economy is open; (ii) the interest rate increases if the economy is closed; (iii) investment remains unchanged if the economy is closed; (iv) none of the above.
- c. All else equal, if two countries differ in terms of productivity in the non-tradable good sector, the one with higher productivity will exhibit: (i) a lower price level when expressed in a common currency; (ii) higher real wages; (iii) the same nominal wage when expressed in a common currency; (iv) all the above.
- d. Nominal stability will be necessarily at stake under: (i) money targeting when the money demand is unstable; (ii) exchange rate targeting when money demand is unstable; (iii) money targeting when the country is catching up in terms of productivity; (iv) none of the above.



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#### II (13.5)

**II.A.** Consider a two-period economy with no initial assets or liabilities. The representative consumer has a lifetime utility function given by:  $= \ln (C_1) + \ln (C_2)$ . In period 1, there is a pre-determined amount of output,  $Q_1 = 200$  and  $Q_2 = 250$ . Assume that initially  $G_1 = G_2 = 0$ . Further assume that this economy is able to borrow and lend in the international markets at the interest rate r\*=25%.

a) Determine: (a1) the optimal consumption path; (a2) GNE in period 2 and (a3) the current account in period 1. (a4) Compare to the closed economy equilibrium and represent it graphically.

b) Now consider the impact of an increase in government spending, such that  $G_1 = T_1 = 60$ . Find: (b1) the optimal consumption path; (b2) the trade balance in periods 1 and 2; (b3) NIIP in period 1; (b4) NFIA in period 2; (b5) CA in period 2 and (b6) private savings in period 1 and 2. (b7) Compare to the case of a closed economy and conclude where consumers would be better off.



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**II.B.** Consider an economy with flexible prices where the purchasing power parity and the Fisher principle hold instantaneously. Assume that  $P^* = 1$ , the real interest rate is 5% and the money demand is given by  $m^D = \frac{Y}{4i}$ . Full employment output is given by  $Y_f = 100$ . Initially, the money supply is constant at  $M^s = 1000$  and the exchange rate is floating. Assume that the central bank holds no foreign reserves:  $eB_c^* = 0$ .

a) Describe in a graph the money market equilibrium, and quantify: the real money demand, the price level, exchange rate and the velocity of money.



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b) Departing from a), assume that the central bank <u>unexpectedly</u> announces an expansion of the money supply 20% every year: b1) Describe graphically the new equilibrium, quantifying the interest rate, money demand, price level and the exchange rate at the time of the shock. b2) Draw the time path of the price level, the exchange rate and the interest rate. b3) Explain briefly (with the help of a graph) how the adjustment in the price level would be different if this monetary expansion was <u>anticipated</u>.

c) Departing from b), assume that the central bank **<u>unexpectedly</u>** fixed the exchange rate at e=14,4 when the money supply reached M<sup>s</sup>=1440: b1) What would be the required policy change in this case; b2) Draw the time paths of the price level, the nominal money supply and the interest rate; b3) Explain what would happen to the central bank's foreign reserves.



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d) Departing from c), assume that at some point the central bank announces that domestic credit will starts expanding again at 20% per year. Assuming that the domestic credit expansion is to be fully sterilized and that agents have perfect foresight, find out the timing of the speculative attack. d2) What do you conclude regarding domestic credit and the sustainability of a fixed exchange rate regime?