

Retake Exam “International Monetary Economics II”

Solution Outline

March 13, 2019

Question 1 (25%)

- a) How do net exports and the current account differ, and how are the first-period and the second-period current-account balances related to each other in a two-period intertemporal model?

In addition to net exports, the CA also includes net factor income flows. The first-period and the second-period CAs are mirror images of each other. In a two-period world, all debts (first-period CA deficits) have to be paid in the second period by CA surpluses of the same size.

- b) How can the intertemporal approach account for the large current-account deficits of Portugal, Greece and other peripheral Eurozone members?

According to the intertemporal approach, the large CA deficits in some peripheral Eurozone members were based on the expectation of a much higher output in the future in conjunction with the newly acquired access to a large pool of cheap capital.

In turn, due to their ageing populations, the more affluent and more mature economies of the eurozone have a strong propensity to save today in order to provide for future consumption..

Question 2 (40%)

Consider the Dornbusch (JPE 1976) model of exchange rate determination.

- a) Explain the key behavioural relations that make up the model.

The Uncovered Interest Parity ($r = r^ + x$) aligns the expected rate of change of the exchange rate with the international interest differential..*

The demand for real money balances ($m^d - p = -\lambda r + \phi y$) is assumed to depend negatively on the domestic interest rate and positively on real income. The nominal money supply is determined exogenously.

The demand for domestic goods ($\ln D = u + \delta(e - p) + \gamma y - \sigma r$) depends on the relative price of domestic goods, the interest rate and real income. A decrease in the relative price of domestic goods raises demand, as does an increase in income or a reduction in interest rates.

- b) How are the long-run equilibrium levels of the price level (p), the nominal exchange rate (e) and the real exchange rate ($e - p$) determined in this model and what are their determinants? (A full formal development of the model is not required).

LR price level: $\bar{p} = \bar{m} + \lambda r^* - \phi y$ (quantity theory of money)

LR exchange rate: $\bar{e} = \bar{p} + \frac{1}{\delta}(\sigma r^* + (1 - \gamma)y - u)$ (PPP)

LR real exchange rate: $\bar{e} - \bar{p} = \frac{1}{\delta}(\sigma r^* + (1 - \gamma)y - u)$ (equilibrates demand and supply on the domestic goods market).

- c) How does an increase in the foreign interest rate (r^*) affect the long-run equilibrium levels of e , p , and ($e - p$)?

An increase in the foreign interest rate has a positive effect on all three variables (see equations above).

Question 3 (35%)

A second-generation currency-crisis model starts from the following two equations (notation as in the readings):

$$L = \frac{1}{2}(\alpha \pi_t^2 + x_t^2), \quad \alpha > 0,$$

$$Rb_t = x_t + \theta(\pi_t - \pi_t^e), \quad \theta > 0.$$

π : rate of exchange-rate depreciation (= inflation rate)

x : tax revenue, net of non-interest spending ($\approx$ primary surplus)

Rb : required government spending (think: debt service)

- a) Explain the optimization problem of the government.

The policy maker dislikes inflation and taxes and therefore has to minimize its loss function w.r.t these two parameters, subject to the budget constraint ($Rb_t = x_t + \theta(\pi_t - \pi_t^e)$).

- b) What motive does the government have to enter into a formal exchange-rate peg?

The government uses the commitment to a fixed exchange-rate regime as a device for establishing anti-inflationary credibility ("tying your hands in your

back"). Examples: Italy's EMS membership in the 1980s, Argentina's currency board in the 1990s.

- c) Discuss the conditions under which a currency crisis can destroy the fixed-exchange-rate regime.

A currency crisis occurs when the benefits of devaluation exceed the costs associated with the loss of face (and reputation) associated with the abandonment of the currency peg. The viability of the fixed exchange-rate regime depends mainly on the level of debt. If debt is low, the exchange-rate regime has full credibility. If debt is high, the exchange-rate regime has no credibility and will fail. In between there is a range of debt levels where the viability of the exchange-rate regime depends the expectations of agents. Expectations of a devaluation will be self-fulfilling.