SUPPLEMENTARY HOMEWORK QUESTIONS FOR CHAPTER 4

1. Illustrate, for each situation, the effect of the “event” on price and quantity in the market specified, using a supply/demand graph.

A) An decrease in income, on the market for gold.
B) A cost-saving technology improvement, on the market for computers.
C) A flood (of water), on the market for wheat.
D) Summer (vacation time), on the market for gasoline.
E) An increase in the price of electricity, on the market for steel.
F) An increase in the price of mustard, on the market for grocery store hot dogs.
G) An economic expansion, in the housing market.
H) An increase in the minimum wage, in the market for fast-food.

2. True or False?

A) A market can be perfectly competitive even if government places restrictions on it, such as a requirement that workers get paid extra for working overtime.
B) In perfectly competitive markets, firms choose how much they will produce based on how much they think people will want to buy.
C) When prices go up, that must mean that people are buying more.
D) The perfectly competitive market always seeks the price that equates the amount supplied with the amount demanded, even if a higher price would give firms higher profits.

3. One way to increase the amount of housing available to low-income households is simply for the government to build it (public housing). An alternative is to provide low-income households with vouchers that can be used like cash in renting housing supplied by the private market (not by government).

A) Illustrate the effect of each policy on the price and quantity of housing in the short run, using (separate) supply/demand curves.
B) In which case are landlords (owners of private housing) better off? In which case are they worse off?
C) In the long run private landlords will enter profitable markets. Under which alternative (vouchers, government builds public housing) is this more likely to occur? On a separate supply/demand graph, illustrate the effect of entry on the price and quantity of rental housing in the long run.

FOR CHAPTER 5

1. Answer the following questions using the information in the table.
## Kanye West’s Demand for Sunglasses

<table>
<thead>
<tr>
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<th>Quantity Demanded</th>
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<td>C</td>
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<td>3</td>
</tr>
<tr>
<td>D</td>
<td>$30</td>
<td>$600</td>
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</table>

A) The “ceteris paribus” assumption behind the demand curve implies that all else, such as income, is being held constant. Draw the demand curve for an income of $500, and locate points A and C on the curve.

B) The demand curve shifts when income increases to $600. Draw the new curve and identify points B and D on the graph. Are sunglasses a normal good or an inferior good?

C) What is the price elasticity of demand between points B and D?

D) Is Kanye’s demand for sunglasses price elastic or price inelastic?

2. The city decides to raise the amount it charges residents for water ($/thousand gallons) by 10%. They expected that revenues would also increase by 10%, but they only increased by about 5% instead.

A) What was the city assuming about demand, when it expected revenues to increase by 10%?

B) Is the demand for water elastic or inelastic?

C) Do you think profits from the waterworks went up by less than 5%, 5%, or more than 5%? Why?

3. Fir and spruce are two softwoods that are used for basically the same kinds of things—building furniture, Christmas trees, etc. Both are sold in competitive markets. A beetle infestation wipes out a lot of fir trees but leaves the spruce untouched.

A) Draw two supply/demand graphs to demonstrate how this would affect the prices and quantities sold of spruce and fir over the next few months.

B) Would the change in fir prices be greater if demand was elastic, or if it was inelastic?

C) Would you expect the demand for fir to be elastic or inelastic? Why?

D) In the spruce market, will there be entry or exit in the long run? How will that affect price and quantity?

FOR CHAPTER 6
1. Organ donation saves thousands of lives every year, and could save more if there were more donor organs. You can transplant lungs, hearts, and digestive organs. See the Wikipedia entry on organ donation and www.organdonor.gov. In the U.S., by law, donors must choose voluntarily to be an organ donor and cannot be compensated. This is a price ceiling. Because the market for donor organs cannot reach the market clearing price, it cannot achieve equilibrium.

A) In simple, plain language, what does it mean for this market not to be in equilibrium? (Then see http://www.organdonor.gov/student/access/organs.asp to confirm.)

B) While organ donors (and their estates) do not receive compensation for donating, the company that transports the organ does: they sell the organ at market prices. Draw a supply/demand graph for the organ market, such that there is positive supply at a price of zero. Then, show the market price these organs would sell for in the competitive market.

2. Answer these questions about price controls in a perfectly competitive market.

A) There is a persistent surplus of product X in the marketplace. What has happened?

B) People are buying product Y on the black market for much higher prices than the price that is listed in the store. Why?

C) When do price controls increase product quality, and when do they hurt product quality?

3. Use the following information to answer the next four questions. Columns One and Two contain quantities (in arbitrary units).

<table>
<thead>
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<th>Price</th>
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<td>16</td>
<td>10</td>
</tr>
</tbody>
</table>

A) Which column gives the demand relationship, and which gives the supply relationship?

B) What is the equilibrium price?

C) At a price of $9, there is a _______ (surplus, equilibrium, shortage) of ______ units.

D) A price ________ (floor, ceiling) set at a price of $____ will lead to a surplus of 2 units.

4. There are 5,000 parking spaces on SHSU’s campus. Demand for parking spaces is higher during the day, when the lots are full, than at night, when you couldn’t fill up the parking lots if you wanted to. Day parking privileges are granted by buying a sticker, which costs $50 per semester; anyone can park at night.

A) Draw two demand curves for parking, one for daytime, one for night. Identify on your graph the number of parking spots on campus and the $50 price. Make sure your graph is consistent with the
facts above, that the parking lots are full (but not overflowing) during the day, but could never be filled up at night.

B) If the price of parking stickers went down to say, $20 per semester instead of $50, what would it be likely out in the parking lots during the day; that is, what would be the consequences? Illustrate this on the graph you have drawn.

C) The university wants to increase revenue by raising the price of parking stickers to $60. Under what circumstances would that plan succeed, and when would it fail? Would you expect circumstances to be favorable or not? Why?

FOR CHAPTER 7

1. Paper is made from wood pulp, using labor and capital, and is assumed to be sold in a perfectly competitive market. Then, the cost of the wood pulp used in making the paper decreases by $1 per ream because of a good tree harvest.

A) How is the price and quantity of paper affected? Demonstrate on a supply/demand graph.

B) Illustrate the “old” producer surplus (before the cost decrease) and the “new” producer surplus on your graph. Are producers better off or worse off?

C) Copy your graph in A) over again and illustrate the old and new consumer surplus, and clearly demarcate the change in consumer surplus. Are consumers better off or worse off?

D) In general, who benefits from cost reductions in perfectly competitive markets? Choose one answer and explain.
   1) producers 2) consumers 3) both producers and consumers

2. Consider three customers in the market for Pork Rinds. Customer C is willing to buy one bag of Pork Rinds (and no more) at a price of $7 (or less); customer E would buy 1 bag at a price of $6; and customer G would buy 1 bag at a price of $3.50.

A) How much consumer surplus does each of customers C, E, and G get at a price of $3/bag?

B) If the price of Pork Rinds increases from $3/bag to $4/bag, which customer’s behavior is affected, C, E, or G? Which customer is “on the margin”?

C) Which customer loses the least consumer surplus when the price of Pork Rinds goes up?

3. When the Olympics come to Rio de Janiero in 2016, visitors will need a place to stay.

A) How will this affect the price and quantity of hotel rooms? Demonstrate on a supply/demand graph.

B) Is the supply of hotel rooms elastic or inelastic in the short run?

C) Should there be a greater percentage increase in the price or quantity of hotel rooms in Rio during the Olympics?

D) Illustrate, on the graph, how much hotel owners are made better off by the Olympics.
FOR CHAPTER 13

1. The marginal cost of a space shuttle flight is about $100 million.

A) What kinds of costs are included in this figure? What kinds of costs are not included?

B) Consider the costs of the shuttle itself (as opposed to the costs of the launch, astronauts, etc.). Should the entire cost of the building and maintaining the shuttle be included in the marginal cost figure? Should any of the costs of building and maintaining the shuttle be included? If so, which?

C) NASA is offered $120 million by a foreign government to launch one of their (non-military) satellites into orbit. Is the marginal cost figure relevant for determining whether this flight would be profitable for NASA? Or should, instead, some other cost figure be used?

D) Private firms are starting to offer flights into space. For the purposes of deciding whether to begin offering private space flights, is marginal cost the relevant cost figure? Or should some other cost figure be used?

2. The Americans with Disabilities Act, or ADA, essentially requires all public establishments to be accessible to the disabled. Generally, this requires the construction of concrete entrance ramps and other building improvements.

A) Are these building improvements fixed or variable costs?

B) How does the ADA affect firms’ MC curves? Draw, or illustrate, any changes.

C) How does it affect firms’ ATC curves? Draw, or illustrate, any changes.

3. The Law of Diminishing Returns applies to each of the following situations. Explain how. Identify in each case, the “output,” the “variable input,” and the “fixed factor.”

A) Trying to grow more soybeans by fertilizing more.

B) Scraping old paint off a wall.

C) Adding people to your team in tug-o-war.

4. Robicheaux’s Green Acres is a fine family-owned and operated hotel located in the bayous of Louisiana. With one exception (see part A), the weekly costs of running the hotel are as follows:

Utilities: $1000  Wages (for the maids): $4000  Depreciation
Insurance: $1000  Value of the Family’s Time: $2000  and Maintenance: $500
During a typical week the hotel serves 200 guests (rooms) at a price of $50 per room.

A) I left out one major economic (opportunity) cost, that is not an accounting cost. What is it?

B) Calculate your accounting profit. Show your work.

C) For each input, identify whether it can be adjusted in the short run, or only in the long run.

Average total cost is $45 per room, while marginal cost is $35 per room.

D) A new guest walks in, and asks for a room. How much does it cost the Robicheaux Family to provide that guest a room for a night?
   1) $50
   2) $45
   3) $35
   4) that information hasn’t been given to me

E) Which of the costs listed above are not included (at all) in marginal costs?

5. Some Facts and Figures for “Blue Jean’s Auto Shop” are shown below. (Each is for a year period.) Jean could earn $25,000 as a DJ if she didn’t work in her auto shop.

   Revenues: $80,000    Jean’s initial investment: $100,000
   Rent: $7,000        The interest rate: 6%
   Car Parts: $15,000   Depreciation on machinery: $25,000

A) What are Jean’s accounting costs, and accounting profit?

B) What are her economic costs, and economic profit?

C) Identify those costs which are fixed and those which are variable.

D) Identify those costs which can be adjusted in the short run and those which cannot.
1. The cost curves for Chopin’s Bedpans are given below. The market price of bedpans is $10.

A) QC = 500 bedpans. What are the firm’s total revenues, total costs, and total profits at QC?

B) QB = 350 bedpans. What are the firm’s total revenues, total costs, and total profits at QB?

C) At the current price, does the firm make positive, zero, or negative economic profit at each of points QA-QC?

D) At which quantity does the firm make the most profit?

E) What will the price be in long run equilibrium?

F) How many bedpans (what quantity) will the firm produce in the long run?

2. Texas grows lots of citrus. Two graphs are drawn below. The one on the right contains the demand and short-run supply curves for the orange juice industry, assumed for this problem to be a perfectly competitive industry. The other contains the marginal cost curve for a typical firm in the orange juice industry. Currently, firms have no incentive to enter or leave the orange juice industry. (The price axes on the two graphs are on the same scale. The quantity axes need not be on the same scale, but that won't affect the problem.)

The curves you draw to answer the questions below should be as accurate as possible, and should be such that the two graphs are logically consistent with each other.

A) Draw in the average total cost curve for the firm.
B) Ellen DeGeneres begins advertising Texas Orange Juice on her show. Shortly afterwards, we notice that the orange juice firm is producing at point $Q^*$. What has happened to the demand for orange juice? Draw in the new curve.

C) What characteristics of the market for orange juice meet the requirements of the perfectly competitive market? Which do not?

![Graph of supply and demand]

3. My friend says, "It is commonly known that the cost of the food is only about 1/3 of the price of a restaurant meal. Therefore, all restaurant owners are making a huge profit."

A) List some of the other economic (opportunity) costs incurred by a restaurant owner. Identify each of them as fixed or variable.

B) We don't actually have any data about the cost structure of all the restaurants in town. What is the best simple piece of evidence that all restaurant owners aren't making a huge profit?

C) Often, the response I get to part B) of this question is as follows: "Restaurants are a perfectly competitive industry, so they make zero economic profit." This is theory, not evidence, so it doesn't answer the question. But, just as theory, is the statement correct? Why or why not?

4. Fluffy-Gro, Inc., grows cotton and sells it in a perfectly competitive market. Fluffy Gro worker Ima Doltt drives a new tractor into the Federally Protected Wetlands adjoining the property; a new tractor is purchased the next day for $20,000.

A) Is replacing this tractor a fixed cost, a variable cost, or both?

B) How is Fluffy-Gro’s MC curve (for this season) changed? If so, how?

C) Does Fluffy-Gro respond to the tractor incident by raising the price of its cotton?
D) Does Fluffy-Gro respond to the tractor incident by changing the quantity it produces? Answer: No, Yes--it produces more, Yes--it produces less.

E) Why does Fluffy-Gro produce the quantity it does?
   1) It costs too much to produce any more.
   2) It can’t find buyers for any more cotton.
   3) It doesn’t want to lower its price to attract more buyers.

5. Calvin’s Barber Shop is a barber shop. It costs Calvin, in terms of time and electricity, $25 for each hour his shop is open. His hourly revenues depend on the time of day, and are given by the table below. The shop is busier during the peak of day than in early morning or in the evening.

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<thead>
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<th>8:00</th>
<th>9:00</th>
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<td>$30</td>
<td>$23</td>
<td>$15</td>
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<td>$8</td>
</tr>
</tbody>
</table>

A) What hours should Calvin’s Barber Shop be open?

B) Calvin’s rent is $100 per day. When Calvin’s lease expires, will he renew it?

FOR CHAPTER 15

1. In the hothouse working late one evening, Dr. Ima Masing discovers, to her surprise, the secret to growing the Bonsai Loblolly Pine Tree, which had eluded botanists for years. Dr. Masing can produce 10 Bonsai Pines in one hothouse in one year. Each hothouse costs her $2000 per year, and the cost of the labor, water, and fertilizer is $600 per tree.

A) Currently, what is the market structure of the Bonsai Pine industry?

B) Currently, Dr. Masing maximizes her profit by selling 50 trees per year at a price of $1000 each. What is her (yearly) profit?

C) Why doesn’t Dr. Masing produce 60 trees?
   1) The additional trees would be especially expensive to produce.
   2) She can’t find buyers for any more trees.
   3) She doesn’t want to lower her price to attract more buyers.

Then, suddenly, Dr. Masing’s lab assistant posts her Bonsai Pine growing secret on the Internet for all to read. Now anyone can grow a Bonsai Pine tree.

D) What is the market structure of the industry now?

E) What will the price (in $) of Bonsai trees be in the long run?
2. The demand curve and MC curve for Ft. Worth Cats games is shown below. The baseball stadium has 3,000 seats. The Cats play one game each week, and they keep all gate receipts.

A) Why is MC so small?

B) At what price does the stadium sell out?

C) What is consumer surplus at this price?

D) What price should the Cats charge? Illustrate on the graph.

E) Do the Cats sell out the stadium or not? Why or why not?

3. The Bonsai is a miniature tree that takes skill and patience to grow. The cost of the seed, water, time, etc. to grow a Bonsai is $100. There are 11 people in Huntsville who are willing to buy the Bonsai tree for a price of $650 or less (but no more than $650). Everyone else in Huntsville does not want a Bonsai tree at any price.

A) If Bonsai trees were sold in a perfectly competitive market, what would the price be (in the long run)?

B) If Bonsai trees were sold by a single store in the area, what would their price be? What would the store’s profit be?

Now let there be a 12th person in town who is willing to buy a Bonsai tree for a price of $600 or less. Only one store in town sells Bonsai trees. The store doesn’t know who is willing to pay only $600; it just knows there are 11 people who would pay $650 and one who would pay $600.

C) What is the marginal revenue from selling the 12th tree? What price will the store charge for Bonsai trees?

If half of the people that like Bonsai Trees are men and the other half are women; and the person valuing the Bonsai at $600 is a man, and the store knows this, then they will charge men a price of $600 and women a price of $650.

D) Show that this is more profitable, by calculating the store’s profit now, and comparing it with your answer in B).

E) Charging men and women different prices for Bonsai trees is an example of ______.

4. In most countries, including the United States, patent laws give developers of new pharmaceutical drugs the right to be the sole seller of that drug for a period of several years. Until recently, however, India’s patent policy essentially allowed anyone to produce any pharmaceutical drug, whether it was under patent in another country or not.

A) What was the market structure for pharmaceuticals in India?
B) Draw a graph containing a marginal cost, and average total cost curves for a producer of a pharmaceutical drug. Once the drug is developed, production costs are usually fairly low—be sure this is reflected in your graph.

C) When the Indian market reached long run equilibrium (which it did quickly because entry is easy), what was the price? Illustrate on the graph you drew for part B.

D) What is the market structure for a drug under patent in the U.S.?

E) Draw a graph containing the demand, marginal revenue, marginal cost, and average total cost curves for a U.S. producer of a pharmaceutical drug on patent. The cost curves should be the same as those you drew for part B.

F) Illustrate the price set by the producer, and the quantity sold by the firm. Compare this price to that in part C.

G) In 2003, Indian companies were selling the leukemia drug Gleevec for $2,700 per year (enough doses for an individual to take for a year). After the change in patent policy, the patent-holder alone sold the drug and charged, instead, $27,000 per year. On the graphs you drew, where would the $2,700 and $27,000 go?

FOR CHAPTER 16

1. My friend says, "The restaurant industry is a perfectly competitive industry. Therefore, in the long run, all restaurants will earn a positive economic profit."

A) What is the market structure of the restaurant industry?

B) Does an individual restaurant’s demand curve slope down? Do individual restaurants have the power to set their own prices, or must they sell at the given “market price”?

C) Does price setting power allow restaurants to earn an economic profit in the long run?

D) What characteristic of the market determines whether firms earn an economic profit in the long run?

2. The graph below represents a typical firm in a monopolistically competitive industry.
A) Identify the profit maximizing quantity and price on the graph; label them Q1 and P1.

B) Is this firm currently making economic profit?

C) This market is not in long run equilibrium. Why not?

D) If the market were perfectly competitive (it’s not), then what price would prevail in the long run? Label this P2.

E) Which price will prevail in the long run in this market: P1, P2, or a price between P1 and P2? Explain.

3. Two service industries are auto repair and auto towing. In most towns one can find many towers and many auto repair shops.

A) What is the primary reason can the latter market (towing) be considered perfectly competitive, while the former market cannot?

B) What is the market structure of the auto repair market in, say, Houston? How much economic profit do most auto repair shops make in the long run?

C) Which of the following behaviors would be observed in the auto repair market?

· Firms cannot choose their price
· More elastic customers get charged a higher price
· Firms would generally like to have more customers
· Price > minATC in the long run
· Barriers to entry make it difficult for new firms to enter the market

D) Which of these behaviors would typically be observed in a perfectly competitive market?

E) Which of these behaviors would typically be observed in a monopoly?

4. It costs more for a woman’s haircut than a man’s haircut. This is true even in salons which offer both men’s and women’s cuts.

A) If the haircutting market was perfectly competitive, and in long-run equilibrium, then what must explain the difference in the price of haircuts?

B) If the haircutting market was characterized as monopolistic competition, then what would be another explanation for the difference in the price of haircuts?

C) Which better describes the haircutting market: perfect competition or monopolistic competition? Why?
1. The price of gas has recently increased in the market. My friend says, “This is evidence of collusion. Companies are conspiring together to raise price to the consumer.”

A) What would the market structure of the industry have to be in order to have collusion?

B) If the quantity of gas purchased has increased, then what is the likely explanation for the increase in prices?

C) If profits decrease in the industry, then what is the likely explanation for the increase in prices?

2. A university is considering auctioning licenses that would allow one or two vendors to sell canned soft drinks on campus. If the university sells licenses to two vendors, will it receive more in total license fees than if it sells a license to only one vendor? Will students be better off if the university licenses one vendor or two? Explain.

3. Below four markets are listed. For each market, identify the market structure. Then, for each market, list the market characteristics that determine its market structure (that is, list the features of the market that helped you figure out what the market structure is). No two markets have the same market structure!
   1) the market for bread
   2) the market for domestic train travel
   3) the market for wheat
   4) the market for breakfast cereal