

AP Macroeconomics Summer Assignments

The AP Macro curriculum offered by College Board is an extremely challenging, fast-paced, and demanding course. It is not like any other social studies course you may have completed in the past. Success in this course depends upon a competency in mathematical calculations.

AP Macro is comprised of six units. You will learn twelve graphs. You will write no more than one hundred words during the entire semester on exams. That's it. There is no writing as required in other social studies courses. You cannot write your way to a correct answer on the exams in class or on the AP Exam in May. The series of graphs you construct stand alone, and the mathematical calculations you use speak for themselves.

You will need to read every night. You will be asked to submit forty content outlines and submit related assignments throughout the semester. You cannot succeed without completing the daily assignments on time and taking responsibility for your own learning. The course moves too fast. One of the several skills you will need to demonstrate is your ability to recall in class the vocabulary terms you learn from the reading you do on your own time. When you come to class, I will not expect you to be able to put into context the vocab terms you encounter. However, I will expect you to be able to identify terms when we use them for the first time. Demonstrating your economic literacy is absolutely essential and a fundamental expectation of an AP Econ student. You are learning a new language.

Part A Summer Work: This summer become familiar with some of the economic terms related to our first unit. I have included a list of vocabulary terms. Your assignment is to demonstrate at least 75% proficiency on a vocabulary quiz that will be given on the second or third day of class next year. The quiz will be a combination of multiple choice and open-ended questions.

Part B Summer Work:

1. I am asking you to prepare for Unit One, the first of the six units we will cover during the semester.
2. Please read the Unit One Notes (Modules 1-7) included in this packet.
3. As you read, complete to the best of your ability the "Unit One Questions" assignment included in this packet. There is enough information for you to attempt to answer the questions.
4. Be prepared to submit this assignment for review during the first week of class.
5. We will discuss these assignments for deeper understanding when we meet the first week of school so don't discouraged if you don't feel confident just yet.

Any questions? sduffy@kcsd.org

Part A: AP Macroeconomics Unit 1: Vocabulary

1. **Aggregate Spending (GDP):** The sum of all spending from four sectors of the economy. $GDP = C + I + G + X_n$
1. **Business cycle:** the periodic rise and fall (in four phases) of economic activity
2. **Expansion:** a period where real GDP is growing.
3. **Peak:** the top of a business cycle where an expansion has ended.
4. **Contraction:** the period where real GDP is falling
5. **Recession:** two consecutive quarters of falling real GDP.
6. **Trough:** the bottom of the business cycle where a contraction has stopped.
7. **Depression:** a prolonged, deep contraction in the business cycle
8. **Inflation:** the percentage change in the CPI (prices) from one period to the next.
9. **Human capital:** the amount of knowledge and skills that labor can apply to the work they do and the general level of health that the labor force enjoys.
10. **Deflation:** a sustained falling price level, usually due to weakened aggregate demand and a constant aggregate supply.
11. **Recession:** in the Aggregate Demand and Aggregate Supply model, this is described as falling demand with a constant supply curve. GDP falls and unemployment rises.
12. **Aggregation:** the process of summing the microeconomic activity of households and firms into a more macroeconomic measure of economic activity.
13. **Gross Domestic Product:** the market value of the final goods and services produced within a nation in a given year.
14. **Economics:** the study of how people, firms, and societies use their scarce productive resources to best satisfy their unlimited material wants.
15. **Resources:** called factors of production, these are commonly grouped into the four categories of labor, physical capital, land or natural resources, and entrepreneurial ability.
16. **Scarcity:** the imbalance between limited productive resources and unlimited human wants. Because economic resources are scarce, the goods and services a society produces are scarce.
17. **Law of Demand:** holding all else equal, when the price of a good rises, consumers decrease their quantity demanded for that good.
18. **All else equal:** to predict how a change in one variable affects a second, we hold all other variables constant. This is also referred to as the "*ceteris paribus*" assumption.
19. **Demand schedule:** a table showing quantity demanded for a good at various prices.
20. **Demand curve:** a graphical depiction of the demand schedule.
21. **Determinates of demand:** the external factors that shift demand to the left or right.
22. **Normal goods:** a good for which higher income increases demand
23. **Inferior goods:** a good for which high income decreases demand
24. **Substitute goods:** two goods are consumer substitutes if they provide essentially the same utility to the consumer.
25. **Opportunity Cost:** the value of the sacrifice made to pursue a course of action.
26. **Production Possibilities:** different quantities of goods that an economy can produce with a given amount of scarce resources.
27. **Absolute Advantage:** exists if a producer can produce more of a good than all other producers.
28. **Comparative Advantage:** a producer has comparative advantage if he can produce a good at lower opportunity cost than all other producers.
29. **Specialization:** when firms focus their resources on production of goods for which they have comparative advantage, they are said to be specializing.
30. **Productive Efficiency:** production of maximum output for a given level of technology and resources. All points on the PPF are productively efficient.
31. **Allocative Efficiency:** production of the combination of goods and services that provides the most net benefit to society.
32. **Economic Growth:** occurs when an economy's production possibilities increase.

Unit 1: Module 1

Section I: Basic Economic Concepts (Section 1 of the text.)

Topic: The Study of Economics.

The objectives of this chapter are: 1. How scarcity and choice are central to the study of economics. 2. The importance of opportunity cost in individual choice and decision making. 3. The difference between positive economics and normative economics. 4. When economists agree and why they sometimes disagree. 5. What makes macroeconomics different from microeconomics.

Economics is the study of **scarcity and choice**.

Choice is the decision by an individual of what to do, which necessarily involves a decision of what not to do. You can't always get everything you need and want. Resources are **Scarce**. There are four general categories of resources or **four factors of production**: 1. *Labor* (effort of workers) 2. *Land* (or natural resources) 3. *Capital* (machinery, buildings, tools, and all other manufactured goods used to make other goods and services) 4. *Entrepreneurial ability* (also described as human capital, risk taking, innovation, and the organization of resources for production).

Scarcity requires that choices must be made. Choices imply that things are given up.

The real cost of something is what you must give up to get it. In economics that is called **opportunity cost**. Decisions that are made in the face of scarce resources involves by definition bypassing other opportunities. These forgone opportunities have value, or cost.

Economists are all about the opportunity cost. In fact, the study of decisions is called **marginal analysis**. In short, once you have decided, what will it take for you to do just a little more or a little bit less of that decision? Economists, especially behavioral economists want to know: why? In a sense, life is all about the margins.

Think about it. The well-being of a nation's citizens can be evaluated to a significant degree by the opportunity costs an individual pays when he or she makes a choice.

There are basically two branches of economic study: **Macroeconomics and Microeconomics**. Microeconomics is the branch of economics concerned with how individuals make decisions and how these decisions interact. Microeconomics focuses on choices made by individuals, households, or firms—the smaller parts that make up the economy as a whole. Macroeconomics is the branch of economics that studies the overall ups and downs of the economy. Macro focuses on **economic aggregates**—economic measures such as the unemployment rate, the inflation rate, and gross domestic product—that summarize data across many different markets. Macroeconomics focuses on the bigger picture.

This class is macro. Not micro.

There are fundamentally two ways in which economists analyze the economy: **Positive and Normative Economics**. Positive economic analysis is used to answer questions about the way the

world works. Positive economics involves statements of “what is” or “what will be.” No value statements or judgments are applied. Normative economic analysis involves saying how the world *should* work. Normative economics involves statements of “what should be.” These involve value judgments of what is “right,” “wrong,” “worst,” or “best.”

This class is based upon Positive Economics.

Economists use economic models both for **positive economics**, which describes *how* the economy works, and for **normative economics**, which prescribes how the economy *should* work. There are two main reasons economists disagree. One, they may disagree about which simplifications to make in a model. Two, economists may disagree—like everyone else—about values.

Unit 1: Module 2

Section I: Basic Economic Concepts (Section 1 of the text.)

Topic: Introduction to Macroeconomics.

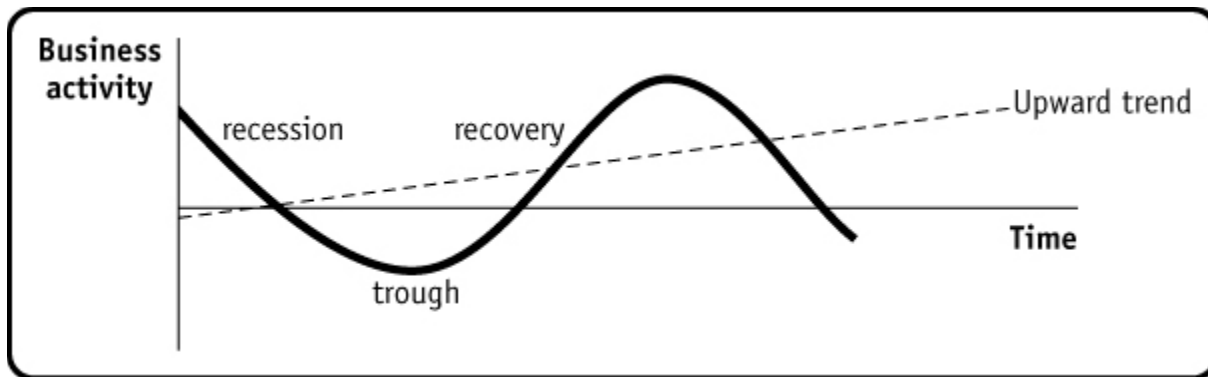
The objectives of this chapter are: 1. What a business cycle is and why policy makers seek to diminish the severity of business cycles. 2. How employment and unemployment are measured and how they change over the business cycle. 3. The definition of aggregate output and how it changes during the business cycle. 4. The meaning of inflation and why price stability is preferred. 5. How economic growth determines a country’s standard of living. 6. Why models—simplified representations of reality—play a crucial role in economics.

Don’t be fooled by the length of this chapter. For such a short chapter it contains some of the most vital information that you must understand to make sense of what you learn in the next few months.

This is macroeconomics so the question is what does the economy look like as a whole? Is there a pattern of economic activity? (Some economists say there is not.) If there is, knowing the pattern, would it be possible to alter the course of the economy to make the “good” times last longer and the “bad” times shorter? And, even if it were possible to do that the question is *should* we intervene in economic activity? (Many economists think we should not.) Another question is if we can visualize the economy, for example, on a graph, how do we assign mathematical calculations to it? What indicators should we measure and use to create the graph and then determine which economic path to take to correct an economy?

The pattern is called the **business cycle**. The business cycle is the short-run alternation between economic downturns and economic upturns. It illustrates the following phases:

1. A **depression** is a very deep and prolonged downturn. **Trough**
2. **Recessions** are periods of economic downturns when output and employment are falling.
3. **Expansions**, sometimes called *recoveries*, are periods of economic upturns when output and employment are rising.
4. The point at which the economy turns from expansion to recession is a **business-cycle peak**.
5. The point at which the economy turns from recession to expansion is a **business-cycle trough**.



How do we know our current position in the business cycle? We use a variety of measures:

1. Employment, Unemployment, and the Business Cycle: **Employment** is the total number of people currently working for pay. **Unemployment** is the total number of people who are actively looking for work but aren't currently employed. The **labor force** is the sum of employment and unemployment. The **unemployment rate** is the percentage of the labor force that is unemployed. Measuring the employment rate is one way to assign a numeric calculation to estimate and graph the state of the business cycle and therefore the economy as a whole. Another way to estimate the business cycle is:

2. Aggregate Output and the Business Cycle: Aggregate output: During a recession, the quantity of goods and services declines. To measure the rise and fall of an economy's output, we look at **aggregate output**. Aggregate output is the economy's total production of goods and services for a given time period. **(GDP)** Aggregate output normally falls during a recession and rises during an expansion. Another factor to consider when estimating the business cycle and the state of the economy is:

3. Inflation, Deflation, and Price Stability: A rising aggregate price level is **inflation**. A falling aggregate price level is **deflation**. The **inflation rate** is the annual percent change in the aggregate price level. The economy has **price stability** when the aggregate price level is changing only slowly.

The goal of every government is to maintain **economic growth**. Economic growth is an increase in the maximum possible output of an economy. Take all three measures from above and here's what you get: **1. Slow and steady growth of GDP 2. Price stability 3. Full employment.** These are illustrated by the business cycle **model**.

The Use of Models in Economics: The business cycle model is the first of many for you in this class. So, you should know that economists use the scientific method to establish theories, laws, and principles. The scientific method consists of:

- a. Facts/Data. The observation of facts (real, recorded information).
- b. Hypotheses. The formulations of explanations of cause and effect relationships based upon the facts.
- c. Testing. The testing of the hypotheses.
- d. The acceptance, rejection, or modification of the hypotheses.

Economic models are simplified representations of reality that are used to better understand real-life situations.

On some days our theory holds, on others it doesn't, but on average we can count on it. The models derived from the scientific method are the product of what is called **theoretical economics**. Of course, just as physical scientists must account for variables in their testing of a hypothesis so, too, do economists.

Economists hold true to the "other things equal" assumption. "**Other things equal**" or *ceteris paribus* **assumption** says that in order to judge the effect one variable has upon another, it is necessary to hold all other contributing factors(variables) constant. Natural scientists can test with much greater precision than can economists. They have the advantage of a controlled laboratory experiment. Economists must test their theories using the real world as their laboratory. People and their behavior are the most maddening variable economists must account for.

Unit 1: Module 3

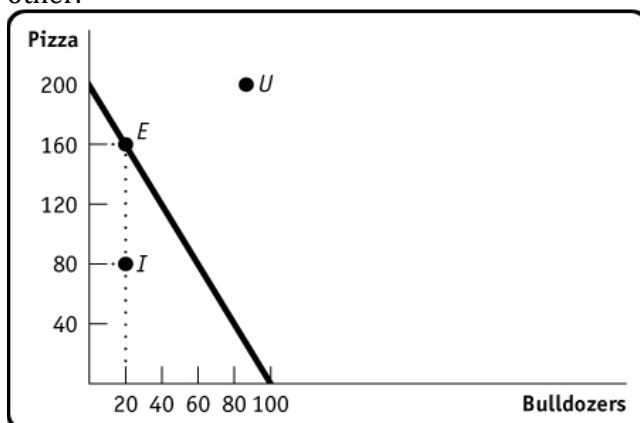
Section I: Basic Economic Concepts (Section 1 of the text.)

Topic: The Production Possibilities Curve Model.

The objectives of this chapter are: 1. The importance of trade-offs in economic analysis. 2. What the production possibilities curve model tells us about efficiency, opportunity cost, and economic growth. 3. The two sources of economic growth—increases in the availability of resources and improvements in technology.

You learned in the last chapter that the economy can be represented by the business cycle model. The question now becomes how can an economy operate at peak efficiency? In other words, how can the economy be coaxed to reach its maximum possibilities? To understand that concept economists use the PPC to illustrate the effects societal choices, opportunity costs, and variables have upon maximum macroeconomic efficiency and economic growth.

Someone makes a **trade-off** when they give up something to get something else. The **production possibility curve (PPC)** illustrates the trade-offs facing an economy that produces only two goods. It shows the maximum quantity of one good that can be produced for any given production of the other.



Efficiency:

1. Points on the curve represent maximum possible combinations of Pizza and Bulldozers given resources and technology. At point E, given the decision to produce 20 Bulldozers, the most Pizzas that could be made are 160. 2. Points inside the curve represent underemployment or idle resources. At point I, if 20 Bulldozers are being made, we are only making 80 Pizzas rather than 160. We are not at our full productive potential. 3. Points outside the curve are unattainable. We do not have the resources or technology to produce

at point U. All points along the curve are **efficient in production**. We cannot increase pizza production without giving up some bulldozer production, and vice versa. **Efficient in allocation** refers to the point that this society wants above all others. If society wishes to have more bulldozers than pizza, then a point like E would be efficient in production but not in allocation.

Opportunity Cost: What is the opportunity cost (trade-off) between Pizza and Bulldozers? 2:1
To gain 20 bulldozers, we give up 40 pizzas. Or to gain 1 bulldozer, we give up 2 pizzas. To gain 40 pizzas, we give up 20 bulldozers. Or to gain 1 pizza, we give up $\frac{1}{2}$ a bulldozer. it doesn't matter the initial point on the PPC, the opportunity cost of one more pizza (or bulldozer) is always the same. Notice that the slope (opportunity cost) is **constant** (straight). What does this tell you about the substitutability of the resources used to produce pizza and bulldozers? They must be perfectly substitutable. Is this reasonable?

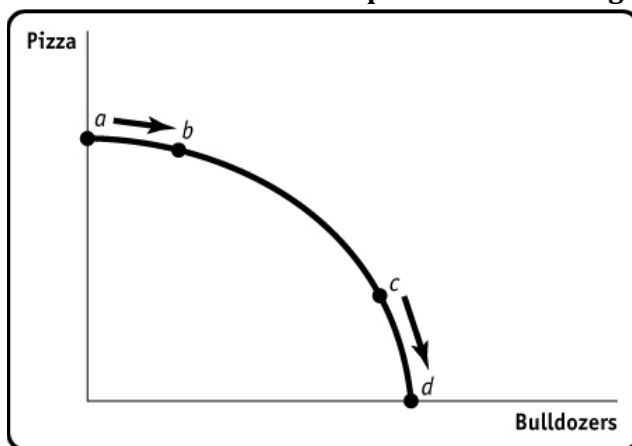
Of course not. If we want more bulldozers, and if we were controlling this economy, what would we need to do? We would need to move some pizza makers (and capital, and natural resources) to bulldozer production.

Have you ever had a bad pizza or a great pizza? Is it safe to say that not all pizzas are created equal? Then is it also safe to say that not all pizza makers (the labor) are created equal. The point is that resources are not created equal. Can we agree that some units of labor are better pizza makers than others? If that's the case, then let's redraw the PPC with a **concave** curve. There is something economists call the **Law of increasing opportunity costs**:

1. The quantity of other products that must be foregone to obtain more of any given product is called the opportunity cost.
2. The more of a product produced, the greater is its (marginal) opportunity cost.
3. The slope of the production possibilities curve becomes steeper (going left to right), demonstrating increasing opportunity cost. This makes the curve appear bowed out, concave from the origin.

Why? Because: 1. Economic resources are not completely adaptable to alternative uses. 2. To get increasing amounts of Bulldozers, resources that are not particularly well suited for that purpose must be used. Workers that are accustomed to producing Pizza in a restaurant may not do well as heavy equipment builders.

Pizza and Bulldozers example with increasing opportunity costs:



a to b:

Imagine you have lined up the labor from the worst pizza maker to the best. Who do you release from the kitchen to the bulldozer factory?

The worst pizza maker. Since there are only two skills in this economy, the worst pizza maker should be the best manufacturing worker.

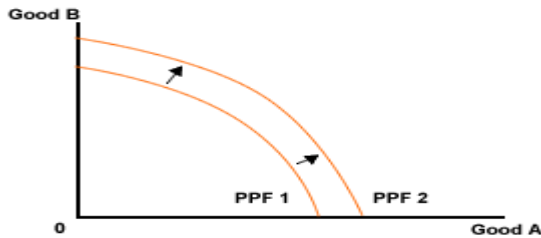
A big gain in bulldozers comes at a small opportunity cost in pizzas. As you produce more and more bulldozers, you keep releasing the next best pizza maker to go work in the

factory. Finally, you get to the end of the line and you are left with the best pizza maker. **c to d:**

When you send the best pizza maker to the factory to make bulldozers, you gain very little bulldozer production. After all, he is likely the worst manufacturing worker left; otherwise you would have sent him to the factory a long time ago. Since he's the best pizza maker, you lose many pizzas. A small gain in bulldozers comes at a very high opportunity cost in pizzas.

Lastly what will economic growth do to the PPC? Economic growth means an *expansion of the economy's production possibilities*: the economy *can* produce more of everything usually for two reasons: an increase in factors of production, and improved technology.

Look! Your first shift in economics!



Unit 1: Module 4

Section I: Basic Economic Concepts (Section 1 of the text.)

Topic: Comparative Advantage and Trade.

The objectives of this chapter are: 1. How trade leads to gains for an individual or an economy. 2. The difference between absolute advantage and comparative advantage. 3. How comparative advantage leads to gains from trade in the global marketplace.

Sometime this module takes a little while to grasp. The worst part is that the applications you learn here have very little practical uses for actual economic activity. However, the *concept* is what you are supposed to take away from all of this. Economists frequently engage in “thought experiments.” This is one of them.

The key to a much better standard of **living** for everyone is **trade**. The reason we have an economy is that there are **gains from trade**. Gains from trade arise from **specialization**. Specialization means that a person or a country should specialize in the task that he or she is best at performing.

Suppose that there are two countries or people and there are only two goods produced. However, just because one nation is better than the other in producing both goods doesn't necessarily mean that that country should produce both goods. There are **gains from trade** by which both countries can get more of what they want than if they tried to be self-sufficient. Comparing two countries' PPC for any two given goods reveals that there are areas where trade would benefit both nations.

An individual has a **comparative advantage** in producing a good or service if the opportunity cost of producing the good is lower for that individual than for other people. That person gives up less to make a good. An individual has an **absolute advantage** in an activity if he or she can do it better than other people. Having an absolute advantage is not the same thing as having a comparative advantage.

Comparative advantage is the basis for trade. Trade can be beneficial to both even if one has an **absolute advantage** in the production of both goods. The PPF teaches two important lessons. By

agreeing to specialize and trade, both traders can be better off. Everyone has a comparative advantage in something.

To be honest, this is just one of those times in this class when the only way to master the concepts necessary for completing the AP Exam is by practicing the problems. Here is what you will need to be able to do and things you will need to remember for success:

1. Given a set of data or graph pertaining to two countries producing two goods you must be able to determine which nation(s) have the **absolute advantage**. Remember, even if a country has the absolute advantage in each good that doesn't mean that that country should produce both.

2. Given a set of data or graph pertaining to two countries producing two goods you must be able to determine which nation has the **comparative advantage**. A country cannot have the comparative advantage in producing both goods. In most cases to determine comparative advantage you will first need to construct a table or matrix and plug in the given data to solve the question.

Comparative advantage can be determined using the **output method**, which is used when output is variable and input is fixed. If the question is an output question, then you can use the "OOO" or "**Output Over Other**" strategy as a shortcut. However, keep in mind, it will all be easier if you try to understand the concept.

3. Given a set of data or graph pertaining to two countries producing two goods you must be able to determine which nation has the **comparative advantage**. In most cases to determine comparative advantage you will first need to construct a table or matrix and plug in the given data to solve the question. Comparative advantage can be determined using the **input method**, which is used when output is fixed and inputs are variable. If the question is an input question, then you can use the "IOU" or "**Input Other Under**" strategy as a shortcut. However, keep in mind, it will all be easier if you try to understand the concept.

4. Finally, in the end, once you have determined which nation has a comparative advantage (either in output or input as the case may be) then you must calculate the **terms of trade**. Terms of trade indicate the *rate* at which one good can be exchanged for another. In other words, just because we know the comparative advantage that doesn't necessarily mean that two nations will trade if the numbers don't make sense. There is an exchange rate, a range, at which trade between two nations will take place.

Unit 1: Module 5

Section I: Basic Economic Concepts (Section 2 of the text.)

Topic: Supply and Demand: Introduction to Demand.

The objectives of this chapter are: 1. What a competitive market is and how it is described by the supply and demand model. 2. What the demand curve is. 3. The difference between movements along the demand curve and changes in demand. 4. The factors that shift the demand curve.

Here it is. The most basic and most well-known of all basic economic concepts. The Supply and Demand graph. This chapter introduces you to the graph and then concentrates on understanding

the demand curve. The next chapter explains the supply curve. Then, the final chapter of this section puts the supply and demand curves together at equilibrium.

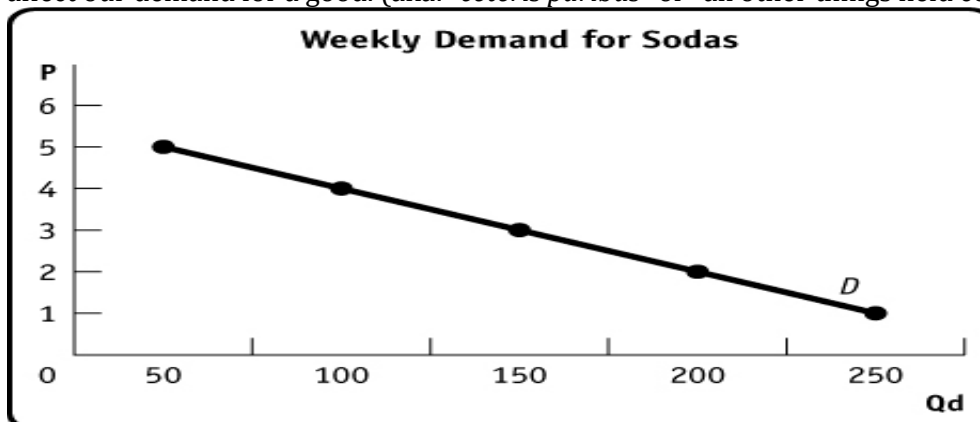
A **competitive market** is one that has many buyers and sellers coming together to buy and sell an identical good or service. The **supply and demand model** is a model of how a competitive market works. There are five key elements of the supply and demand model: 1. Demand curve 2. Supply curve 3. Demand and supply curve shifts 4. Market equilibrium 5. Changes in the market equilibrium.

A **demand schedule** shows how much of a good or service consumers will want to buy at different prices during a given period of time. Think of it as the data entered into a matrix or table that eventually becomes the basis for a demand curve. Like this:

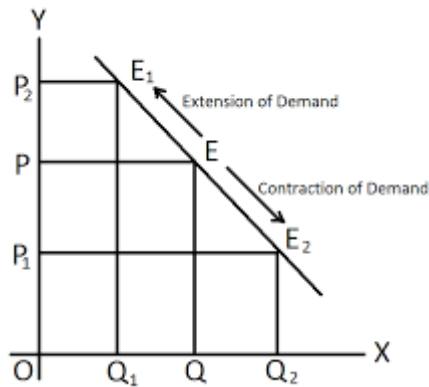
Price per Soda	Quantity demanded per week
\$5	50
4	100
3	150
2	200
1	250

The demand schedule shows that when the price is high, the quantity of sodas demanded is low. This relationship is known as the **Law of Demand**. Law of demand is a fundamental characteristic of demand behavior.

1. Other things being equal, as the price increases, the corresponding quantity demanded falls.
2. Restated, there is an inverse relationship between price and quantity demanded.
3. Note the “other things being equal” assumption which refers to a handful of other factors that affect our demand for a good. (aka: “*ceteris paribus*” or “all other things held constant or equal”)



The demand curve illustrates the inverse relationship between price and quantity demanded. The downward slope indicates lower quantity (horizontal axis) at higher price (vertical axis), higher quantity at lower price. So, what happens when the price falls from \$3 per can to \$2 per can? Quantity demanded increases from 150 cans per week to 200 cans per week. This is a **movement along the demand curve**. Or, a **change in quantity demanded**. Movements along the demand curve are a result of a change in **prices**. See top graph below:



However, there are several “shifters” of demand or the “other things,” besides price, which affect demand. These are called **shifts in demand**. Changes in a “shifter” cause changes in demand. If demand has increased, it has shifted to the right. At any price, consumers wish to buy more. If demand has decreased, it has shifted to the left. At any price, consumers wish to buy less. (In all cases in economics, a **shift left is less** and a **shift right is more**.) See bottom graph below.

There are five factors (**determinants**) that shift the demand curve or cause a **change in demand**. (**This is not the same thing as a change in quantity demanded! Changes in “quantity demanded” are due only to changes in the price of a good or service.**)

1. Prices of related goods:

A. Substitute goods (those that can be used in place of each other): Price of substitute and demand for the other good are directly related. If the price of Nike shoes rises, the demand for New Balance shoes should shift to the right.

B. Complementary goods (those that are used together like tennis balls and rackets):

When goods are complementary, there is an inverse relationship between the price of one and the demand for the other. If the price of tennis rackets rises, demand for tennis balls will shift to the left.

2. Income:

A. Normal goods: When a rise in income increases the demand for a good - the normal case - we say that the good is a normal good. More income leads to an increase in demand; less leads to a decrease in demand for most goods and services. Steak is a normal good. So are textbooks, running shoes, and iPods.

B. Inferior goods: When a rise in income decreases the demand for a good, it is an inferior

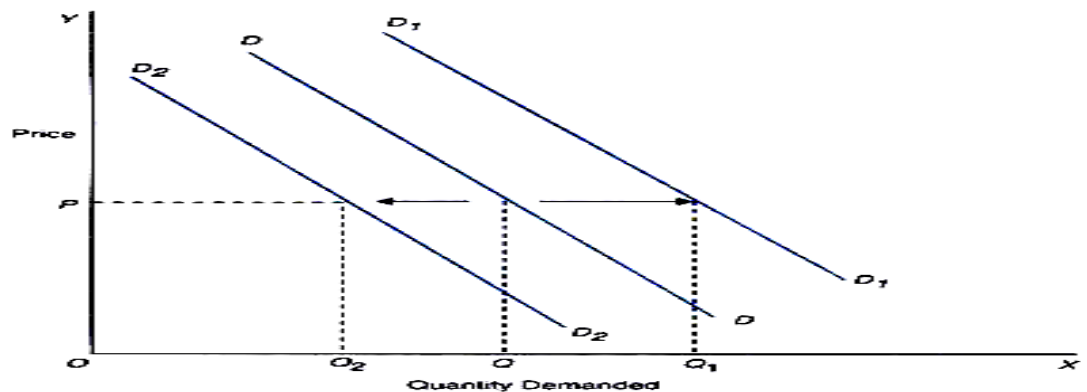


Fig. 6.3. Shifts in Demand curve due to Changes in Variables other than Price

good. City bus tickets are inferior goods. So are second-hand clothing and generic label food items.

3. Tastes:

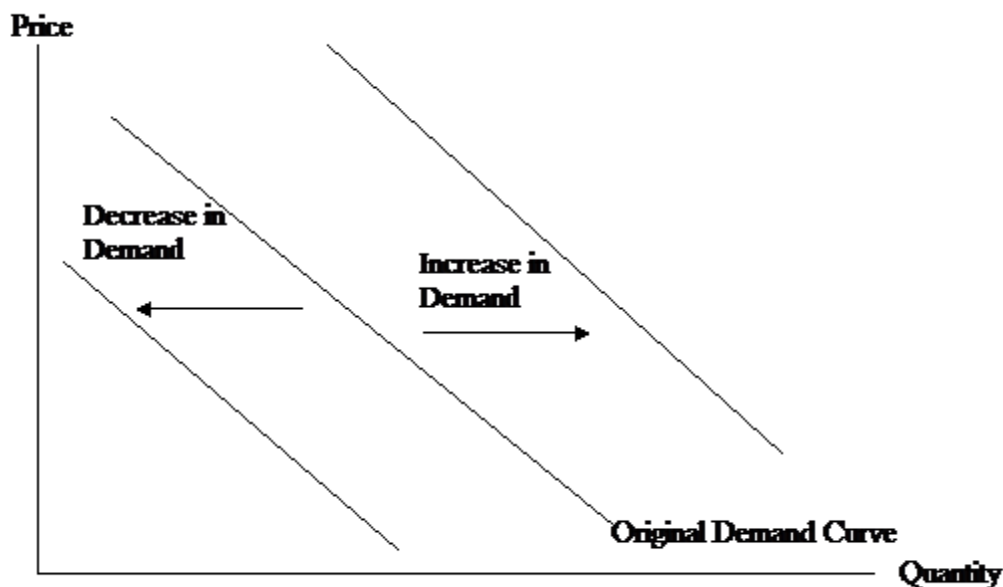
Economists usually lump together changes in demand due to fads, beliefs, cultural shifts, and so on under the heading of changes in *tastes*, or *preferences*. A favorable change in tastes leads to an increase in demand; an unfavorable change to a decrease. For example, demand for a sport team's apparel increases when the team is winning.

4. Expectations:

Expectations of a future drop in price lead to a decrease in demand today. Expectations of a future rise in price are likely to cause an increase in demand today. For example, if you expect the price of gas to decrease next week, your demand for gas will decrease this week. You will wait for the price to fall. For example, if you take a new job and expect your salary to rise next month, you may increase your demand for new work clothes today.

5. Number of buyers:

The more buyers lead to an increase in demand; fewer buyers lead to decrease. For example, demand for prescription drugs has increased, as the population has grown older. For example, demand for baby food would decrease if families had fewer babies.



Unit 1: Module 6

Section II: Basic Economic Concepts (Section 2 of the text.)

Topic: Supply and Demand: Introduction to Supply.

The objectives of this chapter are: 1. Draw a supply curve and interpret its meaning. 2. Discuss the difference between movements along the supply curve and changes in supply. 3. List the factors that shift the supply curve.

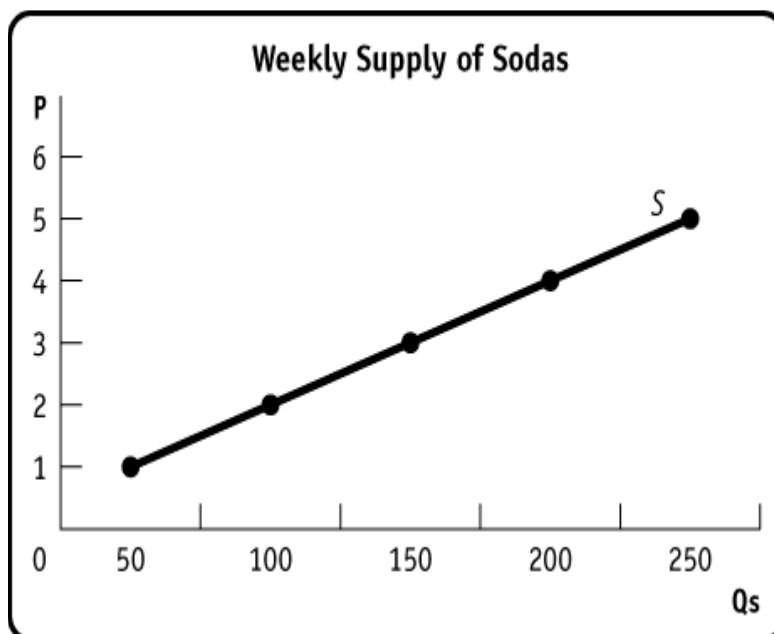
In the last chapter you learned about demand. Now it's time for supply.

A **supply schedule** shows amounts of a product a producer is willing and able to produce and sell at each of a series of possible prices during a specified time period. Think of it as the data entered into a matrix or table that eventually becomes the basis for a demand curve. Like this:

Price per Soda	Quantity supplied per week
\$5	250
4	200
3	150
2	100
1	50

The supply schedule shows that when the price is high, the quantity of sodas supplied is high. This relationship is known as the Law of Supply. **The Law of Supply** is believed to hold true for most products.

1. All else equal, as the price rises, quantity supplied rises.
2. Restated: There is a direct relationship between price and quantity supplied.
3. Note the "all else equal" assumption refers to a handful of other factors that affect the supply of a good.



The supply curve illustrates the positive relationship between price and quantity supplied. The upward slope indicates lower quantity (horizontal axis) at lower price (vertical axis), higher quantity at higher price. The upward slope indicates lower quantity (horizontal axis) at lower price (vertical axis), higher quantity at higher price.

So, what happens when the price falls from \$3 per can to \$2 per can? Quantity supplied decreases from 150 cans per week to 100 cans per week. This is a

movement along the supply curve. Movements along the supply curve are a result of a change in prices.

There are several "shifters" of supply or the "other things," besides price, which affect supply. Changes in a shifter cause changes in supply. If supply has increased, it has shifted to the right. At any price, firms wish to produce more. If supply has decreased, it has shifted to the left. At any price, firms will produce less.

There are five factors (**determinants**) that shift the supply or cause a **change in supply**. (**This is not the same thing as a change in “quantity supplied”! Changes in quantity supplied are due only to changes in the price of a good or service.**)

1. Input (Resource) prices

A rise in an input price will cause a decrease in supply or leftward shift in supply curve; a decrease in an input price will cause an increase in supply or rightward shift in the supply curve. An increase in the price of fertilizer would cause a decrease in supply of corn.

2. Prices of related goods or services

If the price of a substitute production good rises, producers might shift production toward the higher priced good causing a decrease in supply of the original good. An increase in the price of soybeans may cause a farmer to decrease the supply of corn.

3. Technology

A technological improvement means more efficient production and lower costs, so an increase in supply or rightward shift in the curve results. Genetically improved seeds will increase supply of corn.

4. Expectations

Expectations about the future price of a product can cause producers to increase or decrease current supply.

Expectations of higher corn prices (next month) may cause farmers to decrease supply to the market today.

5. Number of sellers

Generally, the larger the number of sellers the greater the supply.

Unit 1: Module 7

Section II: Basic Economic Concepts (Section 2 of the text.)

Topic: Supply and Demand: Equilibrium.

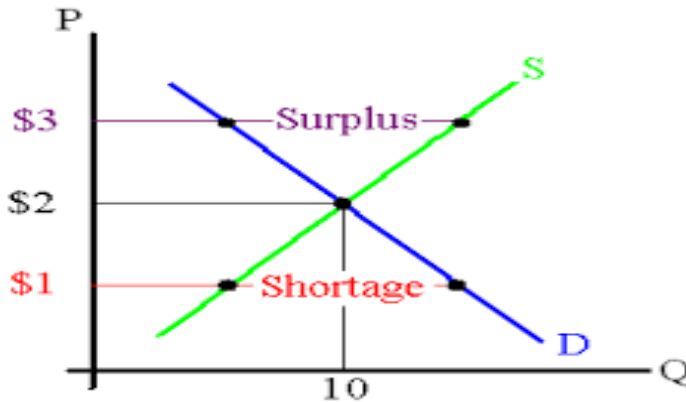
The objectives of this chapter are: 1. Explain how supply and demand curves determine a market's equilibrium price and equilibrium quantity. 2. Describe how price moves the market back to equilibrium in the case of a shortage or surplus. 3. Explain how equilibrium price and quantity are affected when there is a change in either supply or demand. 4. Explain how equilibrium price and quantity are affected when there is a simultaneous change in both supply and demand.

In the last chapter you learned about supply. In the chapter before it was demand. Now put them together and where they intersect is called equilibrium.

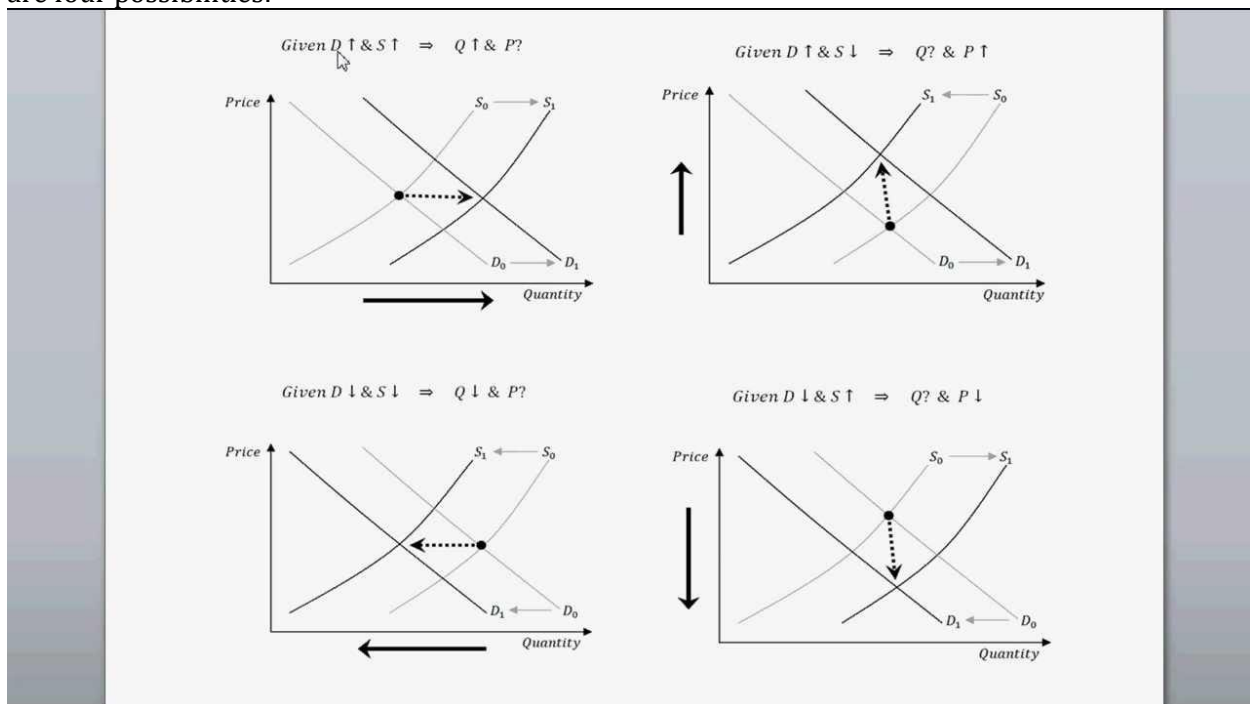
One way to think about equilibrium is like a stopped pendulum. Once a pendulum has started, it should continue to swing back and forth, never stopping. If you stop it, it will never restart the swinging. That's equilibrium in the market. There are no changes in price, quantity demand, or

quantity supply. Think stability. The equilibrium, or market-clearing, price is the only price where the quantity demanded in the market equals the quantity supplied in the market $Q_d = Q_s$

What causes markets to rise or fall? Suppose there is an over-supply of a good. What will happen to equilibrium price? It will fall. Suppose there is only one good that everyone wants. What will happen to equilibrium price? It will rise. **Surplus** = $Q_s - Q_d$ **Shortage** = $Q_d - Q_s$



Remember, whenever a demand curve or a supply curve shifts it happens for one of the reasons you learned in the last two modules. But, what happens when both curves shift **simultaneously**? There are four possibilities:



Here is a summary of what we can, and cannot, predict when there is both a demand and a supply shift:

1. Demand and Supply move in opposite directions:

- A. When demand increases and supply decreases, the equilibrium price rises but the change in the equilibrium quantity is ambiguous. Indeterminate.
- B. When demand decreases and supply increases, the equilibrium price falls but the change in the equilibrium quantity is ambiguous. Indeterminate.

Example Suppose the price of cheeseburgers is rising. In addition, the price of pepperoni is rising. How will these two events affect the market for pizza?

Demand shift:

- 1. The price of a substitute is rising (cheeseburgers).
- 2. This shifts demand for pizza to the right.
- 3. Price and quantity of pizza both increase.

Supply shift:

- 1. The price of an input is rising (pepperoni).
- 2. Supply of pizza shifts to the left.
- 3. Price increases, and quantity decreases.

Both shifts generate an increase in the price, so we can certainly predict a higher price of pizza. However, the change in quantity depends on which of the two shifts is stronger, which must be explicitly stated and not assumed.

You might assume that there will be no change in the equilibrium quantity. However, that this is just one of three possible outcomes for quantity. **When the effect of the shift is not explicitly stated** in the scenario, understand that either price or quantity will be ambiguous. Plot changes to S and D individually to determine which is **indeterminate**. Either price or quantity will be the same for both shifts and one will be opposite. The one that is opposite will be ambiguous.

2. Demand and Supply move in the same direction:

- A. When both demand and supply increase, the equilibrium quantity increases but the change in equilibrium price is ambiguous.
- B. When both demand and supply decrease, the equilibrium quantity decreases but the change in equilibrium price is ambiguous.

Example The recent Winter Olympics has increased the popularity of snowboarding and more companies have begun producing snowboards. How will these events affect the market for snowboards?

Demand shift:

- 1. Tastes and preferences are stronger for snowboarding.
- 2. This shifts demand for snowboards to the right.
- 3. Price and quantity of snowboards both increase.

Supply shift:

- 1. More suppliers are producing snowboards.
- 2. Supply of snowboards shifts to the right.
- 3. Price decreases, and quantity increases.

Both shifts generate an increase in the quantity, so we can certainly predict a higher equilibrium quantity of snowboards. However, the change in price depends on which of the two shifts is stronger, which must be explicitly stated and not assumed.

<i>Simultaneous Shifts of Supply and Demand</i>	Supply Increases	Supply Decreases
Demand Increases	<u>Price</u> : cannot be determined <u>Quantity</u> : up	<u>Price</u> : up <u>Quantity</u> : cannot be determined
Demand Decreases	<u>Price</u> : down <u>Quantity</u> : cannot be determined	<u>Price</u> : cannot be determined Quantity: down

Part B: Unit One Questions

NAME:

Module 1

1. A resource is anything used to make something else. Resources are also factors of production. Which of the following is an example of factor of production?

A a want B a bank C a need D capital E stock

2 Below please list the four factors of production. For each factor give an example.

3 Which of the following is an example of a resource?

I oil
II a factory
III a cheeseburger

A I only
B II only
C III only
D I and II only
E I, II, and III

4 Describe the difference between macroeconomics and microeconomics. Give an example of a macro decision and an example of a micro decision, please.

5 The difference between microeconomics and macroeconomics is that

A microeconomics involves mathematical relationships and macroeconomics is predominantly a verbal analysis.

B microeconomics deals with the principle of scarcity and macroeconomics with the problem of poverty.

C microeconomics deals with narrowly defined goods and services, while macroeconomics focuses on all goods and services

D microeconomics is normative and macroeconomics positive.

6 Which of the following statements are normative and which are positive? Write "N" or "P" as appropriate

A Every student should take an economics class before graduating high school

B The price of gasoline today is \$3.50

C The unemployment rate last month was 3.9%

D The average class size for the school is 23 students

E Class sizes should be less than 23 students

F Chick-fil-A is better than Burger King

Module 2

7 The business cycle is a pattern of economic?

A expansion and contraction over time

B stability over time

C growth over time

D decline over time

8 In a business cycle, a period from peak to trough may be referred to as

A an expansion

B a recurrence

C a contraction

D a stagflation

9 List the three economic measurements that all governments use to evaluate the health of the overall national economy.

10 Unemployed people are counted as being in the "labor force." True/False

11 "GDP" is the Gross Domestic Product. It is the total value of goods and services produced within a nation's border in a specified time period. GDP is the aggregate (total) output of a nation. What is happening to GDP or output to a nation during recession or a trough?

12 What is inflation?

Module 3

13 All societies face a trade-off for every decision for which of the following reasons?

- A decisions entail zero opportunity costs
- B resources are scarce
- C some resources are always under used
- D resources have no alternative uses
- E resources are not allocated efficiently

14 What you give up to pursue another alternative is known as

- A capital
- B land
- C money cost
- D the price of the product
- E opportunity cost

15 When opportunity cost is constant across all production levels, the productions possibilities frontier (curve) is

- A concave to the origin
- B convex to the origin
- C undefined
- D shifted
- E a straight diagonal line slopping downward from left to right.

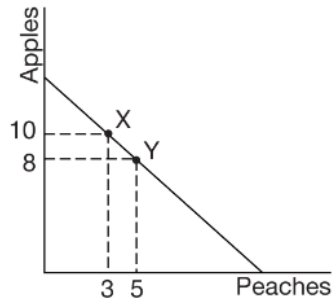
16 If an economy is operating at a point inside the production possibilities curve:

- A its resources are being wasted
- B the curve will begin to shift inward
- C the curve will begin to shift outward
- D its resources are being used efficiently
- E it does not have the resources to produce at that point

17 If an economy is operating at a point outside the production possibilities curve:

- A its resources are being wasted
- B the curve will begin to shift inward
- C the curve will begin to shift outward
- D its resources are being used efficiently
- E it does not have the resources to produce at that point

18 and 19



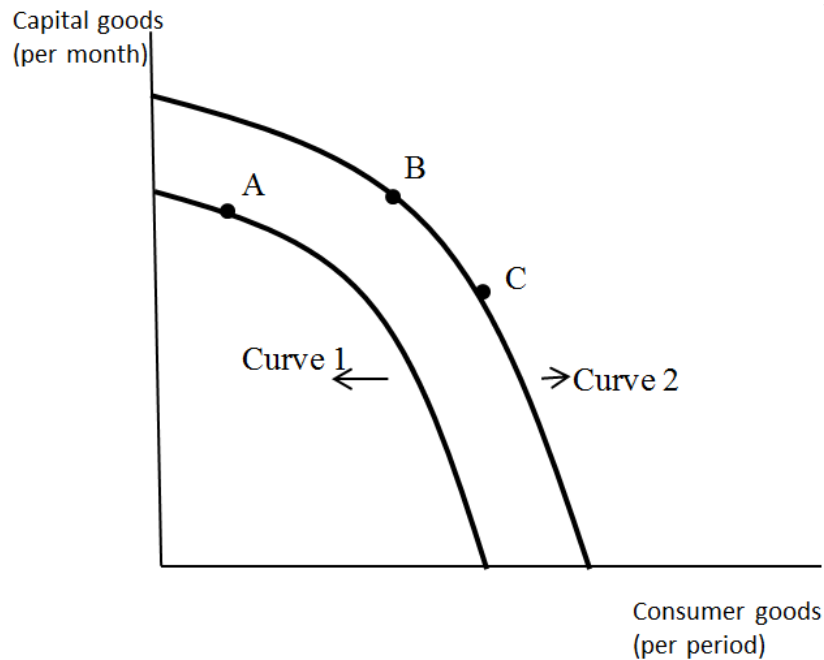
The diagram above shows the production possibilities curve for the production of peaches and apples in Canada.

18 The production possibilities curve illustrates which of the following relationships?

- A The production of peaches decreases as apple production decreases.
- B The production of peaches increases as apple production increases.
- C The opportunity cost of peach production decreases as apple production decreases.
- D Canada cannot produce a combination of 5 units of peaches and 10 units of apples.
- E Canada can produce only the combinations of peaches and apples illustrated by points X and Y .

19 Between points X and Y on the PPC, the opportunity cost of one unit of peaches is which of the following?

- A 2 units of apple
- B 1 unit of apples
- C 2 units of peaches
- D 1 unit of peaches
- E 10 units of apples



20 Technological improvements will likely:

- A shift the production possibility curve inward to Curve 1.
- B shift the production possibility curve outward to Curve 2.
- C lead to increased unemployment.
- D cause a movement from point C to point A.
- E cause a movement from point B to point C.

Module 4

20 Explain the difference between absolute advantage and comparative advantage:

21 Jimmy worked his way through medical school as a data entry operator. He now makes \$90,000 per year as a doctor. As the result of a heavy workload, he hires a date entry operator at \$18,000 per year, but Jimmy discovers he can enter data twice as fast as his new employee. Should Jimmy do his own data entry?

- A Yes, if he can continue to enter data twice as fast as his new employee.
- B Yes, because it will cost less to do his own data entry than to hire someone to do it.
- C No, even though Jimmy enters data faster than his new employee, his opportunity cost of doing any given amount of data entry will exceed that of his new employee.
- D Yes, if he does not, he will waste the time invested developing his data entry skills.

22 An economy produces only two goods, guns and butter. If the economy operates on a point on its production possibilities curve, it can produce more guns only if:

- A it also produces more butter
- B it charges more for butter
- C it shifts to a point inside its production possibilities curve
- D it produces less butter

23 Suppose you can type a paper in two hours or mow a lawn in four hours, while it takes your friend Jimmy eight hours to type the paper or two hours to mow the lawn. Which of the following is true?

- A You have a comparative advantage in typing
- B You have a comparative advantage in mowing the lawn
- C You and Jimmy could save time if you mowed his lawn while he typed your paper
- D You and Jimmy cannot gain from specialization and trade.

24 According to the law of comparative advantage, a particular task is performed most efficiently by the individual with the lowest

- A paycheck
- B tax payments
- C wealth
- D opportunity cost
- E absolute advantage

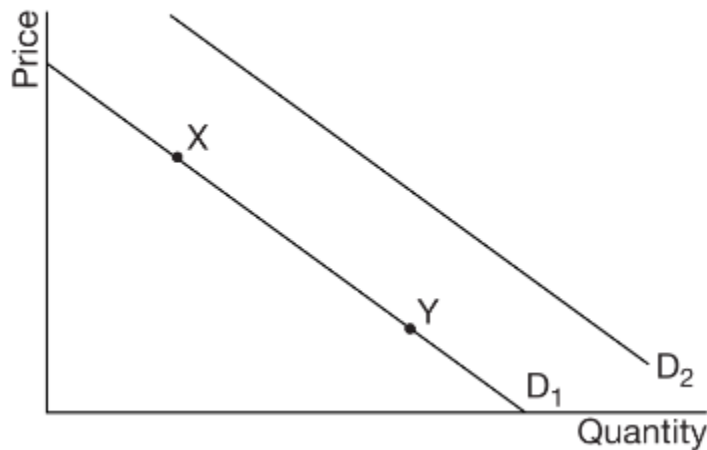
Module 5

25 According to the Law of Demand the Demand Curve is always downward sloping. Please explain the downward slope in your own words.

26 Movement along or on the demand curve is always due to a change in _____. This results in a change in *quantity demanded*.

However, shifts or “changes” in demand are caused by factors other than price. This results in a *change in demand*. Review these five factors and then answer the following:

27 and 28:



27 The diagram above shows two demand curves for video games identified as D_1 and D_2

Which of the following changes will most likely cause a shift of the demand curve from D_1 to D_2 as shown in the diagram?

- A An increase in consumers' income, assuming that video games are a normal good
- B An increase in the price of game consoles, a complementary good
- C A decrease in the price of mobile games, a substitute good
- D A decrease in the number of buyers in the market
- E A decrease in the price of video games

28 The diagram above shows two demand curves for video games identified as D_1 and D_2

Which of the following changes will most likely result in a movement from point X to point Y along the demand curve D_1 ?

- A A decrease in the number of buyers
- B A decrease in the price of video games
- C A decrease in the expected future price of video games
- D An increase in the negative effects of video games on players
- E An increase in the use of video games for educational purposes

29 Which of the following will cause a movement along the demand curve for chicken, a normal good, resulting in an increase in the quantity demanded?

- A An increase in consumers' income
- B An increase in the price of fish, a substitute good
- C An increase in the price of barbecue sauce, a complementary good
- D A decrease in the price of chicken
- E A decrease in the number of consumers of chicken

Module 6

30 According to the Law of Supply the Supply Curve is always upward sloping. Please explain the upward slope in your own words.

31 Movement along or on the supply curve is always due to a change in _____. This results in a change in *quantity supplied*.

However, shifts or “changes” in supply are caused by factors other than price. This results in a *change in supply*. Review these five factors and then answer the following:

32 A leftward shift of the supply curve for computers could be caused by which of the following

- A A decrease in the number of computer manufacturers
- B A decrease in taxes on computer manufacturers
- C A decrease in the price of computers
- D A decrease in the price of components used to assemble computers
- E An increase in the price of mobile devices, a substitute good

33 If the wage rate of workers (input) producing a good decreases, then which of the following will most likely occur?

- A The demand curve will shift to the right
- B The supply of the good will increase
- C The quantity supplied of the good will decrease
- D Demand for the good will increase
- E Quantity demanded for the good will decrease

34 After each of the following events will the supply curve for the good shift to the left, shift to the right, or remain unchanged?

- A a swarm of insects destroy the coffee crop
- B consumers demand more bike helmets than ever before
- C the number of coffee producers increases
- D the price of leather, an input for making wallets, increases

Module 7

35. In a market what does equilibrium represent?

36 If Demand shifts right by an unknown amount and Supply shifts right by an unknown amount what will be the outcome?

- A Quantity increases, Price increases
- B Quantity decreases, Price increases
- C Quantity increases, Price indeterminate
- D Quantity indeterminate, Price increases