Economics 312 **Spring 2013**
Daily Problem #39 **April 26**

Suppose that we are estimating a demand function for asparagus (a_i) across individuals, with regressors local price (p_i) and personal income (m_i). Included in our sample are individuals such as Clive, for whom asparagus is a significant part of the food budget, and others who, like Bubba, hate asparagus and consume zero.

1. How would you expect a small change in price or income to affect Clive's consumption?
2. How would you expect the same changes to affect Bubba's consumption?
3. Why would this difference in responses present problems for OLS estimation of the demand function?
4. If you were to estimate the demand function by tobit, explain how you would interpret $\frac{\partial E[a \mid p, a>0]}{\partial p}$, $\frac{\partial E[a \mid p]}{\partial p}$, and $\frac{\partial \Pr[a>0]}{\partial p}$ in terms of the effect of price on Clive's consumption, Bubba's consumption, and average consumption per person.
5. Which of the first two expressions would you expect to be larger? Why?