

# Growth and Investment Econ 4350

Exercises for Seminar 5, Friday March 9

## Exercise I.

- 1) With point of departure in the Ramsey-Cass-Koopman's growth model analyze the effect of the following parameters on the Steady State consumption per "effective labor" and production per "effective labor":
  - a) The rate of time preference
  - b) The intertemporal elasticity of substitution
  - c) The population growth
  - d) The depreciation rate
- 2) Discuss the effect on long run consumptions levels per capita and the saving rate of the same parameters i.e. a) to b)
- 3) How is the transition path to steady state affected by changes in:
  - a) Increases in the rate of time preference
  - b) Decreases in the intertemporal elasticity of substitution

## Exercise II.

Problem 2.1 and 2.2, page 139, in Barro and Sala-i-Martin

## Exercise III.

The Stern Review of the Economics of Climate Change has been criticized for choosing a discount rate that would lead to "too high levels of saving" i.e. saving levels that are far above what we observe. They use (in one example) the following felicity function:  $u(c)=\ln c$ . And they use a rate of time preference equal to 0.1%. Use the Cobb-Douglas production function, and find the Steady State value of the saving rate. What do you think about the Stern critique?