PRICE THEORY I TFUS
PRACTICE SET 09

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1. The price elasticity of demand for a good by a poor person is greater than the elasticity of a rich person who faces the same market price and has the same preferences. (3.1.7, Core 2002)

   Uncertain. The demand may be more inelastic for a poor person because he has less substitutes than the rich person. On the other hand, demand could be more elastic if the poor person's at the extensive margin.

2. Suppose that the utility of consumers of good X are affected by other consumers of X so that they consume more when aggregation consumption of X is greater. Consumers have the same preferences, but they differ in incomes and all their incomes increase over time. This implies that the income elasticity of demand for X computed at a moment in time is less than the income elasticity of X computed from changes in average income and average consumption over time. (3.3.5, Final 2006)

   True. When computing income elasticity of X at a point in time, we are essentially computing the effect of an individual's income on consumption of X, holding aggregate consumption constant. When computing income elasticity of X based on average income changes over time, we are essentially computing the effect of aggregate income on aggregate consumption (since average is aggregate / number of individuals). In the latter case, because aggregate consumption varies, the "social multiplier" effect will be observed and will magnify the effect of income changing (whether X is normal or inferior). Since the social multiplier effect moves in the same direction as the income effect (holding aggregate consumption fixed), the latter method of computing income elasticity will be greater in absolute value.

3. * If it is costly for consumers to learn how to use computers then products that require computer use such as online music and digital photography will tend to be complements. (3.5.10, Core 2007)

   True. To see this, consider an increase in the price of online music. This will reduce investment in computer skills and raise the shadow price of digital photography. Thus, the demand for digital photography may fall and thus the two products will be complements in consumption.

4. ** Suppose a labor market where 25% of all equally productive workers are members of a minority group B, while others are members of the majority W. All workers supply 1 unit of labor. Assume that firms have identical production functions, and that 80% of firms dislike hiring B, while the

other 20% are indifferent between B and W. Then equilibrium in this market would have the wage B's less than that of W's since the"marginal" firm discriminates, and the 20% of non-discriminators only hire B's. (3.11.3, Final 2011)

Uncertain. If all B's are hired in that 20% (which may happen in CRS and elastic K), then those firms would pay the marginal product, equating wages between W and B. However, if some B's remain unemployed, then $w_B < w_W$ since B's cannot look for jobs in the bigger 80% sector.

5. When an increase in the number of muggers on the street leads to a reduction in the number of muggings because people stop going out at night the external cost of crime is reduced. (3.21.1, Final 2011)

Uncertain. There is also the opportunity cost of lost revenues to business, decreased utility to consumers, and the likely increase in cost from more police. If this outweighs the reduction in cost of mugging, then the external cost may actually rise.

6. The fact that large firms pay higher wages than small firms suggests that the supply of labor is upward sloping at the firm level. (4.4.5, Core 2005)

False. Other explanations include: large firms may enjoy higher productivity or have higher K/L ratios, meaning that MP_L is higher for such firms. Large firms may also attract more experienced employees, who command higher wages.

7. An increase in the price of an inferior factor will raise industry profits. (4.6.3, Final 2000)

False. Increase in the price of an inferior factor reduces its demand, which contributes to a lower marginal cost and a greater output. This does not necessarily affect the profits of a given industry – industry profits are about the average cost.

8. For a competitive industry with two factors (labor and capital) and constant returns to scale, an increase in output demand will increase the usage of labor more in the short run (when capital is fixed) than in the long run (when capital is freely variable) as long as the elasticity of substitution is greater than the elasticity of output demand. (4.8.3, Fall 2008 Final)

True Note that

$$\Delta L = \left(s_L \epsilon^D - s_K \sigma\right) \Delta w$$
$$= \left(s_L \epsilon^D - (1 - s_L)\sigma\right) \Delta w$$
$$= \left(s_L \left(\epsilon^D + \sigma\right) - \sigma\right) \Delta w$$

If the elasticity of substitution is greater than the elasticity of output demand, s_L is greater in the short-run than the long-run so ΔL is greater in the short-run than the long-run.

9. A tax imposed on one of two goods produced by a monopolist can cause the price of the untaxed good to fall. (4.10.2, Core 1995)

True Start from the above question. If the two produces are complements, the profit-maximizing monopolist can sell one (more elastic) product C below the marginal cost so that it would increase the demand for the other product S. In this case the price for S is higher than the marginal cost. Now because of a tax, the price of C is "forced" to increase, and hence using C is less effective to increase the demand for S. Therefore, the firm will find a new profit-maximizing point. Since the price for S has been higher due to the above effect, now it can be a little decreased since such an effect plays a smaller role post-tax.