Advanced macroeconomics
Exam, jan 2016

1. In the basic time optimization model we have studied ("Ramsey model"), explain, in particular using graphs:

a) why more impatient consumers will consume less in the long run.

b) why the long run solution approaches the "golden rule" solution when consumers become more patient.

2. Show that the existence of a limit for the public deficit as a percentage of GDP:

a) is not a sufficient condition for fiscal sustainability.

b) is not a necessary condition for fiscal sustainability.

3. Recall the Euler equation in an open economy.

a) Represent a trade surplus situation graphically in a simplified two period model. Provide an economic interpretation to those curves.

b) If the international interest rate increases, the economy will be in worse or better off? Explain why.

4. Consider an economy in which only a fraction ρ of the firms can adjust their price in each period. Firms that adjust do it by choosing to minimize the following losses:

$$L = \sum_{s}^{\infty} [\beta(1-\rho)]^s E_t [p_t^{\#} - p_{t+s}^{*}]^2 ,$$

Where $0 < \beta < 1$ and p_{t+s}^{*} is the optimal price in period *t+s*.

a) Explain what the logic of this procedure from the firm point of view.
b) Obtain the expression fo $p_t^{\#}$, and explain your procedure. Give an economic interpretation for your result.