Econ 530-Spring 2025

Assignment - Research Methods II

Stock-Flow Consistent Macroeconomic Modeling

Thursday, 9.30-12.50, Room 203

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Due April 8, 9.30 am

1. **(40% each)**
   In the model SIM of chapter 3, starting from a stationary state simulate the effect of an increase in government expenditure under four variations of the model:

   (a) the simple deterministic model of the book

   (b) a model with simple adaptive expectations $YD^e = YD_{-2}$

   (c) a model where expected disposable income depends upon its past value net of the increase in government deficit disposable income: $YD^e = YD_{-1} - (G - T)$

   (d) a model where expected disposable income is always constant and equal to 25: $YD^e = 25$

   Plot *in the same graph* the trajectory of output from the original stationary state to the new one.
   Discuss. It is up to you to have the outputs from each simulation stacked in a single graph or present each of them separately.

2. **(60% each)**

   - **(30% each)** Simulate the model "Liquidity Preference" in chapter 5. What is the effect of a) an increase in the Treasury bill rate rising from 7% to 12%, and b) the government bonds rate from 9% to 10%? Plot the trajectory of GDP, and discuss it. The discussion does not have to be more than one or two paragraphs (IMPORTANT: assess the effect of a) and b) separately, that is create a scenario 1 in which you change the Treasury bill rate and a scenario 2 in which the government bonds rate is increased). For your simulation: simulate the model LP1 for the period 1900-2000, and shock the interest rates in 1930. The plot should present the trajectory of the GDP from the original steady state (with interest rates 7% and 9%) to the new one. The graph should contain in a text-box the value of the original and the new steady state.
   - **(30% each)** Explain what hysteresis is. Modify the model of the previous question to introduce hysteresis; explain what changes you have made. Simulate in the new model the scenario of the previous question. Plot the evolution of GDP together with the GDP from the previous question and discuss it. The overall discussion does not have to be more than three or four paragraphs. For your simulation follow the instructions of the previous question.

Notes:

1. The answers together with the graphs need to be typeset and submitted in PDF format.

2. The PDF should have your name, and page numbers. You should also include your name at the beginning of each program.

3. The PDF file should not contain the Eviews code. Submit the Eviews programs as separate attachments in your email.