

**SYRACUSE UNIVERSITY  
DEPARTMENT OF ECONOMICS**

Economics 741, Urban Economics  
Professor Yinger

Fall 2017

**Final Exam**

This is a closed-book exam. You have two hours and forty-five minutes to complete it. Please turn the exam in to the CPR receptionist when you are finished.

You must answer any two of the following five questions.

1. Testing an Urban Model's Predictions about City Shape

A key feature of an urban model is a metropolitan area boundary, which is where housing stops outbidding agriculture for land. This boundary can be seen as a drop in population density, that is, in people per square mile. Urban models predict that the boundary depends on the location of employment centers and the cost of traveling to those centers, among other things. You have decided to undertake a study of these urban boundaries. You define tracts on the boundary as those with a much lower density than the adjacent tracts closer to the center of the urban area (the CBD). Your main hypothesis is that the probability a census tract at a given distance from the CBD is on the boundary increases with distance from the closest employment concentration. Explain how you would test this hypothesis. Indicate the data you would need and the methods you would use.

2. Does Race Affect the Demand for Housing?

Two of your colleagues are having a debate. One says that blacks and whites with the same observable characteristics have the same demand for housing. The other says that blacks and whites have different demands for housing even if their observable traits are the same. Because you are an expert on urban economics and related data sets such as the American Community Survey, they have asked you to suggest a research plan that would resolve this debate.

Present a strategy for estimating the demand for housing. Explain how you would test whether the demand for housing was different for blacks and whites. Be as specific as possible. Explain the data you would need and the methods you would use.

### 3. Are Men and Women Treated Differently in Apartment Rentals

The United States is in the midst of a debate about the treatment of women in the workplace. You have decided to complement this debate by investigating the treatment of women in the rental housing market. You have decided to conduct a correspondence audit of one bedroom apartments in several large cities using the apartments advertised on Craigslist. You want to know not only whether women and men are equally likely to receive a response to their e-mail inquiries about these apartments, but also whether the type of employment signaled in the inquiry (elementary school teacher versus high-tech job) affects differences in treatment between men and women. Your job is to explain how you would conduct this study. Explain your audit procedures and your estimating strategy.

### 4. The Slope of a Hedonic Price Function for Housing

One of your colleagues insists that the slope of a housing price function with respect to a positive amenity must be declining as the level of the amenity increases. People do not value an amenity increase as much, your colleague says, when the amenity level is already high.

- a. Is your colleague correct? Explain in detail.
- b. Suppose you have a large sample of house sales in a large metropolitan area in a given year. Your data set includes many variables to measure the structural traits of housing, neighborhood amenities, and local public service levels. Outline a procedure to determine whether the second derivative of the hedonic function with respect to one key amenity is positive or negative. You may select any amenity for this exercise. Keep your procedure simple; that is, use OLS, not nonlinear regression.
- c. Households in your data may have different marginal willingness to pay for the amenity (MWP). Does your procedure indicate the minimum and maximum MWP in your data? Explain.

### 5. Review an Article

Select any article you have read this semester in the *Journal of Urban Economics*. Pretend that this article has been submitted to the journal and that you are the referee. Your job is to write a review of the article. What are its strengths and weaknesses? Is it suitable for publication in its current form? If not, could it be revised to make it publishable?