

Unit 1: Basic Economic Concepts

Unit 1 introduces the foundation of macroeconomics. It covers scarcity and trade-offs, opportunity cost and the production possibilities curve, comparative advantage and the gains from trade, and the supply and demand model that explains how markets set prices.

AP Macroeconomics

Basic Economic Concepts

About 10 minutes to read

How to use this guide

Read it in order the first time because the topics build on each other. Scarcity forces trade-offs, trade-offs are measured as opportunity cost, the production possibilities curve visualizes opportunity cost, comparative advantage shows how trade creates gains, and supply and demand show how markets resolve all of this into prices. Exam questions often give a small output table or a short story and ask you to compute an opportunity cost or name what shifted.

After the first read, use the trap boxes and the tables to review the distinctions that exam questions test most often. Finish with the practice questions, then complete the recall check on the last page out loud and note any items you cannot explain yet.

What this unit is worth. Basic Economic Concepts is about 5 to 10 percent of the AP Macroeconomics exam, the smallest share of any unit. It is still the unit everything else stands on. Opportunity cost, the production possibilities curve, and supply and demand reappear in every later unit, so a weak start here costs points all year.

1.1 Scarcity

Scarcity is the starting point of all economics. Human wants are effectively unlimited, while the resources available to satisfy them are limited. Because of scarcity, every choice means giving up something else. Economists call those limited resources the **factors of production**: land, which is all natural resources; labor, which is human effort plus the skills and education workers bring; capital, which is the tools, equipment, and structures used to produce other goods; and entrepreneurship, which is the risk-taking and organizing that brings the other three together into a business.

A **trade-off** is what you give up when you choose one thing over another. The value of the best alternative you give up is the **opportunity cost** of your choice. If you spend an hour studying, the opportunity cost is whatever you would have done with that hour instead. Opportunity cost is the price of every decision, whether or not money changes hands.

Scarcity is not the same as a shortage. Scarcity is permanent and universal: it exists everywhere, for every society, because wants always outrun resources. A **shortage** is temporary and specific: it happens when the quantity demanded of a good exceeds the quantity supplied at the going price. A sold-out concert is a shortage. The fact that no society can satisfy all of its wants is scarcity.

Economists also separate **positive statements** from **normative statements**. A positive statement can be tested against evidence, such as "a minimum wage increase raised menu prices at fast food restaurants." A normative statement expresses a value judgment, such as "the minimum wage should be higher." The exam rewards you for recognizing which kind of statement you are reading.

Trap. If a question says wants exceed resources, the answer is scarcity. If it gives a price and says buyers want more than sellers offer, the answer is a shortage. Students lose points by treating the two as the same idea.

1.2 Opportunity Cost and the Production Possibilities Curve (PPC)

The **production possibilities curve** shows the maximum combinations of two goods an economy can produce when its resources are fully employed and its technology is fixed. Every point on the curve is a trade-off: producing more of one good means producing less of the other. The amount of the second good you give up to make one more unit of the first is the opportunity cost of that unit, and on the graph it is measured by the slope of the curve between the two points.

Most PPCs are bowed outward from the origin. That shape means opportunity cost increases as you produce more of a good. The reason is that resources are not perfectly adaptable. The land and workers best suited to growing wheat are different from the ones best suited to building robots, so shifting production toward robots keeps pulling in resources that are worse at it, and each extra robot costs more wheat than the one before.

Where a point sits relative to the curve tells you how the economy is doing. A point **on** the curve means the economy is efficient: resources are fully employed, and nothing more can be produced without giving something up. A point **inside** the curve means the economy is inefficient: resources are unemployed or underused, so more of both goods could be produced. A point **outside** the curve is **unattainable** with current resources and technology. Trade is the one way consumption can move beyond the curve, because it lets an economy consume a mix it could not produce alone.

POINT POSITION	WHAT IT MEANS	EXAMPLE
On the curve	Efficient. Resources are fully employed. Producing more of one good requires producing less of the other.	Every worker and machine in use; moving along the curve trades wheat for robots.
Inside the curve	Inefficient. Some resources are unemployed or underused, so more of both goods is possible.	High unemployment during a recession; the economy could produce more of everything.
Outside the curve	Unattainable with current resources and technology.	Producing beyond capacity, which requires growth or trade to reach.

The whole curve shifts when the economy's productive capacity changes. An outward shift, meaning more of both goods is possible, follows from more or better resources: population growth, new technology, better education, or the discovery of new natural resources. An inward shift follows from losing resources: a natural disaster, a war, or the depletion of a resource. A movement from inside the curve to a point on it is not a shift. It is an efficiency gain, the economy putting idle resources to work.

Trap. An outward shift means capacity itself changed. More workers or better technology shift the curve. Reducing unemployment just moves a point from inside the curve to on it. The exam tests this distinction directly.

1.3 Comparative Advantage and Gains from Trade

Absolute advantage goes to whoever can produce more of a good with the same resources.

Comparative advantage goes to whoever produces it at the lower opportunity cost. Trade is driven by comparative advantage, not absolute advantage. A country can be worse at making everything and still have something valuable to sell, because what matters is what it gives up the least to make.

To find it, compute opportunity costs. Suppose Ana and Ben work the same hours each week. Ana can bake 20 cakes or 10 pies. Ben can bake 12 cakes or 4 pies. Ana's opportunity cost of 1 cake is $10/20$, or $1/2$ pie. Ben's is $4/12$, or $1/3$ pie. Ben gives up less pie per cake, so Ben has the comparative advantage in cakes. For pies, Ana's cost is $20/10$, or 2 cakes per pie, and Ben's is $12/4$, or 3 cakes per pie. Ana gives up fewer cakes per pie, so Ana has the comparative advantage in pies. Ana holds the absolute advantage in both goods, and still each of them has a comparative advantage in one.

For trade to benefit both sides, the **terms of trade**, the rate at which the goods exchange, must fall strictly between the two opportunity costs. If Ana and Ben trade cakes, one cake must trade for more than $1/3$ pie and less than $1/2$ pie. At $2/5$ pie per cake, Ben gets more pie per cake than the $1/3$ pie it costs him to bake one himself, and Ana pays less pie per cake than the $1/2$ pie it costs her to bake one herself. Both come out ahead. When each side specializes in the good where it holds the comparative advantage, total output rises and both can consume beyond what their own resources allowed. Those are the **gains from trade**.

STEP	WHAT TO DO
1. List output	Write down each producer's maximum output of each good.
2. Compute opportunity cost	Divide what is given up by what is gained, per unit, for each producer and each good.
3. Compare	The producer with the lower opportunity cost has the comparative advantage in that good.
4. Set the terms	The trade price must fall strictly between the two opportunity costs, so both sides gain.

Trap. Absolute advantage is the decoy. When a question asks who should specialize in a good, the answer is the producer with the lower opportunity cost, even if the other producer makes more of everything. Also watch the boundary: terms of trade exactly equal to one side's opportunity cost give that side no gain, so the trade must fall strictly between the two costs.

1.4 Demand

Demand is the relationship between the price of a good and the quantity buyers are willing and able to purchase, holding everything else constant. The **law of demand** says that, other things equal, a higher price means a lower quantity demanded and a lower price means a higher quantity demanded. The demand curve slopes downward because of it. A **demand schedule** is the same relationship written as a table, and the **demand curve** is the same relationship drawn as a graph.

Only price moves you along the curve. A change in the good's own price changes the **quantity demanded**, which is a movement along a fixed demand curve. Everything else shifts the whole curve, and that is a **change in demand**. Keep the two separate, because the exam tests this distinction more than any other in Unit 1.

Five determinants shift demand. An easy way to remember them is the word TINSE: tastes, income, number of buyers, substitutes and complements, expectations.

DETERMINANT	WHAT HAPPENS
Tastes and preferences	The good becomes more popular. Demand shifts right.
Income, for a normal good	Buyers can afford more at every price. Demand shifts right. Examples are most goods you buy more of when you earn more.
Income, for an inferior good	Higher income means buyers switch away from it. Demand shifts left. Examples are instant noodles and used clothing.
Number of buyers	More buyers in the market. Demand shifts right.
Price of a substitute rises	Buyers switch to this good. Demand shifts right. Coffee and tea are substitutes.
Price of a complement rises	The pair becomes more expensive together. Demand shifts left. Printers and ink cartridges are complements.
Expectations	Buyers expect higher prices or higher income later. Demand shifts right now.

Trap. A change in the price of the good itself never shifts its demand curve. It changes quantity demanded, a movement along the curve. Shifts come only from the five determinants above.

1.5 Supply

Supply is the relationship between price and the quantity sellers are willing and able to offer, holding everything else constant. The **law of supply** says that, other things equal, a higher price means a higher quantity supplied. The supply curve slopes upward: at higher prices, producing is more profitable, so firms offer more. A **supply schedule** is the same relationship as a table, and the **supply curve** is the same relationship as a graph.

The same movement-versus-shift rule applies. A change in the good's own price changes the **quantity supplied**, a movement along the curve. The determinants of supply shift the whole curve, and that is a **change in supply**.

Six determinants shift supply: input prices, technology, taxes and subsidies, prices of related goods in production, the number of sellers, and expectations.

DETERMINANT	WHAT HAPPENS
Input prices	Wages or materials become more expensive. Producing costs more at every price, so supply shifts left.
Technology	A better production process lowers cost per unit. Supply shifts right.
Taxes on producers	A tax raises the cost of selling each unit. Supply shifts left.
Subsidies to producers	A subsidy lowers the cost of selling each unit. Supply shifts right.
Prices of related goods in production	If an alternative output becomes more profitable, firms switch toward it. Supply of this good shifts left.
Number of sellers	More firms enter the market. Supply shifts right.
Expectations	Sellers expect higher prices later and hold goods back. Supply shifts left now.

Trap. Better technology shifts supply right, toward lower prices. Students sometimes shift it the wrong way because "better" feels like it should mean more expensive. Technology lowers cost per unit, so sellers offer more at every price.

1.6 Market Equilibrium, Disequilibrium, and Changes in Equilibrium

A market is in **equilibrium** when quantity demanded equals quantity supplied. The price where that happens is the **equilibrium price**, and the amount traded is the **equilibrium quantity**. At equilibrium the market clears: every unit sellers want to sell finds a buyer, and every buyer who wants a unit finds one.

Disequilibrium comes in two forms. When the price is **above** equilibrium, quantity supplied exceeds quantity demanded, and the market has a **surplus**. When the price is **below** equilibrium, quantity demanded exceeds quantity supplied, and the market has a **shortage**. In a free market these gaps are temporary: a surplus pushes the price down and a shortage pushes it up, until the market returns to equilibrium. When the government holds the price away from equilibrium, the gap lasts. A price ceiling set below equilibrium keeps creating a shortage, and a price floor set above equilibrium keeps creating a surplus.

When a determinant changes, one curve shifts and the market moves to a new equilibrium. The pattern is worth memorizing.

WHAT SHIFTS	EFFECT ON PRICE	EFFECT ON QUANTITY
Demand shifts right	Rises	Rises
Demand shifts left	Falls	Falls
Supply shifts right	Falls	Rises
Supply shifts left	Rises	Falls

When both curves shift at once, one effect is certain and the other is not. If demand shifts right and supply shifts left, both changes push the price up, so the equilibrium price definitely rises, but quantity is pulled in opposite directions and could go either way. Work out each shift separately, then combine: the variable both shifts move the same way is determined, and the one they move in opposite directions is indeterminate.

Trap. Price above equilibrium means surplus, not shortage. Read the price first, then compare quantity supplied and quantity demanded at that price. Also, when a story describes a change, ask which curve it touches before you shift anything. Higher consumer income shifts demand, not supply. A cheaper input shifts supply, not demand.

Confusions That Cost Points

PAIR	HOW TO KEEP THEM STRAIGHT
Scarcity vs shortage	Scarcity is permanent: wants always exceed resources. A shortage is temporary: at a given price, buyers want more than sellers offer.
Movement along a curve vs a shift	A change in the good's own price moves you along the curve. Any other determinant shifts the whole curve.
Absolute vs comparative advantage	Absolute means producing more. Comparative means producing at a lower opportunity cost. Specialization follows comparative advantage.
Inside vs outside the PPC	Inside means inefficient: resources sit idle. Outside means unattainable with current resources.
Surplus vs shortage	Price above equilibrium gives a surplus: too much is offered. Price below equilibrium gives a shortage: too much is wanted.
Normal good vs inferior good	For a normal good, higher income shifts demand right. For an inferior good, higher income shifts demand left.
Substitute vs complement	A higher price for a substitute shifts demand for this good right. A higher price for a complement shifts it left.
Both curves shift	The variable both shifts push the same way is determined. The other is indeterminate.

Practice Questions

Original questions written for this guide in the style of the AP exam. Answers and explanations are on the next page, so complete the questions before checking them.

1. Which of the following best describes scarcity?

1. A good is temporarily unavailable because buyers want more of it than sellers offer at the current price
2. Human wants exceed the resources available to satisfy them
3. A society produces at a point inside its production possibilities curve
4. A price ceiling creates a shortage of rental apartments

2. A production possibilities curve is bowed outward from the origin. This shape illustrates which of the following?

1. Opportunity costs are constant as production shifts between the two goods
2. All points inside the curve are efficient
3. The economy's resources are perfectly adaptable between the two goods
4. Increasing opportunity cost as more of one good is produced

3. Ana and Ben work the same number of hours each week. Ana can bake 20 cakes or 10 pies. Ben can bake 12 cakes or 4 pies. Who has the comparative advantage in cakes?

1. Ben
2. Ana, because she can bake more cakes
3. Ana, because her opportunity cost of a cake is higher
4. Neither, because they face the same opportunity cost

4. Using the same production information, for trade to benefit both bakers, one cake must trade for

1. exactly $\frac{1}{3}$ pie
2. $\frac{3}{4}$ pie
3. $\frac{2}{5}$ pie
4. 1 pie

5. The price of coffee rises. Which of the following is true?

1. The demand curve for coffee shifts to the left
2. The demand for tea, a substitute for coffee, decreases
3. The supply curve for coffee shifts to the left
4. The quantity of coffee demanded decreases

6. A new robotic assembly line cuts the cost of producing electric scooters. What happens in the scooter market?

1. Quantity supplied decreases, shown as a leftward shift of the supply curve
2. The supply curve shifts to the right
3. The demand curve shifts to the right because scooters are cheaper to make
4. There is a movement along the supply curve to a higher quantity

7. At a price of \$8, sellers offer 500 units and buyers want 350 units. Which statement is true?

1. There is a shortage of 150 units, and the price will be pushed down
2. There is a surplus of 150 units, and the price will be pushed up
3. There is a surplus of 150 units, and the price will be pushed down
4. The market is in equilibrium

8. Consumer incomes rise, making a good more desirable at every price, while a key input becomes scarcer and more expensive. What happens to the equilibrium price?

1. It will definitely rise
2. It will definitely fall
3. It will stay the same
4. It cannot be determined

Answer Key

- 1. B.** Scarcity is the permanent condition that human wants exceed available resources. A and D describe a shortage, which is temporary and specific to one good at one price. C describes inefficiency, which is a symptom of misused resources, not the definition of scarcity itself.
- 2. D.** A bowed-out PPC means each additional unit of one good costs more of the other good than the previous unit, because resources are not perfectly adaptable. A would be shown by a straight-line PPC, not a bowed one. B reverses the rule: points inside the curve are inefficient, not efficient. C also describes a straight-line PPC, where resources shift between uses without rising cost.
- 3. A.** Ana's opportunity cost of 1 cake is $10/20$, or $1/2$ pie. Ben's is $4/12$, or $1/3$ pie. Ben gives up less pie per cake, so Ben has the comparative advantage in cakes. B picks absolute advantage, the classic decoy. C reverses the rule: comparative advantage goes to the lower opportunity cost, not the higher one. D misreads the numbers; the opportunity costs are $1/2$ pie and $1/3$ pie, which are not equal.
- 4. C.** The terms of trade must fall strictly between the two opportunity costs: more than Ben's $1/3$ pie per cake and less than Ana's $1/2$ pie per cake. $2/5$ pie equals 0.4 pie, which sits between $1/3$ (about 0.33) and $1/2$ (0.5). A equals Ben's own cost, so Ben would gain nothing from trading. B and D exceed Ana's cost of $1/2$ pie, so Ana would rather bake cakes herself than pay that price.
- 5. D.** A change in the good's own price changes quantity demanded, a movement along the demand curve. The higher price means buyers purchase less. A confuses a movement with a shift; the curve does not move. B gets the substitute relationship backward: a higher coffee price shifts tea demand right, not left. C confuses demand with supply, and a price change does not shift either curve.
- 6. B.** Lower production costs mean sellers can offer more at every price, so the whole supply curve shifts right. A reverses the direction and mislabels a shift as a quantity change. C confuses supply with demand; production costs do not shift the demand curve. D is wrong because no price change has occurred yet; the change here comes from a determinant of supply, not from the price.
- 7. C.** Quantity supplied (500) exceeds quantity demanded (350), so there is a surplus of 150 units. A surplus pushes the price down toward equilibrium. A mislabels the condition as a shortage. B gets the price pressure backward; surpluses push prices down, not up. D ignores the 150 -unit mismatch entirely.
- 8. A.** Higher incomes shift demand right, which pushes price up. A more expensive input shifts supply left, which also pushes price up. Both changes move the price in the same direction, so the equilibrium price definitely rises. B reverses both effects. C and D would be correct about the equilibrium quantity, which is pulled in opposite directions and is indeterminate, but the question asks about price, which is determined.

When you check your answers, note which distinction each miss came from. Make a flashcard for that distinction and drill it spaced out over the next few days instead of rereading the whole section. If you missed one of these questions, the same distinction is worth practicing again in Rycal, where the Basic Economic Concepts deck has flashcards for it and more practice questions use the same kinds of traps.

One-Page Recall Check

Say each answer out loud before you look back, and mark the ones you cannot finish. Anything you cannot say out loud yet belongs in your flashcard deck. In Rycal, add those items to the Basic Economic Concepts deck and let spaced review bring them back over the next few days.

- Define scarcity and name the four factors of production.
- Explain how scarcity forces trade-offs, and state the opportunity cost of a choice you made this week.
- Sketch a PPC and label a point that is efficient, one that is inefficient, and one that is unattainable.
- Explain why a bowed-out PPC shows increasing opportunity cost.
- Name two events that shift a PPC outward and one that shifts it inward.
- Compute opportunity costs for two producers and identify who holds the comparative advantage in each good.
- State the rule for mutually beneficial terms of trade and apply it to your example.
- State the law of demand and explain the difference between a change in quantity demanded and a change in demand.
- List the five determinants of demand and say which direction each one shifts the curve.
- State the law of supply and list the determinants that shift the supply curve.
- Explain how equilibrium is found and what a surplus and a shortage each mean.
- Predict the price and quantity effects when demand shifts right while supply shifts left.
- Distinguish scarcity from a shortage, and a positive statement from a normative one.

Where to go next. Turn every missed item above into flashcards and drill them spaced out over several days rather than in one sitting. In Rycal, open the Basic Economic Concepts deck under AP Macroeconomics. The deck covers the terms in this guide, and its practice questions target the same traps named here. If you have a test date, add it in the Test Planner. You can also start your next review with a Brain Dump, then check what you missed against this guide.

Key terms for this unit

Scarcity, Factors of production (land, labor, capital, entrepreneurship), Trade-off, Opportunity cost, Shortage, Positive statement, Normative statement, Production possibilities curve (PPC), Efficient, Inefficient, Unattainable, Increasing opportunity cost, Absolute advantage, Comparative advantage, Terms of trade, Gains from trade, Law of demand, Demand schedule, Demand curve, Change in quantity demanded, Change in demand, Normal good, Inferior good, Substitute, Complement, Law of supply, Supply schedule, Supply curve, Change in quantity supplied, Change in supply, Market equilibrium, Equilibrium price, Equilibrium quantity, Surplus, Shortage, Price ceiling, Price floor.

About this guide. Written for Rycal and aligned to the College Board AP Macroeconomics course framework, Unit 1. All questions and explanations are original Rycal writing. Rycal is independent and is not affiliated with or endorsed by the College Board.