

Macro Theory B

Final Assignment

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July 9, 2017

This is the final assignment for the “Macro Theory B” course.

Submission instructions:

- The assignment is due on Tuesday, August 15th.
- Provide all the code used to solve the assignment, with instructions how to run the code if needed, plus results for all the endogenous variables that you solved for.
- The quality of the code, including readability, comments, meaningful names and all the other aspects of quality code that were mentioned in class will be taken into consideration as part of the grading.
- The assignment should be submitted by email only to alon.rabinowicz@gmail.com
- The assignment can be submitted separately or in dyads.

1 The assignment

The point of departure for this assignment is the incomplete markets model as in Problem Set 7: Incomplete markets II (general equilibrium).

We change and extend the model as follows:

1. Agents choose to be either employed or unemployed.
2. The reason why agents may choose to be unemployed (which was absent in the basic exercise) is that their period utility is now $\log(c) - x * \eta$, where x is an employment indicator variable that equals 1 if the agent is employed and equals 0 if she is unemployed. η can then be interpreted as periodic disutility associated with working.
3. Given those alterations labor supply now becomes endogenous. That is, it is the sum of all efficiency units of workers who choose to be employed.

Your task is to:

1. Outline an algorithm for solving for the equilibrium given that labor supply is now endogenous.
2. Write a code that solves the new equilibrium.
3. Show how the equilibrium is affected by η by showing a few cases of the level of η and how prices (w, r) and quantities (total assets and labor in equilibrium) are affected by this parameter.