**HW#1 – The Solow Model**

**Due date: 10/10/2020**

**Instruction: Please write to the point and type in word document (if possible).**

1. Consider the standard Solow model with Cobb-Douglas technology:  .
2. Write the dynamic equation of the model and the steady state level of .
3. Suppose that at period t the economy is not in the steady state (), and it is experiencing a temporary decline in fertility for T periods. Describe the short term and long term effects of this fertility decline on the process of capital accumulation.
4. Suppose now that the rate of population growth is decreasing along the process of capital accumulation: . Characterize the possible dynamics of the economy with a relevant diagram for different values of .
5. Consider the Solow model under a linear technology .
6. What standard assumption does this technology violate?
7. Express the steady state level of  in terms of the model’s parameters.

Define conditions over the parameters of the model, to characterize different possible dynamics in the model, and add relevant diagrams to illustrate your answer.