Inequality in Macroeconomics
Spring 2020

Basic Information:

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Class dates: March 19th - June 4th (see detailed schedule below)

Description:

This course covers the foundations of modern macroeconomic theories of inequality. We will develop economic models where people differ by income, wealth and other characteristics. These models of heterogeneous households are helpful to analyze the sources and consequences of inequality. We will assess quantitatively to what extent these theories can account for empirical observations, how aggregate allocations and prices are shaped by cross-sectional inequality, and how fiscal policy can affect inequality. Besides covering the methodological background, you will learn how to solve these models numerically on the computer.

Organization:

The class will be organized around a sequence of lectures and tutorials (a tentative schedule can be found below). Throughout the course, the emphasis is on applications: based on a series of coding exercises, you will learn how to independently implement and solve the models discussed in class. We will discuss your solutions to these exercises in the tutorial classes. The course concludes with a final project where students present a paper of their own choice from the literature and attempt a partial replication of it. There will be no final exam.

Material:

Most of the material will be provided through lecture slides. I will mention additional references (textbooks, scripts, research papers) throughout the course.

Prerequisites:

Students should have completed intermediate courses in microeconomics and/or macroeconomics. Prior knowledge with dynamic economic models is beneficial but not absolutely necessary. Since the course will be centered around computational work, having some experience in programming is advantageous.

Programming Language:

Throughout the course, we will perform numerical computations using Matlab. If you have not worked with Matlab before or need to refresh your knowledge, please consult a tutorial guide before the course (I can provide some practice exercises upon request). Students can get a free licensed Matlab copy from the TU Wien IT webpage (http://www.sss.tuwien.ac.at/sss/mla/).
Grades:

The final grade will be based on problem sets (30%) and a final project (70%).

Schedule:

<table>
<thead>
<tr>
<th>March 19</th>
<th>11:00-13:00 Lecture</th>
<th>April 30</th>
<th>11:00-13:00 Lecture 14:00-15:00 Tutorial</th>
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<tbody>
<tr>
<td>March 26</td>
<td>11:00-13:00 Lecture</td>
<td>May 7</td>
<td>11:00-14:00 Lecture 14:00-15:00 Tutorial</td>
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<td>April 2</td>
<td>11:00-13:00 Lecture 14:00-15:00 Tutorial</td>
<td>May 14</td>
<td>11:00-13:00 Lecture 14:00-15:00 Tutorial</td>
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<td>April 23</td>
<td>11:00-13:00 Lecture 14:00-15:00 Tutorial</td>
<td>June 11</td>
<td>Presentations</td>
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Outline:

I. Facts and theory
   - Empirical facts
   - Dynamic programming
   - Income fluctuation problem
   - Standard incomplete markets model
   - Applications

II. Numerical methods
   - Value function iteration
   - Monte Carlo simulation
   - Calibration

References: