Demand and Supply Examples

Midterm Examination

Midterm Examination Facts
Recitation Assignment for Week 5
Review
Demand and Supply Examples
Studying Suggestions for the Midterm Exam

Midterm Examination

Exam date is Tuesday, September 29.
Bring Blue “Scantron” sheet.
We strictly enforce the Honor Code.
The exam is closed books and notes.
Bring your UNC ID.
Once you receive the exam, you may not leave the room until you have finished.
Late students will be barred from exam.
You may bring a simple calculator.

Recitation Assignment

Go over the practice questions for the midterm exams and the relevant problems in Chapters 1-3, 5 and 6.

Bring your questions about these items with you to recitation.

Why is the supply schedule upward sloping?

As market price of a good rises...

It rises above the reservation price for some suppliers and they enter the market.

Suppliers find it optimal to commit resources to production that have higher opportunity costs than resources used previously.
Recall that Harry can either wash dishes for $6.00 per hour or operate his can recycling business.

As the price of recycling services increases, it pays for Harry to allocate more time to can recycling.

<table>
<thead>
<tr>
<th>Hours</th>
<th>Marginal Cost</th>
<th>Marginal Benefit</th>
<th>Harry's Reservation Price (RP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$6</td>
<td>600xRP</td>
<td>$0.01</td>
</tr>
<tr>
<td>2</td>
<td>$6</td>
<td>400xRP</td>
<td>$0.015</td>
</tr>
<tr>
<td>3</td>
<td>$6</td>
<td>300xRP</td>
<td>$0.02</td>
</tr>
<tr>
<td>4</td>
<td>$6</td>
<td>200xRP</td>
<td>$0.03</td>
</tr>
<tr>
<td>5</td>
<td>$6</td>
<td>100xRP</td>
<td>$0.06</td>
</tr>
</tbody>
</table>

Use Your Clickers To Answer
The Following Graded Question

Which is correct? The supply schedule for pizza is upward sloping because...

A. As price rises, pizzeria owners hire more labor to supply pizza.
B. As price rises, business people open new pizzerias.
C. To increase pizza quantity, pizza makers must be induced to bear higher costs.
D. All of the above.

All of the above is correct because...

Pizzeria owners are like Harry. As price rises they commit more resources to production. A higher price of pizza makes a pizzeria a relatively attractive business. Entrepreneurs will open pizzerias. Typically, marginal costs rise as supply increases.
What does “perfect” competition mean to an economist?

A perfectly competitive market is one where
No individual seller has significant influence on market price.
No individual buyer has significant influence on market price.
Buyers and sellers take the price as given. They are “price takers”.

The relationship between a price-taking firm and the market:

Market Demand and Supply
Firm Perception of Demand

Use Your Clickers To Answer The Following Graded Question

In a “perfectly competitive” market...

A. Suppliers conduct ad campaigns to increase the demand for their product.
B. Suppliers create “preferred customer” accounts to induce buyer loyalty.
C. Suppliers offer quantity discounts to buyers to induce them to purchase more.
D. Suppliers post a price and stick with it provided that market conditions are unchanged.
Why, in a perfectly competitive market, do suppliers post a price and stick with it provided market conditions are unchanged?

In a competitive market...
Individual suppliers realize that they cannot change the price of their product
Individual suppliers realize that they can sell as much as they want at the going price.
Individual suppliers realize that the market sets the price.

Producer surplus is the difference between the market price and the supplier's reservation price.

If all producers receive the same price, as occurs in perfect competition
Then, for a straight line supply schedule, ...
Producer surplus is the area of the triangular shape formed by the price axis (height), the equilibrium price (base) and the supply schedule (hypotenuse).

Producer Surplus in the Milk Market

<table>
<thead>
<tr>
<th>Quantity (1,000s of gallons/day)</th>
<th>Price ($/gallon)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.50</td>
</tr>
<tr>
<td>2</td>
<td>1.00</td>
</tr>
<tr>
<td>3</td>
<td>1.50</td>
</tr>
<tr>
<td>4</td>
<td>2.00</td>
</tr>
<tr>
<td>5</td>
<td>2.50</td>
</tr>
<tr>
<td>6</td>
<td>3.00</td>
</tr>
</tbody>
</table>

Producer surplus = $4,000/day

Use Your Clickers To Answer The Following Graded Question
What is Harry's producer surplus if the price he receives for recycling a can is 2 cents?

A. $8.00  
B. $21.00  
C. $45.00  
D. $92.00

<table>
<thead>
<tr>
<th>Hours</th>
<th>Cans Recycled</th>
<th>Reservation Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>600</td>
<td>.01</td>
</tr>
<tr>
<td>2</td>
<td>1000</td>
<td>.015</td>
</tr>
<tr>
<td>3</td>
<td>1300</td>
<td>.02</td>
</tr>
<tr>
<td>4</td>
<td>1500</td>
<td>.03</td>
</tr>
<tr>
<td>5</td>
<td>1600</td>
<td>.06</td>
</tr>
</tbody>
</table>

Harry's producer surplus is $8.00 when the price for recycling a can is 2 cents.

<table>
<thead>
<tr>
<th>Hours</th>
<th>Cans Recycled</th>
<th>Reservation Price</th>
<th>Surplus at $0.02</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>600</td>
<td>.01</td>
<td>.010x600 = $6.00</td>
</tr>
<tr>
<td>2</td>
<td>1000</td>
<td>.015</td>
<td>.005x400 = $2.00</td>
</tr>
<tr>
<td>3</td>
<td>1300</td>
<td>.02</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>1500</td>
<td>.03</td>
<td>NA</td>
</tr>
<tr>
<td>5</td>
<td>1600</td>
<td>.06</td>
<td>NA</td>
</tr>
</tbody>
</table>

Demand and Supply Examples

We will now consider several non-graded questions like those on the midterm exam.

Use Your Clickers To Answer The Following Non-Graded Questions
At UNC, parking supply and parking permit fees are regulated. In 2004, UNC and Chapel Hill worked together to provide free town bus service. Which of the following correctly describes how introducing free bus service affected parking. Introducing free bus service...

A. Increased the price of a parking permit.
B. Lowered the price of a parking permit.
C. Raised the excess demand for parking.
D. Lowered the excess demand for parking.

A large pay increase for federal employees will ___ rents for apartments near DC metro stations because ___.

A. Decrease, the supply of apartments will shift out.
B. Decrease, the demand for apartments will shift out.
C. Increase, the demand for apartments will shift out.
D. Increase, the supply of apartments will shift out.
Suppose Ben and Jerry's offers free ice cream cones in Chapel Hill and Durham. In Chapel Hill, the length of the queue is likely to be _____ because ______.

A. Longer because people in Chapel Hill like ice cream more than people in Durham.
B. Shorter because people in Chapel Hill have a higher opportunity cost of time.
C. Longer because people in Chapel Hill have a higher opportunity cost of time.
D. Shorter because people in Chapel Hill like ice cream more than people in Durham.

Why is it reasonable to predict that lines will be shorter in Chapel Hill?

Suppose you are a passer by. You face a decision: to join the queue or not. The marginal benefit is a free cone. The marginal cost is the waiting time. The cost of the waiting time will be higher for people with higher wage rates.

Increased economic growth in China will ____ the price of gasoline and ____ the price of SUVs in the U.S.

A. Increase, Increase
B. Increase, Decrease
C. Decrease, Increase
D. Decrease, Decrease

The effect of Chinese growth on U.S. markets for Gasoline and SUVs
A technological improvement that lowers the cost of farm raised fish will ______ the price and ______ the quantity of wild caught fish.

A. Increase, Decrease
B. Decrease, Decrease
C. Increase, Increase
D. Decrease, Increase

Suppose the demand for gas has a normal shape. An increase in the gasoline tax will _____ the supply of gas and raise the price of gasoline by ______.

A. Shift out, the full amount of the tax.
B. Shift back, the full amount of the tax.
C. Shift out, less than the full amount of the tax.
D. Shift back, less than the full amount of the tax.
Suggestions for the Midterm Exam

The material covered in lectures and recitations is the material tested.
Do problems.
Go over the practice examination questions posted on the web page.
Work together in a study group.
Play an active role in your study group.