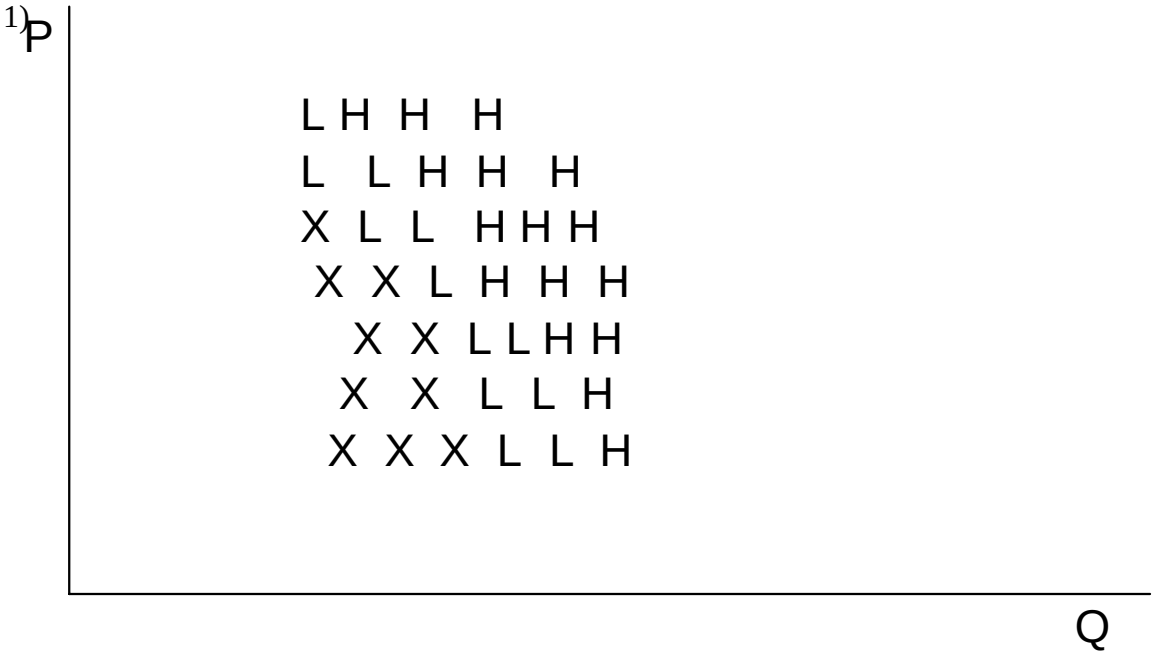
Econ 3324 Spring 2009
Managerial Economics R. Claycombe

Second Exam

Write all answers in your blue book and show all work there. Return your exam and printout(s) in your blue book.

15 pts

1)



X is a data point where advertising is extra low
L is a data point where advertising is low
H is a data point where advertising is high

The diagram above is supposed to be a scatter plot of price/quantity points for three levels of advertising, extra low, low and high.

a) If the levels of advertising weren't known, would there appear to be an effect of P on Q? Why?

b) Suppose that the following equation is used to model a demand function. To make it work, what kind of values do you need for A, quantitative or qualitative? Explain. How would the equation have to change to make dummy variables work? As it is, indicate if a, b and c are expected to be positive or negative.

$$Q_D = a + bP + cA$$

c) Does there seem to be a simultaneous equations problem with these data? Why?

15 pts.
2) If you have a demand equation estimated and t stats are all over 3 and the Rsquare is over .9 and the colinearity tolerances are near 1, is this good? Why?

15 pts.
3 a) Suppose that a variable grows at a constant percentage rate, what equation models this well?
b) Suppose that a demand equation has constant elasticity's. Write an equation of this sort.

15 pts.
4 a) Q = 20 +2t where t is in months and is 10, which puts us in October where the seasonal index is 95. What quantity do you forecast for October?
b) Mr. X has done some work on seasonal index values for the twelve months and his indices add to 12.2. Should he just use what he has or make and adjustment? If so, describe it.

25 pts.
5) Suppose that $Q = 100L^{.25}K^{.6}P^{.2}$ and that P_L =2, P_K =3 and P_P = 4. (P is power, not price)
a) What are the marginal products?
b) If L = 200, K =150 and P =100, is this the cost minimizing resource combination? Show work.
c) If K is fixed at 300, find the cost minimizing combination of P and L to produce 10000 units of Q.
d) Describe the returns to scale.
e) What is the output elasticity of L?

15 pts.
6 a) Suppose that the diffusion proportion is given by $1/(1 + e^{-(A+Bt)})$. How can A + Bt be estimated?
b) Mr. X says that total productivity measures are silly, he just watches average cost. Is he right? Why? Regardless of what one watches, what is the information that one seeks to have in this regard?

I have neither given nor received unfair aid on this test nor am I aware of anyone else who has.

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