EC1410 – Spring 2024

Take Home Final Exam

Due May 13, 5pm

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This exam asks you to find a newspaper article describing something about how cities work, and then to think about how the models we learned in class help to understand the phenomena your article describes. For an example, see the discussion of property taxes and equity covered at the end of the Notes #1.

This exam is in between an essay and a problem set. You are welcome to type it or to handwrite it. If you choose to type your exam, please use a 12pt font and regular margins. It is important that, whatever you do, you write clearly, legibly and succinctly. Your goal should be convince a sceptical reader that your analysis is correct. Quantity is not a substitute for quality and this exam should probably not take more than three or four pages to complete.

You should proceed in the following steps (point counts are in parentheses, TOTAL = 100):

1. (5) Pick out your article and clear it with me in office hours. I will hold my regular office hours MW 1-2pm until May 15. Please sign up to come talk to me. Report the date and time of this meeting as the answer to question 1 of your test paper.

2. (20) Write a one or two paragraph description of the your article. Focus on describing the economic quantities that will appear in your model. For example, describe how land rent and population density changed during COVID, not the whole course of the pandemic.

3. Explain how one of the models we developed in the course (probably the monocentric city model, the heterogenous agents model, the Roback model or the model of systems of cities) can be applied to the phenomena described in your article. To do this,

   (a) (20) Introduce and define all appropriate notation.

   (b) (20) Draw the graph or state the equilibrium conditions and equations of the model that you will apply. In some cases you may need to provide both a graph and an analytical argument, but there is no explicit requirement to do both.

   (c) (20) Most likely, the phenomena described in your article can be understood as a comparative static of your model. Illustrate this comparative static on your graph (or work it out analytically). If the phenomena described in your article cannot be described as a comparative static of the model, demonstrate analytically or graphically what we learn from the model.

4. (15) Write a paragraph explaining the conclusion suggested by your analysis. That is, try to restate in words what you worked out in 3c above.

5. (5) Whatever conclusion you draw in part 4 depends on the assumptions that underly the model being true. Which ONE of these assumptions seems most problematic. What do you think would happen if it were relaxed?