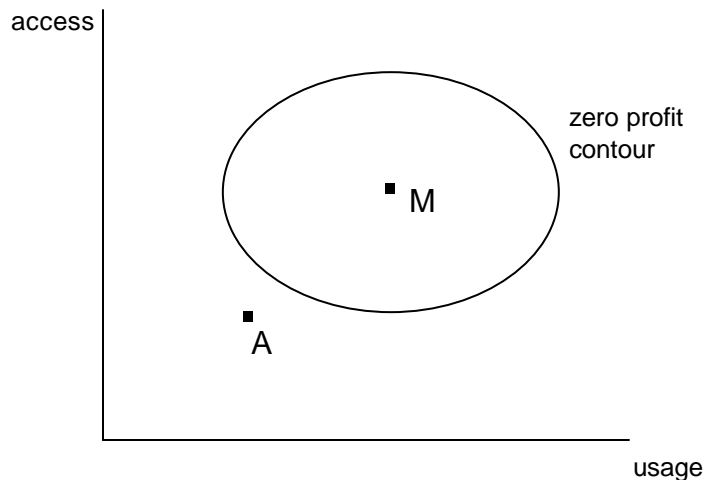


**Problem Set 3**  
Economics 123

Due in class on Nov 8. Bring a copy of your answers to use in class discussion.

1. In two handwritten pages, summarize the results of the studies by Matios/Rogers and Kaestner/Kahn, and discuss why the results matter.
2. A firm charges an access and usage fee for its service. The demand for access is fixed. If point A below represents marginal cost pricing for access and usage, what is the optimal tariff?



Explain why, under the conditions of this situation, the point you identified is first-best as well as second-best.

3. I consume 10 cups of coffee a month at Peet's, given its current price of \$1.50 cup. Peet's marginal cost of providing coffee is \$0.50. Suggest a two-part tariff that is guaranteed to make both me and Peet's at least as well off and perhaps better off than we are now. Show how you know that it can't make either of us worse off. Under what conditions will this two-part tariff make both of us better off, rather than just as well off, than we are now?

4. The local phone company offers two self-selecting tariffs. "Flat-rate" service consists of a \$20 monthly access fee and no usage charges (ie, unlimited local calling). "Measured-rate" service consists of a \$10 monthly access fee and a usage charge of \$0.10 for each local call beyond the first 30 calls (the first 30 local calls are free).

- a. Show the outlay schedule for these two tariffs.
- b. What is the equivalent multi-part tariff?

- c. How many calls would I have to make in a month in order to justify choosing the flat-rate service?
- d. Suppose that the phone company offered me only measured-rate service and that, under this service, I choose to make only 30 calls per month. Am I necessarily better off than I could be under flat-rate service? If not, describe how I might be better off with flat-rate service.

5. Train and Toyama found that self-selecting TOU electricity rates for agricultural customers increased utility profits, while Train and Mehrez found that the same kind of rates for residential customers generally decreased utility profits. Explain in words why self-selecting TOU rates had a different impact on profits in these two sectors. That is, what difference between agricultural and residential customers caused the impact of the rates on utility profits to differ?