Intermediate Microeconomics
ECNS 301
Fall 2015

Homework #: 3

Due by the beginning of class on: Thursday September 17, 2015

Name: 

Instructions:
There are 8 questions worth a total of 100 points. Answer each question clearly and concisely. You must show your work to receive credit. You are allowed to work with others, but all work must be your own.

Clearly print your name above and in the space provided on the next page. You must turn in both sides of this cover sheet along with your responses. You do not need to turn in the questions, only your responses with the cover sheet. All pages must be stapled to be graded.
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Comparative Statics

1. Think about the domestic market for coffee. For each part, is there a change in demand, supply or both? Does demand and/or supply increase or decrease? How does the equilibrium quantity and equilibrium price change?

   (a) There is a new study announcing health problems associated with coffee.
   (b) The US experiences a hot summer (temperatures are average in coffee producing countries).
   (c) There is a new technique in the rain-forest which makes coffee production cheaper.
   (d) You win the lottery and have more disposable income.
   (e) The price of tea decreases.
   (f) The price of cream and sugar increases and you don’t like drinking it black.
   (g) Workers in the coffee industry unionize and the union negotiates higher wages.
   (h) The price of fertilizer used to grow coffee decreases.

2. What is wrong with each of the following statements?

   (a) When the price of feed rises, farmers raise fewer pigs. This means there are fewer pork chops in supermarkets. Consumers therefore bid up the price of pork-chops. This means that farmers raise more pigs. These effects net each other out and the price of pork-chops is unchanged.
   (b) If the price of art works increases, we know that supply has increased.
   (c) Though sales of homes are down in San Jose, the price continues to rise. This is a violation of the supply and demand.
   (d) When demand for parrots exceeds the supply, price for parrots remains high.
   (e) When the baby-boomers retire, there will be a shortage of workers in many occupations. Perhaps as many as 25% of jobs will go unfilled.

3. If the price of hot dogs rises,

   (a) What happens to the market for ketchup?
   (b) For tomatoes?
   (c) For tomato juice?
   (d) For orange juice?

4. In 1973, the U.S. Supreme Court ruled that any woman has a right to an abortion. What effect do you think this ruling had on the price and quantity of abortions? Use a diagram to illustrate your answer.
5. A virus killed more than half the oysters used to produce pearls in the world’s busiest undersea factory. Use a diagram to indicate why the price of pearls used in earrings rose 18%. Can you infer anything about the elasticities of demand or supply from this information? According to Lynn Ramsey, former executive director of the Jewelry Information Center in New York, “Price is not an object in this market.” What do you think she means by this statement? Is this statement consistent with the evidence?

6. Assume that individuals will only buy computers if they already have a web browser installed. Computer companies must purchase browsers from software companies and install them. The government embarks on a campaign to increase the number of computers that Americans buy and imposes a price ceiling on browsers. However, after this campaign, the price of computers increases! Why? (Assume all markets are competitive, with upward sloping supply curves and downward sloping demand curves.)

Taxes

7. What is the effect of a 10% ad valorem tax (a tax that is not a straight dollar amount but a sales tax of 10% of the price) on equilibrium price and quantity if the supply curve is upwards sloping and the demand curve is as follows. Illustrate these graphically and describe what incidence of the tax falls on consumers?
   (a) Vertical?
   (b) Downward sloping?
   (c) Horizontal?
8. California taxes cigarettes to fund preschools.\footnote{These number are made up, although the policy in California is a real one (Proposition 10 passed November 1998). The actual tax is 50 cents per pack, resulting in tax revenues of $700 million for 2000.} It recognizes that a secondary benefit of the tax would be to reduce teen smoking. Suppose taxes are $15 per carton. Demand and supply of cigarettes are as follows.

\[ Q_s = 2P + 20 \]
\[ Q_d = 200 - P \]

(a) Write out the equations for the inverse demand and inverse supply curves. What is the market equilibrium price and quantity without the tax?

(b) By how much does the tax increase the price consumers pay? By how much does it decrease the price producers receive?

(c) How much revenue does the tax raise? By how much does it reduce smoking?

(d) Suppose instead of a $15 tax per unit, former Governor Gray Davis decides that every consumer who buys cigarettes must pay the government a tax of $0.25 for every dollar they pay to the cigarette producer. (This is the same as a sales tax of 25%.) Would this be any different from the $15 tax? Justify your answer.

(e) Voters argue that it is unfair for poor and addicted cigarette consumers to pay the tax. They argue that instead the wealthy tobacco companies should pay the government $\frac{1}{3}$ of every dollar they receive from cigarette buyers (a tax on producers of 33.3\%). Would this be any different from the tax in part d? Explain.

(f) Arnold Schwarzenegger argues that cigarette-smoking movie stars are key to the financial health of the state. Instead of being taxed, cigarettes receive a subsidy of $15 per carton. Calculate the price consumers pay, the price producers receive and the quantity exchanged with the subsidy.

(g) Suppose that instead of any taxes or subsidies, the government imposes a $55 price ceiling on cartons of cigarettes. What are the effects of the price ceiling?