Econometrics: Problem Set 5

1. How much does a woman's labor supply fall when she has a child? You will try to answer this with the 'fertility.csv' data set.

a. Regress *weeksworked* on the indicator variable *morekids* using OLS. On average do women with more than 2 kids work less? How much?
b. Explain why OLS estimates may be inappropriate for estimating the *causal effect* of morekids on labor supply.
c. The data set contains a variable *samesex* with is =1 if the first two children are the same sex. Are couples whose first two children are the same sex likely to have a third child? Is the effect large? Statistically significant?
d. Explain why samesex is a valid instrument for the regression in (a).
e. Estimate the regression in (a) using samesex as an instrument. How large is the effect of more kids on labor supply?
f. Do the results change when you control for age of mother and race controls? Why or why not?

2. Give someone a chance to buy a good X at price \$1 and they refuse. But then, give them the good and ask them to sell it for \$1 and, puzzlingly, many times they refuse and demand a higher price. This is called the "endowment effect" - and in fact some evolutionary biologists believe it is an ingrained phenomenon that is completely explained when one looks at the long history from which we evolved.

Economist John List investigated this effect with sports memorabilia traders at trade shows. He had two goods (A and B) that had very similar market values. Traders were *randomly* given one of the goods (so about half were given A and half B). If they were given good A they were asked if they would like to trade for good B, and if they were given good B they were asked if they would like to trade for good A. This data is found in 'sportscards.csv'.

a-i. Suppose, absent any endowment effect, everyone prefers good A. What fraction of the people in the experiment would you expect to ask to trade?
a-ii. Suppose, absent any endowment effect, half the people prefer A and half B. What fraction of the people in the experiment would you expect to ask to trade?
a-iii. Suppose, absent any endowment effect, $X\%$ of people prefer A and $(1-X)\%$ prefer B. Show that you would expect 50% of subjects to ask to trade.

b. What fraction of the participants traded the good they were given? Is this significantly different from 50%. What fraction who were given A traded for B? What fraction who were given B traded for A? Is there evidence of an endowment effect?
c. Some argue that the endowment effect may be present, but that it disappears as traders gain experience. Half the subjects were 'dealers' and half were 'nondealers'. Repeat (b) for dealers and nondealers. Is there a significant difference in their behavior? Is there evidence that the endowment effect disappears with experience?
d. The data also contain measures of experience: number of trades per month and number of years trading. Use these to see if there is evidence for nondealers that experience diminishes the endowment effect.