This exam is comprised of two sections. The first section is for material covered in ECON 220A taught by Ben Handel. The second is for material covered in ECON 220B taught by Joe Farrell. There are two questions in section one, worth a combined 90 points. There is one question in section two worth 50 points. You should answer all questions.

Part 1

Question 1 (50 points)

This will be a multi-part question asking about the Cardon and Hendel (2001) paper that tests for asymmetric information in health insurance markets. Please answers the following questions related to this paper.

1. (10 points) In Cardon and Hendel (2001) the authors test for asymmetric information in health insurance markets. The authors write down a structural model of two distinct and linked consumers choices. Clearly describe each of these choices, and write down the structural choice equations for each of these two choices.

2. (10 points) What is the key other phenomenon the authors separately identify asymmetric information from? What features of the data allow identification of these two behavioral phenomena?

3. (10 points) Handel (2013) studies adverse selection in health insurance markets. How does the adverse selection studied in that paper differ from the asymmetric information studied in Cardon and Hendel? What are the implications of these different economic phenomena for regulation of health insurance markets?

4. (20 points) Cardon and Hendel estimate their model via GMM. What moments do they use for estimation (5 points)? Imagine that instead you wanted to estimate the Cardon and Hendel model via simulated maximum likelihood. Describe in detail (i)

the likelihood function you would estimate and (ii) a rough sketch of the process you would follow to estimate this in Matlab, R, or STATA?

Question 2 (40 points)

Answer the following questions relating to papers we discussed in class.

- (10 points) What are the major innovations in the Nevo Econometrica paper on breakfast cereals, relative to BLP (1995)? Describe innovations in (i) demand estimation and (ii) dealing with endogeneity. What are the main results Nevo finds in his paper?
- (10 points) What are the primary innovations made in BLP (1995) relative to Bresnahan (1987)? Describe innovations in both demand estimation and identification.
- (10 points) Describe the main contributions of the Hendel and Nevo (2006) paper on sales and customer inventory. How does the modeling approach they use compare to typical discrete choice models used in IO up to that point? How do their modeling innovations impact estimates of own-price elasticities in their context? Cross-price elasticities?
- (10 points) Relative to Handel (2013) on inertia, what key data elements are added in Handel and Kolstad (2015)? Describe what the results in Handel and Kolstad (2015) might imply for Cohen and Einav (2007).

Part 2

Question 3 (50 points)

In a modification of the Segal-Whinston exclusive dealing framework, consider the following.

There are two customers, each requiring a quantity 1 of the product (a customer gets no value from any more quantity beyond 1 unit).

There are many potential producers, and no economies of scale, so that any producer can produce any quantity x at total cost cx, where $c > 0$.

There are network effects between the customers. Specifically, each customer would derive gross value v+n, where $v > c$ and $n > 0$, from one unit of the product thats compatible (produced by the same producer who sells to the other customer); or v for a unit of the product thats incompatible (produced by any other producer).

1. (25 points) Suppose that first customer 1 chooses a producer and buys, then customer 2 and all producers observe customer 1s choice, then competition to serve customer 2 takes place. What prices will customers 1 and 2 pay, and will they buy from the same producer?

2. (25 points) Now keep the same timing and information structure, but assume that it is common knowledge that there is one particularly low-cost producer with zero costs instead of c (all other producers still have costs $c > 0$). What prices will customers 1 and 2 pay, and will they buy from the same producer? Be careful to consider both the case $n > c$ and the case $n < c$.