

# **Review for Exam Example**

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## **Preamble**

### **Facts about the 1st exam**

- ★ On Exam day
- ★ # Multiple Choice Questions
- ★ Length
- ★ Coverage

### **Items Needed**

- ★ Scantron
- ★ Calculator
- ★ Pencil

Hi, This is an example review. There is a table of contents for all major sections and parts. It is based on the textbook: Hubbard, Glenn and Anthony O'Brien, "Essentials of Economics", Texas Tech University custom eBook edition, Pearson Higher Education. All graphs are taken from the textbook.

How should you use this document?

- ★ To reference during studying to check for complete coverage.
- ★ To create flashcards.
- ★ To memorize.
- ★ To create your own version with your wording.
- ★ To supplement your notes.
- ★ To quiz yourself.

### **Tips for taking the exam**

- ★ Read each item carefully.
- ★ Draw a picture of demand and supply.
- ★ Do each step one at a time and/or eliminate options one by one.
- ★ Skip unknown questions and come back to them later.
- ★ Underline, circle, or arrow, decreases and increases.
- ★ Think about what you would do in the situation.
- ★ Read each item VERY carefully.

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# **Economics is the study of choices.**

## **Foundation**

### **Definitions:**

- ① The study of economics is the study of choices.
- ② Choices arise because of scarcity.
- ③ Scarcity is a situation in which unlimited wants exceed limited resources.
- ④ Macroeconomics is about the entire economies decisions.
- ⑤ Microeconomics is about individuals making decisions.
- ⑥ Positive statements are statements with provable facts.
- ⑦ Normative statements are statements about how things ought to be or should be, without provable facts.
- ⑧ A market is: a group of buyers and sellers of goods and services and the mechanism by which they come together to trade.
- ⑨ An economy is a group of markets that answer THE fundamental economic problem.

### **The Three Economic Principles**

- ★ 1 People are rational
- ★ 2 People respond to incentives
- ★ 3 Optimal decisions are made at the margin

### **The fundamental economic problem**

- ★ 1 What stuff is produced?
- ★ 2 How is stuff produced?
- ★ 3 To whom is the stuff given?

### **Types of Economies**

- ① Market Economy → Market decides what, how, and to whom.
- ② Centrally planned Economy → government decides what, how, and to whom.
- ③ Mixed Economy → Both decides what, how, and to whom.

# Marginal Analysis

## Definitions:

- ① Opportunity Cost is the cost of the best alternative option.
- ② Sunk Cost: A cost already occurred.
- ③ Marginal benefit: the additional benefit gained from receiving one more unit.
- ④ Marginal revenue: a specific type of marginal benefit
- ⑤ Marginal cost: the additional cost of one more unit.

## Where is the optimal decisions?

- ★ When Marginal Cost equals the Marginal benefit.
- ★  $MC = MB$
- ★ When the additional cost and the additional benefit gained from the next piece are equal.

## Formulas:

Marginal revenue(MR)	=	New Revenue – Old Revenue
Marginal cost(MR)	=	Cost per item
	=	New Total Cost – Old Total Cost

# Advantage

## Definitions:

- ① Comparative Advantage is producing at a lower opportunity cost.
- ② Absolute Advantage is producing more with the same amount of resources.
- ③ Absolute advantage answers the question of who can make more of good X. Comparative advantage answers the question of who can make more of Good X per Good Y.

## Generic Example

	Person A	Person B
Good X	$c$	$d$
Good Y	$e$	$f$

Where  $c, d, e, f$  are numbers

If  $c > d$  Person A has AA in Good X

If  $c < d$  Person B has AA in Good X

If  $e > f$  Person A has AA in Good Y

If  $e < f$  Person A has AA in Good Y

If  $\frac{c}{e} > \frac{d}{f}$  Person A has CA in Good X

If  $\frac{c}{e} < \frac{d}{f}$  Person B has CA in Good X

If  $\frac{e}{c} > \frac{f}{d}$  Person A has CA in Good Y

If  $\frac{e}{c} < \frac{f}{d}$  Person B has CA in Good Y

## Demand

### Definitions:

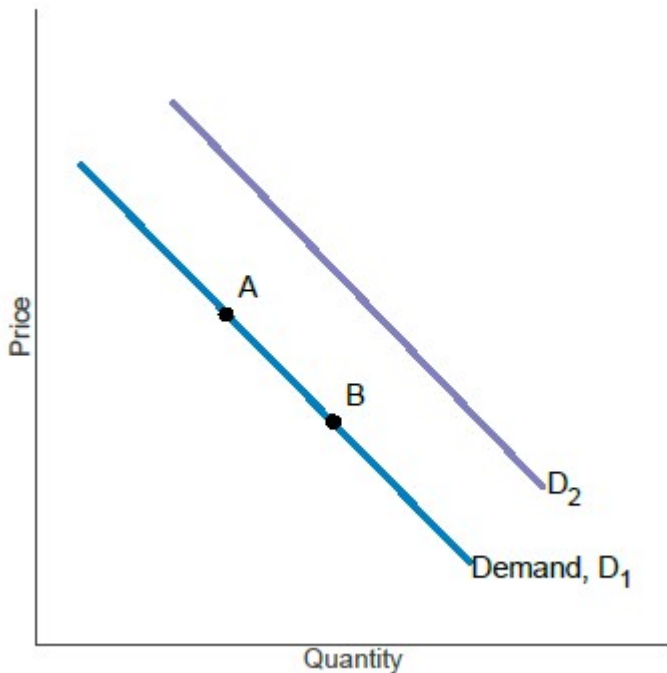
- 1 Law of Demand: Quantity and Price are inversely related. As prices increase (or decrease), quantity decreases (or increases). Negative Slope
- 2 Substitutes: Competitive related goods. When the price increases of good X, the demand of good Y increases.
- 3 Compliments: Non-competitive Related goods. When the price increases of good X, the demand of good Y decrease.
- 4 Normal Goods: When income increases, demand increases.
- 5 Inferior Goods: When income increases, demand decreases.
- 6  $\Delta$  Quantity demanded: movement along the **SAME** demand curve
- 7  $\Delta$  Demand: a shift in the demand curve

### Demand Shifters

1. Income
2. Related Goods in consumption
3. Taste and preferences
4. Demographics and population
5. Future Prices

### Examples

- ⇒ Substitutes: Mittens and Gloves
- ⇒ Substitutes: Chicken and Turkey
- ⇒ Complements: Biscuits and Gravy
- ⇒ Complements: Bread and Butter
- ⇒ Tastes: Flavored water is going viral. ( $\uparrow$ )
- ⇒ Demographics: # College students increase during fall and spring.



Demand Increase	$= D_1 \rightarrow D_2$
Quantity Demanded Increase	$= A \rightarrow B$
Income $\uparrow$	$= D_1 \rightarrow D_2$
Price of Substitutes $\uparrow$	$= D_1 \rightarrow D_2$
Price of Complements $\downarrow$	$= D_1 \rightarrow D_2$
Population $\uparrow$	$= D_1 \rightarrow D_2$
Future Price $\uparrow$	$= D_1 \rightarrow D_2$
Taste $\uparrow$	$= D_1 \rightarrow D_2$
Price $\downarrow$	$= A \rightarrow B$
Demand Decrease	$= D_2 \rightarrow D_1$
Quantity Demanded Decrease	$= B \rightarrow A$
Income $\downarrow$	$= D_2 \rightarrow D_1$
Price of Substitutes $\downarrow$	$= D_2 \rightarrow D_1$
Price of Complements $\uparrow$	$= D_2 \rightarrow D_1$
Population $\downarrow$	$= D_2 \rightarrow D_1$
Future Price $\downarrow$	$= D_2 \rightarrow D_1$
Taste $\downarrow$	$= D_2 \rightarrow D_1$
Price $\uparrow$	$= B \rightarrow A$

## Supply

### Definitions:

- 1 Law of Supply: Quantity and Price are positively related. As prices increase (or decrease), quantity increases (or decreases). Positive Slope
- 2  $\Delta$  Quantity supplied: movement along the **SAME** supply curve
- 3  $\Delta$  Supply: a shift in the supply curve
- 4 Substitutes: Competitive related goods. The production of good X and good Y require only one be produced. When the price increases of good X, the supply of good Y decreases. And when the price of good X decreases, the supply of good Y increases.
- 5 Compliments: Non-competitive Related goods. The production of good X and good Y are done in tandem. When the price increases of good X, the supply of good Y increases. And when the price of good X decreases, the supply of good Y decreases.

## Supply Shifters

1. Price of Inputs
2.  $\Delta$  Technology
3. Price of related goods in production
4. # Firms in the market
5. Future Prices

### Examples

- ⇒ Inputs: Oranges in Orange Juice
- ⇒ Inputs: Labor in anything
- ⇒  $\Delta$  Technology: New steel type for cars
- ⇒  $\Delta$  Technology: AI in anything
- ⇒ # Firms: Mickey mouse copyright ended, more firms in supply of themed items

### Examples of substitutes in production are:

- ⇒ Goats and Sheep
- ⇒ Action games and adventure games
- ⇒ Cows and Pigs
- ⇒ Apples and oranges
- ⇒ Left Twix and Right Twix

### Examples of complements in production are:

- ⇒ Orange Juice and Orange Peel
- ⇒ Beef and Cow Hide
- ⇒ Oil and natural gas
- ⇒ lumber and sawdust
- ⇒ Sugar and molasses



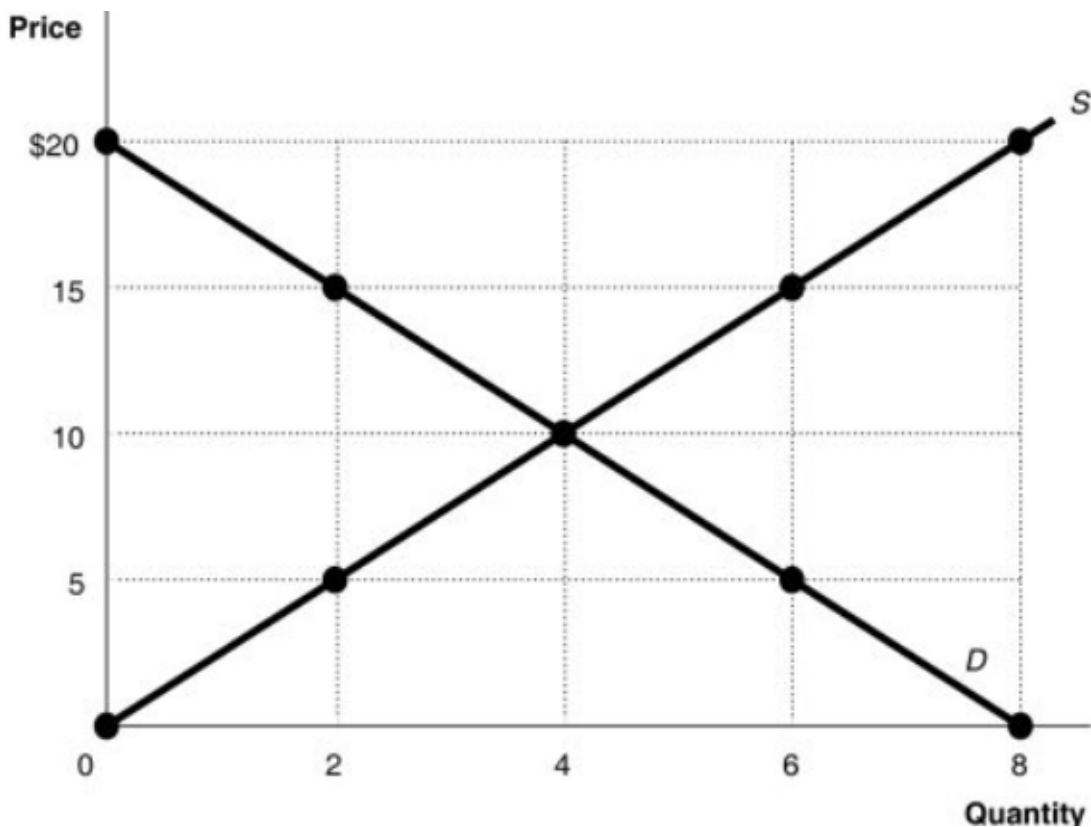
Supply Increase	$= S_1 \rightarrow S_2$
Quantity Supplied Increase	$= A \rightarrow B$
# Firms in the market $\uparrow$	$= S_1 \rightarrow S_2$
Price of Inputs $\downarrow$	$= S_1 \rightarrow S_2$
$\Delta$ Technology $\uparrow$	$= S_1 \rightarrow S_2$
Price of substitute production $\downarrow$	$= S_1 \rightarrow S_2$
Price of complement production $\uparrow$	$= S_1 \rightarrow S_2$
Future Prices $\downarrow$	$= S_1 \rightarrow S_2$
Price $\uparrow$	$= A \rightarrow B$
Supply Decrease	$= S_2 \rightarrow S_1$
Quantity Supplied Decrease	$= B \rightarrow A$
# Firms in the market $\downarrow$	$= S_2 \rightarrow S_1$
Price of Inputs $\uparrow$	$= S_2 \rightarrow S_1$
$\Delta$ Technology $\downarrow$	$= S_2 \rightarrow S_1$
Price of substitute production $\uparrow$	$= S_2 \rightarrow S_1$
Price of complement production $\downarrow$	$= S_2 \rightarrow S_1$
Future Prices $\uparrow$	$= S_2 \rightarrow S_1$
Price $\downarrow$	$= B \rightarrow A$

# Equilibrium

## Definitions:

- 1 Equilibrium: where demand equals supply *also* where marginal benefit equals marginal cost *also* where quantity supplied equals quantity demanded *also* where there is no shortage or surplus in the market
- 2 Surplus is when there is more quantity supplied than quantity demanded, because the price is set above the equilibrium
- 3 Shortage is when there is more quantity demanded than quantity supplied because the price is set below the equilibrium

## Surplus and Shortage Example

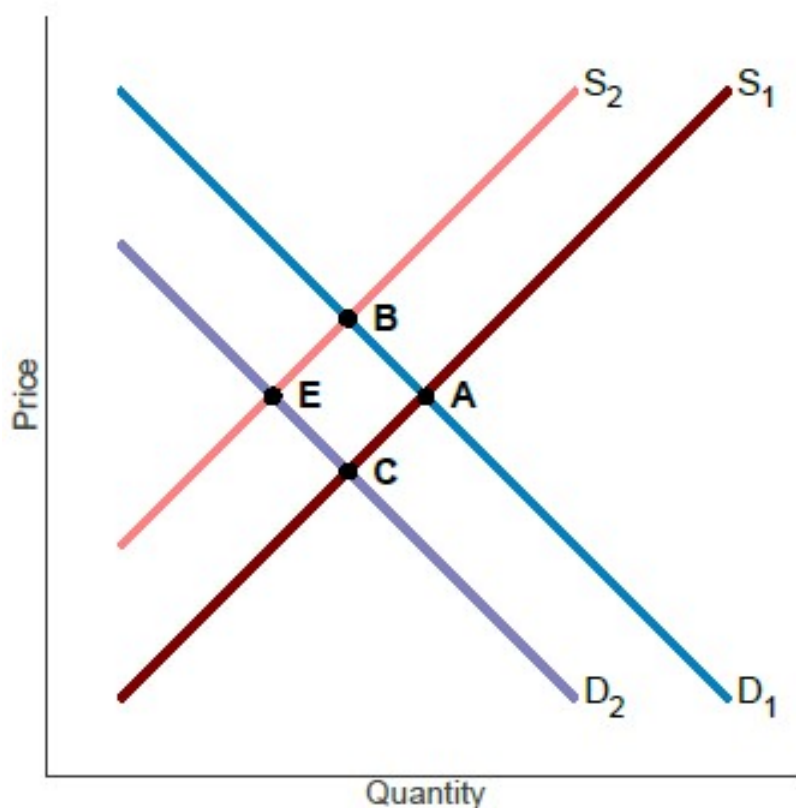


	Price	Q Demanded	Q Supplied
Equilibrium	10	4	4
Surplus	> 10	$Q_D < 4$	$Q_S > 4$
Shortage	< 10	$Q_D > 4$	$Q_S < 4$

Price	$Q_D$	$Q_S$	Q of Surplus or Shortage
15	2	6	4
5	6	2	4
20	0	8	8
0	8	0	8



## Demand and Supply



$A \rightarrow B$	Supply Decrease	$Q^* \downarrow$ $P^* \uparrow$
$A \rightarrow C$	Demand Decrease	$Q^* \downarrow$ $P^* \downarrow$
$A \rightarrow E$	Demand Decrease, Supply Decrease	$Q^* \downarrow$ $P^* ?$
$B \rightarrow A$	Supply Increase	$Q^* \uparrow$ $P^* \downarrow$
$B \rightarrow C$	Demand Decrease, Supply Increase	$Q^* ?$ $P^* \downarrow$
$B \rightarrow E$	Demand Decrease	$Q^* \downarrow$ $P^* \downarrow$
$C \rightarrow A$	Demand Increase	$Q^* \uparrow$ $P^* \uparrow$
$C \rightarrow B$	Demand Increase, Supply Decrease	$Q^* ?$ $P^* \uparrow$
$C \rightarrow E$	Demand Decrease	$Q^* \downarrow$ $P^* \uparrow$
$E \rightarrow B$	Demand Increase	$Q^* \uparrow$ $P^* \uparrow$
$E \rightarrow A$	Demand Increase, Supply Increase	$Q^* \uparrow$ $P^* ?$
$E \rightarrow C$	Supply Decrease	$Q^* \downarrow$ $P^* \downarrow$

	Supply $\uparrow$		Supply $=$		Supply $\downarrow$	
Demand $\uparrow$	$P ?$	$Q \uparrow$	$P \uparrow$	$Q \uparrow$	$P \uparrow$	$Q ?$
Demand $=$	$P \downarrow$	$Q \uparrow$	$=$	$=$	$P \uparrow$	$Q \downarrow$
Demand $\downarrow$	$P \downarrow$	$Q ?$	$P \downarrow$	$Q \uparrow$	$P ?$	$Q \downarrow$