

Principles of Microeconomics SUMMARY

ECON131

تلخيص ايكونوميك 1

تلخيص : الأستاذ في دائرة الإقتصاد محمد عامرية

تجميع : ضياء الدين صبح

CHAPTER 1

Limits, Alternative, and Choices

الحدود والبدائل والاختيارات

Definition of economics:

Is the social science concerned with how individuals, institutions, and society make optimal (best) choices under conditions of scarcity

Economics: the study of the allocation of scarce resources among alternative end uses.

الاقتصاد: هو ذلك العلم الذي يدرس كيف يوظف الأفراد والمجتمعات مواردهم الاقتصادية النادرة ذات الاستخدامات المتعددة لإنتاج مجموعات متباينة من السلع وذلك لإشباع حاجاتهم ورغباتهم.

The Economic Perspective:

Economists view things from a unique perspective. This **economic perspective**, or economic way of thinking, has several critical and closely interrelated features.

نظر الاقتصاديون إلى الأشياء من منظور فريد. هذا المنظور الاقتصادي، أو طريقة التفكير الاقتصادية، له العديد من السمات الهامة والمترابطة بشكل وثيق. ومن هذه السمات الندرة والاختيار، السلوك العقلاني والتحليل الحدي. سيتم توضيح هذه السمات بشكل مفصل

Scarcity and Choice

Scarce economic resources mean limited goods and services. Scarcity restricts options and demands choices. Because we "can't have it all," we must decide what we will have and what we must forgo.

Scarce inputs of land, equipment, farm labor, the labor of cooks and waiters, and managerial talent are required. Because society could have used these resources to produce something else, it sacrifices those other goods and services in making the lunch available. Economists call such sacrifices opportunity costs: To obtain more of one thing, society forgoes the opportunity of getting the next best thing. That sacrifice is the opportunity cost of the choice.

الندرة تمثل المشكلة الأساسية في علم الاقتصاد لدرجة أن بعض الاقتصاديين يطلق على الاقتصاد "علم الندرة" وتنتج الندرة في الاقتصاد عن تعدد رغبات الإنسان وتجدها مقارنة بالموارد الاقتصادية المتاحة، مما يجبره على الاختيار ما بين البدائل المختلفة، وبالتالي يضطره إلى التضحية ببعضها مقابل تحقيق البعض. أن عدم كفاية الموارد الإنتاجية الإنتاج جميع السلع التي يرغبها المجتمع هو ما يجعل الموارد الإنتاجية نادرة. مفهوم الندرة في الاقتصاد هو مفهوم نسبي، بمعنى أن الموارد الإنتاجية نادرة بالنسبة لرغبات الإنسان المتعددة والمتجددة، فلا تكفي هذه الموارد الإنتاجية لجميع السلع التي تشبع رغبات الأفراد أو المجتمع. كذلك إن ندرة المصادر الإنتاجية تجبر الإنسان على الاختيار مل بين البدائل المختلفة وبالتالي تضطره إلى التضحية ببعضها مقابل تحقيق البعض.

Opportunity costs:

To obtain more of one thing, society forgoes the opportunity of getting the next best thing. That sacrifice is the opportunity cost of the choice.

عملية الاختيار تتضمن التضحية. فاختيارك لأحد البدائل يعني تضحيتك بالبدل أو البدائل الأخرى. فالأرض التي تستخدم للزراعة لا يمكن أن تستخدم في نفس الوقت الأغراض السكن. وكذلك الحال بالنسبة لذلك الجزء من الدخل الذي تدفعه أجرة سكن لا يمكن أن تستخدمه أيضاً للإنفاق على المأكلاً مثلاً.

إن ندرة عناصر الإنتاج تعني أننا لا نستطيع إنتاج كل ما نرغب فيه من سلع وبالتالي تجربنا على الاختيار بين البدائل الممكنة. أي أن ندرة عناصر الإنتاج تجربنا على أن نختار ماذا ننتج (هل ننتج قمحاً أم ألعاب أطفال؟) وتجبرنا كذلك أن نختار كيف ننتج ما نرغب في إنتاجه (هل نستعمل هذه الأرض أم تلك الإنتاج القمح؟) وتجبرنا أيضاً أن لمن نوزع الإنتاج.

Purposeful Behavior (Rational Behavior)

Economics assumes that human behavior reflects “rational self-interest.” Individuals look for and pursue opportunities to increase their utility—the pleasure, happiness, or satisfaction obtained from consuming a good or service. They allocate their time, energy, and money to maximize their satisfaction. Because they weigh costs and benefits, their economic decisions are “purposeful” or “rational,” not “random”.

Consumers are purposeful in deciding what goods and services to buy. Business firms are purposeful in deciding what products to produce and how to produce them. Government entities are purposeful in deciding what public services to provide and how to finance them. “Purposeful behavior” does not assume that people and institutions are immune from faulty logic and therefore are perfect decision makers. They sometimes make mistakes. Nor does it mean that people’s decisions are unaffected by emotion or the decisions of those around them. “Purposeful behavior” simply means that people make decisions with some desired outcome in mind.

هدف المستهلك هو تحديد السلع والخدمات التي يرغب في شرائها. الشركات التجارية هدفها تحديد السلع والخدمات التي يجب أن تنتجها وكيف يتم إنتاجها. بينما تهدف الجهات الحكومية في اتخاذ قرار بشأن ما هي الخدمات العامة التي ستوفرها للمواطنين وكيفية تمويلها.

أن سلوك الإنسان عقلاني أو رشيد، بمعنى أن يتوافق السلوك مع تحقيق الهدف المنشود. فإذا لم يكن هناك توافق بين السلوك والهدف المنشود فإن هذا السلوك يسمى سلوكاً غير عقلاني أو غير رشيد. كما أن هدف الفرد هو زيادة المنفعة التي يحصل عليها من السلع التي يشتريها. أما إذا نظرنا إلى الإنسان كمنتج فإننا نفترض أن هدفه هو تعظيم أرباحه الاقتصادية.

Marginal Analysis: Comparing Benefits and Costs:

The economic perspective focuses largely on marginal analysis—comparisons of marginal benefits (MB) and marginal costs (MC), usually for decision making. To economists, “marginal” means “extra,” “additional,” or “a change in.” Most choices or decisions involve changes in the status quo, meaning the existing state of affairs.

يركز التحليل الاقتصادي بشكل كبير على التحليل الحدي - مقارنات بين الفوائد الحدية (MB) والتكاليف الحدية (MC)، عادة لصنع القرار. بالنسبة إلى الاقتصاديين، تعني كلمة “حدي” “إضافي” أو “تغيير في”. تتضمن معظم الخيارات أو القرارات تغييرات في الوضع الراهن، مما يعني الوضع القائم.

Should you study an extra hour for an exam? Should a business expand or reduce its output? Should government increase or decrease its funding for a missile defense system? Each option involves marginal benefits and, because of scarce resources, marginal costs. In making choices rationally, the decision maker must compare those two amounts.

هل يجب أن تدرس ساعة إضافية لامتحان؟ هل يجب على المؤسسة أن توسع أو تقلل من إنتاجها؟ هل يجب على الحكومة زيادة أو خفض تمويلها لنظام الدفاع الصاروخي؟ يتضمن كل خيار منافع حدية، وبسبب ندرة الموارد، تكاليف حدية. في اتخاذ الخيارات بشكل عقلاني، يجب على صانع القرار مقارنة هذين المبلغين.

Example:

You and your fiancée are shopping for an engagement ring. Should you buy a ½ carat diamond, a ¾ carat diamond, a 1-carat diamond, or something even larger? The marginal cost of a larger-size diamond is the added expense beyond the cost of the smaller-size diamond. The marginal benefit is the perceived lifetime pleasure (utility) from the larger size stone. If the marginal benefit of the larger diamond exceeds its marginal cost (and you can afford it), buy the larger stone. But if the marginal cost is more than the marginal benefit, you should buy the smaller diamond instead—even if you can afford the larger stone!

أنت وخطيبتك تتسوقان لشراء خاتم خطوبة. هل يجب عليك شراء ماسة عيار ½ قيراط أم ألماس عيار ¾ قيراط أم ماسة عيار 1 قيراط أم ماسة أكبر من ذلك؟ التكلفة الحدية للألماس الأكبر حجمًا هي المصاريف الإضافية التي تتجاوز تكلفة الماس الأصغر حجمًا. الفائدة الحدية هي متعة الحياة المتصورة (المنفعة) من الحجر الأكبر حجمًا. إذا تجاوزت الفائدة الحدية للماس الأكبر تكلفته الحدية (ويمكنك تحمل ذلك)، فاشتر الحجر الأكبر. ولكن إذا كانت التكلفة الحدية أكبر من المنفعة الحدية، فعليك شراء الماس الأصغر بدلاً من ذلك - حتى لو كنت تستطيع تحمل تكلفة الحجر الأكبر.

Example: Choose the correct answer

1. You should decide to go to a movie:
A. if the marginal cost of the movie exceeds its marginal benefit.
B. if the marginal benefit of the movie exceeds its marginal cost.
C. if your income will allow you to buy a ticket.
D. because movies are enjoyable.
2. A person should consume more of something when its marginal:
A. benefit exceeds its marginal cost
B. cost exceeds its marginal benefit
C. cost equals its marginal benefit
D. benefit is still positive
3. Purposeful behavior means that:
A. people are selfish in their decision-making
B. people weigh costs and benefits to make decisions
C. people are immune from emotions affecting their decisions
D. decision-makers do not make mistakes when weighing costs and benefits
4. Suppose that a university decides to spend \$1 million to upgrade personal computers and scientific equipment for faculty rather than spend \$1 million to expand parking for students. This example illustrates:
A. Purposeful behavior
B. Opportunity cost
C. Marginal analysis
D. Economic hypothesis

Theories, Principles, and Models

Scientific Method طريقة البحث العلمي

Scientific method procedure consists of several elements: يمر البحث العلمي بصورة عامة بخمسة مراحل وهي

1. Observing real-world behavior and outcomes. ملاحظة الظاهرة وتحديد مشكلة البحث
2. Based on those observations, formulating a hypothesis وضع فرضيات حول الظاهرة أو المشكلة
3. Testing this explanation by comparing the outcomes of specific events to the outcome predicted by the hypothesis. تجميع البيانات حول المشكلة وتحليلها
4. Accepting, rejecting, and modifying the hypothesis, based on these comparisons. اختبار صحة أو عدم صحة فروض البحث
5. Continuing to test the hypothesis against the facts (results). الوصول للنتائج النهائية

Economic principle

A statement about economic behavior or the economy that enables prediction of the probable effects of certain actions

Economic models: which are simplified representations of how economic works.

هو عبارة عن تبسيط للواقع الذي نعيشه. وتتم عملية تبسيط الواقع لبناء النموذج الاقتصادي عن طريقين:
وضع بعض الافتراضات حول سلوك الإنسان.

تقليل عدد المتغيرات المستقلة (افتراض أن بعض العوامل المؤثرة في المتغير التابع ثابتة) (Other-thing equal assumption)

Economic principles and models are highly useful in analyzing economic behavior and understanding how the economy operates. They are the tools for ascertaining cause and effect (or action and outcome) within the economic

system. Good theories do a good job of explaining and predicting. They are supported by facts concerning how individuals and institutions actually behave in producing, exchanging, and consuming goods and services.

المبادئ والنماذج الاقتصادية مفيدة في تحليل السلوك الاقتصادي وفهم كيفية عمل الاقتصاد. إنها أدوات التحقق من السبب والنتيجة (أو الإجراء والنتيجة) داخل النظام الاقتصادي. تقوم النظريات الجيدة في الشرح والتنبؤ. وهي مدعومة بحقائق تتعلق بكيفية تصرف الأفراد والمؤسسات فعليًا في إنتاج السلع والخدمات وتبادلها واستهلاكها.

There are some other things you should know about economic principles.

Generalizations: Economic principles are generalizations relating to economic behavior or to the economy itself. Economic principles are expressed as the tendencies of typical or average consumers, workers, or business firms. For example, economists say that consumers buy more of a particular product when its price falls. Economists recognize that some consumers may increase their purchases by a large amount, others by a small amount, and a few not at all. This "price-quantity" principle, however, holds for the typical consumer and for consumers as a group.

مبدأ التعميم: المبادئ الاقتصادية هي تعميمات تتعلق بالسلوك الاقتصادي أو بالاقتصاد نفسه. يتم التعبير عن المبادئ الاقتصادية على أنها ميول المستهلكين العاديين أو العمال أو الشركات التجارية. على سبيل المثال، يقول الاقتصاديون إن المستهلكين يشترون المزيد من منتج معين عندما ينخفض سعره. يدرك الاقتصاديون أن بعض المستهلكين قد يزيدون مشترياتهم بكمية كبيرة، والبعض الآخر قد يزيد مشترياتهم بكمية صغيرة، والبعض الآخر لا يزيد على الإطلاق. ومع ذلك، فإن مبدأ "الكمية السعرية" ينطبق على المستهلك العادي والمستهلكين كمجموعة.

Other- Things-Equal (ceteris paribus) Assumption: The assumption that factors other than those being considered do not change. They assume that all variables except those under immediate consideration are held constant for a particular analysis.

افتراض أن بعض العوامل المؤثرة في المتغير التابع ثابتة. أي أننا ن عزل أثر التغير في جميع العوامل التي قد تؤثر في المتغير التابع ونركز على كيفية ومدى استجابة هذا المتغير للزيادة أو النقص في قيمة أحد المتغيرات المستقلة مع افتراض أن قيمة المتغيرات المستقلة الأخرى ثابتة.

For example, consider the relationship between the price of Pepsi and the amount of it purchased. Assume that of all the factors that might influence the amount of Pepsi purchased (for example, the consumer incomes) unchanged.

على سبيل المثال، عند تحليل العلاقة بين سعر البيبسي والكمية المطلوبة. نفترض أن جميع العوامل التي قد تؤثر على كمية البيبسي المشتراة (على سبيل المثال، دخل المستهلك) لا تتغير. (عند تحليل العلاقة بين السعر والكمية المطلوبة نفترض أن جميع العوامل التي تؤثر على كمية الشراء ثابتة).

Example: Choose the correct answer

1. The term "ceteris paribus" means:
 - A. that if event A precedes event B, A has caused B
 - B. that economics deals with facts, not values
 - C. other things equal
 - D. prosperity inevitably follows recession
2. Suppose an economist says that "Other things equal, the lower the price of bananas, the greater the amount of bananas purchased." This statement indicates that:
 - A. The quantity of bananas purchased determines the price of bananas.
 - B. All factors other than the price of bananas (for example, consumer tastes and incomes) are assumed to be constant.
 - C. economists can conduct controlled laboratory experiments
 - D. One cannot generalize about the relationship between the price of bananas and the quantity purchased.

Microeconomics and Macroeconomics

علم الاقتصاد يبحث في سلوك الأفراد والمجتمعات. ويمكن دراسة وتحليل هذا السلوك بأسلوبين مختلفين، أو من زاويتين مختلفتين

Microeconomics:

Microeconomics is the part of economics concerned with individual units such as a person, a household, a firm, or an industry. At this level of analysis, the economist observes the details of an economic unit.

يعتمد الأسلوب الأول على دراسة الأجزاء أو الوحدات الصغيرة في الاقتصاد مثل دراسة سلوك المستهلك أو المنتج أو سعر سلعة معينة. ويطلق على هذا الأسلوب "الاقتصاد الجزئي".

Macroeconomics:

Macroeconomics examines either the economy as a whole or its basic subdivisions or aggregates, such as the government, household, and business sectors.

Macroeconomics approaches the study of economics from the viewpoint (من وجهة نظر) of the entire economy.

أما الأسلوب الثاني في دراسة التحليل الاقتصادي فيعتمد على دراسة الاقتصاد ككل أو القطاعات الرئيسية فيه أو المجاميع الكلية مثل الإنتاج القومي (GDP) والارتفاع العام بمستوى الأسعار (التضخم) والبطالة وغيرها.

Example

Indicate whether each of the following statements applies to Microeconomics or Macroeconomics?

1. A study of the trend of wheat prices on Russia -Ukraine war (*Microeconomics*)
2. A decline in the price of cucumber caused farmer Waleed to plant more land in tomato. (*Microeconomics*)
3. Unemployment was 15.3 percent of the labor force last year. (*Macroeconomics*)
4. The price of personal computers declined last year. (*Microeconomics*)
5. Will the inflation rate remain relatively stable this year? (*Macroeconomics*)
6. What policies would be recommended for stimulating national economic growth? (*Macroeconomics*)
7. Will the introduction of a new computer chip change the demand for computers? (*Microeconomics*)

Example: Choose the correct answer

1. Microeconomics:
 - A. Is the basis for the "after this, therefore because of this" fallacy.
 - B. Is not concerned with details, but only with the overall big picture of the economy.
 - C. Is concerned with individual economic units and specific markets.**
 - D. Describes the aggregate flows of output and income.
2. The problems of aggregate inflation and unemployment are:
 - A. Major topics of macroeconomics.**
 - B. Not relevant to the U.S. economy.
 - C. Major topics of microeconomics.
 - D. Major topics of microeconomics or macroeconomics.
3. The study of how a firm sets its prices in different regions of the nation would fall under:
 - A. Macroeconomics
 - B. Microeconomics**
 - C. Income distribution
 - D. Economic growth

Positive and Normative Economics: الاقتصاد الموضوعي والاقتصاد المعياري

Both microeconomics and macroeconomics contain elements of positive economics and normative economics.

Positive Economics

Positive economics focuses on facts and cause-and-effect relationships. It includes description, theory development, and theory testing (theoretical economics).

Positive economics avoids value judgments

Theoretical economics is a positive economics.

في التحليل الموضوعي يعتمد الباحث على بيانات حقيقية يتم تحليلها للوصول للنتيجة النهائية. ويمكن القول بأنه لو بحث عدد من الباحثين ظاهرة اقتصادية معينة باستخدام نفس البيانات ونفس طريقة التحليل فإننا نتوقع أن يصل جميعهم لنفس النتيجة في وصف تلك الظاهرة.

Normative Economics

Normative economics involves value judgments; about what the economy should be like or what particular policy actions should be recommended to achieve a desirable goal (policy economics).

Normative economics embodies subjective feelings about what ought to be.

الاقتصاد المعياري يبحث بما يجب أن يكون عليه الوضع، أو ما يجب أن نفعل تجاه ظاهرة معينة. وبالتالي فإن هذا النوع من التحليل يحاول أن يطرح حلولاً للظاهرة أو المشكلة معتمداً على التقدير الذاتي للباحث. والتي قد تختلف من باحث الآخر حسب البيئة الاجتماعية والديانة وغيرها من العوامل.

Example

Decide whether the following statements are *Positive* or *Normative*:

1. Luxuries should be taxed more heavily than necessities (*Normative Statement*)
2. The price and quantity demanded of a good is inversely related. (*Positive Statement*)
3. It is too hot to jog (يركض) today". (*Normative Statement*)
4. We should buy Palestinian goods and boycott (مقاطعة) Israeli product. (*Normative Statement*)
5. A rise in the price of petrol will lead to an increase in the demand for rail transport. (*Positive Statement*)
6. Unemployment is more harmful than inflation (*Normative Statement*)
7. A rise in the price of petrol will lead to an increase in the demand for rail transport. (*Positive Statement*)
8. As a general rule, people are happier in more equal societies. (*Normative Statement*)
9. The minimum wage (الحد الأدنى للأجور) should be increased to give people a decent wage. (*Normative Statement*)
10. Gas prices are rising because there aren't enough oil refineries. (*Positive Statement*)

Example: Choose the correct answer

1. A positive statement is one which is:
(A) derived by induction
(B) derived by deduction
(C) subjective and is based on a value judgment
(D) **objective and is based on facts**
2. Normative statements are concerned primarily with:
(A) facts and theories
(B) **what ought to be**
(C) what is
(D) rational choice involving costs and benefits
3. "Economics is concerned with how individuals, institutions, and society make optimal choices under conditions of scarcity." This statement is:
(A) positive, but incorrect
(B) **positive and correct**
(C) normative, but incorrect
(D) normative and correct
4. Basel says that "An increase in the tax on smoke will raise its price." Ruba argues that "Taxes should be increased on smoke because college students consume too much." We can conclude that:
(A) Basel's statement is normative, but Ruba's is positive.
(B) **Ruba's statement is normative, but Basel's is positive.**
(C) Both statements are normative.
(D) Both statements are positive.

Economizing Problem **المشكلة الاقتصادية**

The fundamental problem of economics is the scarcity of productive resources relative to economic wants.

المشكلة الأساسية في الاقتصاد هي ندرة الموارد الإنتاجية بالنسبة للاحتياجات الاقتصادية. تنجم المشكلة الاقتصادية بسبب ندرة المصادر الإنتاجية مقارنة بتعدد رغبات الإنسان وتجدها.

The economizing problem is one of deciding how to make the best use of limited resources to satisfy virtually unlimited wants.

المشكلة الاقتصادية هي التي تحدد كيفية الاستفادة المثلى من الموارد المحدودة لتلبية الاحتياجات غير المحدودة.

Individuals' Economizing Problem **المشكلة الاقتصادية على مستوى الأفراد**

على مستوى الأفراد فإن مشكلة الندرة تتضح في الدخل الذي يحصل عليه الفرد، حيث أن محدودية دخل الفرد تشكل قيداً على سلوكهم الاستهلاكي.

Limited Income and Unlimited Wants **دخل محدود ورغبات غير محدودة**

Individual has a fixed amount of income, and have unlimited wants. Because wants exceed income, individual face an economizing problem; they must decide what to buy and what to forgo.

يواجه الفرد مشكلة اقتصادية لأن الفرد لديه دخل ثابت ولديه رغبات كثيرة غير محدودة. لأن الرغبات تفوق الدخل يجب على الفرد أن يقرر ماذا يشتري وما الذي يجب التخلي عنه.

Society's Economizing Problem المشكلة الاقتصادية على المستوى القومي

إن أي قطر من الأقطار يمتلك مجموعة من الموارد الإنتاجية والتي تستعمل لإنتاج السلع الاستهلاكية المختلفة. ولكن عملية إنتاج تلك السلع الاستهلاكية تتطلب استخدام مكائن وآلات، والتي تتطلب بدورها استخدام موارد إنتاجية (عمال، وأراضي، ورأس مال). وبسبب ندرة الموارد الإنتاجية فإن ذلك يحتم علينا عملية الاختيار حول استخدام هذه الموارد. وهذا ويمكن أن ندرس الندرة والاختيار والتضحية على المستوى القومي باستخدام فكرة منحى إمكانيات الإنتاج.

Scarc Resources ندرة المصادر

Society has limited or scarce economic resources, meaning all natural, human, and manufactured resources that go into the production of goods and services. This includes the entire set of factory and farm buildings and all the equipment, tools, and machinery used to produce manufactured goods and agricultural products; all transportation and communication facilities; all types of labor; and land and mineral resources.

يملك المجتمع موارد اقتصادية محدودة أو نادرة ، وهذا يعني جميع الموارد الطبيعية والبشرية والمصنعة التي تدخل في إنتاج السلع والخدمات كميتها محدودة . وهذا يشمل مباني المصنع المساحات والمزرعة وجميع المعدات والأدوات والآلات المستخدمة لإنتاج السلع المصنعة والمنتجات الزراعية ؛ جميع مرافق النقل والاتصالات ؛ جميع أنواع العمالة والموارد الأرضية والمعدنية. يعرف المورد الإنتاجي (الاقتصادي) بأنه أي شخص أو أي شيء يساهم في عملية إنتاج السلع والخدمات.

Economic Resources: المصادر الانتاجية

Economic resource is defined as any person or thing that contributes to the process of producing goods and services.

يعرف المورد الإنتاجي (الاقتصادي) بأنه أي شخص أو أي شيء يساهم في عملية إنتاج السلع والخدمات.

Resource Categories

Economists classify economic resources into four general categories.

A. *Land*: To the economist land includes all natural resources ("gifts of nature") used in the production process, such as arable land, forests, mineral and oil deposits, and water resources.

الأرض هي الموارد الطبيعية وتشمل جميع الأشياء التي على سطحها، مثل النباتات والغابات، أبار البترول ومناجم المعادن، الغازات وغيرها.

B. *Labor* (العمل): The resource labor consists of the physical and mental talents of individuals used in producing goods and services. The services of a logger, retail clerk, machinist, teacher, professional football player, and nuclear physicist all fall under the general heading "labor."

يعرف العمل أنه الجهد الإنساني المبذول ويمكن أن يكون هذا الجهد جسمانياً أو فكرياً.

C. *Capital*: Capital (or capital goods) includes all manufactured aids used in producing consumer goods and services. Included is all factory, storage, transportation, and distribution facilities, as well as tools or machinery. Economists refer to the purchase of capital goods as investment.

رأس المال في الاقتصاد هو ما يقوم الإنسان بتصنيعه من وسائل الإنتاج المختلفة. من آلات وأجهزة ومعدات ومباني. وتعتبر المواد الخام بعد استخراجها من باطن الأرض جزءاً من رأس المال (يع استخراج البترول وتعبئته في براميل فإننا نعتبره جزءاً من رأس المال وليس جزءاً من الأرض).

- Capital goods differ from consumer goods because consumer goods satisfy wants directly, whereas capital 'goods do so indirectly by aiding the production of consumer goods.

تختلف السلع الرأسمالية عن السلع الاستهلاكية لأن السلع الاستهلاكية تلبى الاحتياجات بشكل مباشر ، في حين أن السلع الرأسمالية تفعل ذلك بشكل غير مباشر من خلال المساعدة في إنتاج السلع الاستهلاكية.

- *Because money produces nothing, economists do not include it as an economic resource. Money used for purchasing capital goods.*

لأن المال لا ينتج شيئاً ، فإن الاقتصاديين لا يدرجونه كمورد اقتصادي. الأموال تستخدم في شراء السلع الرأسمالية.

- D. *Entrepreneurial Ability* (الإدارة والتنظيم): There is the special human resource, distinct from labor, called entrepreneurial ability.

التنظيم ويتمثل في أخذ المبادرة في جمع وتصوير وتنظيم وتنسيق العملية الإنتاجية وحسن استخدام عناصر الإنتاج المختلفة. ويشمل التنظيم أيضاً عملية اختراع واستخدامات أنماط وطرق جديدة في الإنتاج، ويرى البعض أن التنظيم هو نوع متقدم من العمل فيدخلونه ضمن العناصر الإنتاجية الأولى للعمل.

The entrepreneur performs several functions: يقوم الريادي بمجموعة وظائف منها

- The entrepreneur takes the initiative in combining the resources of land, labor, and capital to produce a good or a service. The entrepreneur is the driving force behind production and the agent who combines the other resources in what is hoped will be a successful business venture.

المنظم او الريادي يأخذ زمام المبادرة في استخدام الموارد الانتاجية الأرض والعمل ورأس المال لإنتاج سلعة و الخدمات وحسن استخدام عناصر الإنتاج المختلفة.

- The entrepreneur makes the strategic business decisions that set the course of an enterprise.

الريادي يعمل القرارات التجارية الاستراتيجية التي تحدد مسار مؤسسة.

- The entrepreneur is an innovator. He or she commercializes new products, new production techniques, or even new forms of business organization.

الريادي هو مبتكر، بحيث يقوم بتسويق منتجات جديدة، وتقنيات الإنتاج الجديدة، أو حتى أشكال جديدة من تنظيم الأعمال التجارية.

- The entrepreneur is a risk bearer. The entrepreneur has no guarantee of profit. The reward for the entrepreneur's time, efforts, and abilities may be profits or losses.

الريادي هو من يتحمل المخاطر. الريادي لا يضمن ان يحقق أرباح للمشروع فقد يحقق ارباح او خسارة.

Because land, labor, capital, and entrepreneurial ability are combined to produce goods and services, they are called the factors of production, or simply "inputs."

لأن الأرض والعمالة ورأس المال والريادة تستخدم لإنتاج السلع والخدمات ، فإنها تسمى عوامل الإنتاج ، أو "المدخلات الانتاج."

Example:

Classify of the following resources as *Land, Labor, Capital* or *Entrepreneurial ability*

1. A tractor used by a wheat farmer	Capital
2. Natural gas	Land
3. A computer programmer	Labor
4. A person developing a production schedule for a new product	Entrepreneurial ability
5. Minerals	Land
6. Two thousand acres of virgin forest	Land
7. An office computer used by an accountant	Capital

Example: Choose the correct answer

1. Economic resources are also called:
A. Free gifts of nature.
B. Consumption goods.
C. Units of money capital.
D. **Factors of production.**
2. Money is not an economic resource because:
A. **Money, as such, does not produce anything.**
B. Idle money balances do not earn interest income.
C. It is not scarce.
D. Money is not a free gift of nature.
3. Which of the following would *not* be classified as an economic resource by economists?
A. a professional soccer player
B. water in a town's reservoir
C. **money in a business checking account**
D. the manager of the local hamburger restaurant
4. In every society, choices must be made because resources are:
A. Unlimited, but economic wants are Limited
B. **Limited, but economic wants are Unlimited**
C. Unlimited, but economic wants are limited
D. Limited, and so are economic wants
5. Which of the following is a land resource?
A. A farmer
B. An oil drilling rig
C. A machine for detecting earthquakes
D. **Natural gas**

Production Possibilities Model منحنى إمكانيات الإنتاج

Production Possibilities Curve

Lists the different combinations of two products that can be produced with a specific set of resources, assuming full employment.

هو شكل (منحنى) يمثل أقصى ما يمكن أن ينتجه المجتمع من بضائع وخدمات خلال فترة زمنية معينة بكمية الموارد الإنتاجية المتوفرة.

Assumptions افتراضات

لكي نستطيع رسم منحنى إمكانيات الإنتاج لمجتمع معين فإننا نضع عادة بعض الافتراضات التبسيطية الهامة:

1. Full employment: The economy is employing all its available resources.
إن جميع الموارد الإنتاجية المتوفرة لدى المجتمع موظفة بالكامل. ويعني ذلك أنه لا توجد موارد إنتاجية معطلة أو غير مستغلة (تشغيل كامل).
2. Fixed resources: The quantity and quality of the factors of production are fixed.
أن كمية ونوعية الموارد الإنتاجية المتوفرة لدى المجتمع ثابتة.
3. Fixed technology: The methods used to produce output are constant.
أن الأساليب الإنتاجية (التكنولوجيا) التي يستخدمها المجتمع لا تتغير.
4. Two goods: The economy is producing only two goods (consumer goods and capital goods).
أن يقوم المجتمع بإنتاج سلعتين فقط.

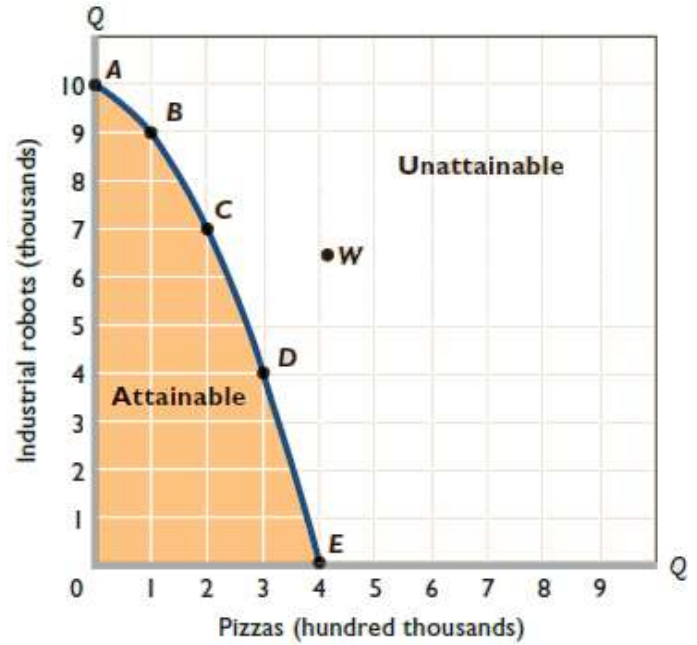
Production Possibilities Table

A production possibilities table lists the different combinations of two products that can be produced with a specific set of resources, assuming full employment. Table below presents a simple, hypothetical economy that is producing pizzas and Industrial Robots.

Example

Production Possibilities of Pizzas and Industrial Robots:

Type of product	Production Alternative				
	A	B	C	D	E
Pizzas	0	1	2	3	4
Robots	10	9	7	4	0



- At alternative A, this economy would be devoting all its available resources to the production of industrial robots (capital goods)

عند الخيار A يخصص هذا الاقتصاد جميع موارده الاقتصادية في إنتاج الروبوتات الصناعية فقط

- At alternative E, all resources would go to pizza production (consumer goods).

عند الخيار E يستخدم هذا الاقتصاد جميع موارده الاقتصادية لإنتاج البيتزا فقط (سلعة استهلاكية)

- An economy typically produces both capital goods and consumer goods, as in B, C, and D.

ينتج الاقتصاد السلع الرأسمالية (الروبوتات الصناعية) والسلع الاستهلاكية (البيتزا) عند الخيارات B, C, D

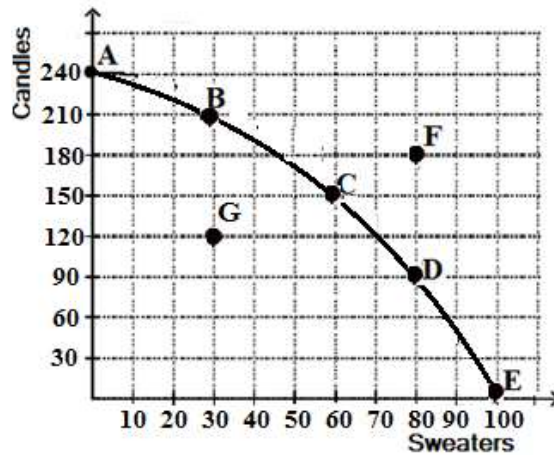
- As we move from alternative A to E, we increase the production of pizzas at the expense of the production of industrial robots. In producing more pizzas, society increases the current satisfaction of its wants. But there is a cost: More pizzas mean fewer industrial robots.

الانتقال من الخيار A الى الخيار E نزيد الانتاج من البيتزا على حساب الروبوتات الصناعية. فعند إنتاج المزيد من البيتزا ، يزيد المجتمع من إشباع رغباته الحالية. لكن هناك تكلفة: فكلما زاد عدد البيتزا يعني عدد أقل من الروبوتات الصناعية.

- All combination of industrial robots and pizzas lying on the curve (A, B, C, D, and E) are attainable and full employment
- Any combination of industrial robots and pizzas lying outside the curve (such as W) unattainable.
- Points inside the curve are attainable, and unemployment point.

Example:

A production possibilities frontier for two products, sweaters and candles, is found below.



1. Refer to the production possibilities curve in the figure. Which point is unattainable? Point F
2. Refer to the production possibilities curve in the figure. Which point indicates that the resources are not fully utilized (unemployment) and attainable? Point G
3. Refer to the production possibilities curve in the figure. Which points are unattainable and full employment? Points A, B, C, D, and E
4. What is the maximum amount (أكبر كمية) of Candles this economy can produce? 240 units
5. What is the maximum amount (أكبر كمية) of sweaters this economy can produce? 100 units

Opportunity cost تكلفة الفرصة البديلة

The number of units of a specific good that must be given up to obtain one more unit of another good.

تكلفة الفرصة البديلة هي عدد وحدات من سلعة معينة التي يجب التخلي عنها للحصول على وحدة إضافية من سلعة أخرى.

Opportunity cost = negative slope of the production possibilities curve at each point

Example

Using the table (Production Possibilities of Pizzas and Industrial Robots) to answer the following questions:

Type of product	Production Alternative				
	A	B	C	D	E
Pizzas	0	1	2	3	4
Robots	10	9	7	4	0

1. If the economy is at point D. What is the opportunity cost of one more unit of industrial robots?

$$\text{Opportunity cost of one more unit of robots} = \frac{(\Delta \text{ in Pizzas})}{\Delta \text{ in industrial robots}} = \frac{(3-2)}{(4-7)} = -\frac{1}{3} \text{ units of Pizzas.}$$

2. What is the opportunity cost of the second unit of Pizza?

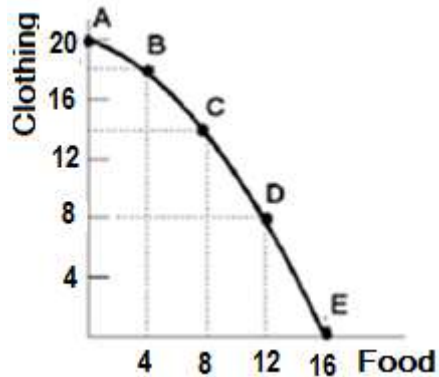
$$\text{Opportunity cost} = \frac{(\Delta \text{ in industrial robots})}{\Delta \text{ in pizzas}} = \frac{(7-9)}{(2-1)} = -2 \text{ units of robots.}$$

Example

Suppose that a nation's production possibilities can be represented by the table below:

	Production Alternatives				
Products	A	B	C	D	E
Food	0	4	8	12	16
Clothing	20	18	14	8	0

- A. Graph the production possibilities curve put food on the x-axis (المحور السيني)



- B. What is the maximum amount of food this economy can produce? How much clothing can it produce at this point?

The greatest amount of food is 16 units, achieved by producing at alternative E. At this point, all resources are devoted to food production and none to clothing production. Clothing production is zero.

- C. If the economy is producing at alternative C, what is the opportunity cost of one more unit of food?

$$\text{Opportunity cost of one more unit of food} = \frac{\Delta \text{ Clothing}}{\Delta \text{ food}} = \left| \frac{(8-14)}{(12-8)} \right| = \frac{6}{4} = 1.5 \text{ units of clothing}$$

- D. If the economy is producing at alternative C, what is the cost of one more unit of clothing?

$$\text{Opportunity cost of one more unit of clothing} = \frac{\Delta \text{ food}}{\Delta \text{ clothing}} = \left| \frac{(4-8)}{(18-14)} \right| = \frac{4}{4} = 1 \text{ unit of food}$$

- E. If the economy is producing at alternative C, what is the cost of 4 more unit of food?

$$\text{Opportunity cost of one more unit of food} = \frac{\Delta \text{ Clothing}}{\Delta \text{ food}} = \left| \frac{(8-14)}{(12-8)} \right| = \frac{6}{4} = 1.5 \text{ units of clothing}$$

$$\text{Opportunity cost of 4 more unit of food} = 1.5 * 4 = 6$$

Or from the table, as we move from point C to D, the consumer increase production of food by 4 units (8 to 12), while decrease consumption of clothing by 6 (14 to 8).

Example

Below is a production possibilities table for consumer goods “automobiles” and capital goods “Milk”

Type of product	Production Alternative				
	A	B	C	D	E
automobiles	0	2	4	6	8
Milk	30	27	21	12	0

1. If the economy at point C, what is the opportunity cost of one more automobile?

$$\text{Opportunity cost} = \frac{\Delta \text{ Milk}}{\Delta \text{ Automobile}} = \left| \frac{(12-21)}{(6-4)} \right| = \frac{9}{2} = 4.5 \text{ liters of milk}$$

2. If the economy at point B, what is the opportunity cost of two more automobile?

$$\text{Opportunity cost of one more automobile} = \frac{\Delta \text{ Milk}}{\Delta \text{ Automobile}} = \left| \frac{(21-27)}{(4-2)} \right| = \frac{6}{2} = 3$$

Opportunity cost of two more automobile = Opportunity cost of one more * numbers of units

$$\text{Opportunity cost of two more automobile} = 3 * 2 = 6$$

Or: From the table the economy must move from point B to point C. When the economy moving from point B to point C, the economy must give up $(27 - 21) = 6$ liters of milk.

3. If the economy at point B, what is the opportunity cost of one more liter of milk?

$$\text{Opportunity cost} = \frac{\Delta \text{ Automobile}}{\Delta \text{ Milk}} = \left| \frac{(0-2)}{(30-27)} \right| = \frac{2}{3} \text{ Automobile}$$

4. What is the opportunity cost of producing the 7th units of automobile?

The economy must move from point D to point E.

$$\text{Opportunity cost} = \frac{\Delta \text{ Milk}}{\Delta \text{ Automobile}} = \left| \frac{(0-12)}{(8-6)} \right| = \frac{12}{2} = 6 \text{ liters of milk}$$

5. What is the opportunity cost of producing the 24th liters of milk?

The economy must move from point C to point B.

$$\text{Opportunity cost of one more liter of milk} = \frac{\Delta \text{ Automobile}}{\Delta \text{ Milk}} = \left| \frac{(2-4)}{(27-21)} \right| = \frac{2}{6} \text{ Automobile}$$

At point C, the amount of milk = 21. Increase production of milk to 24 means that the 3 more liters of milk increase

$$\text{Opportunity cost of producing the 24th liters of milk} = 3 * \frac{2}{6} = 1$$

6. If the economy producing 3 automobile and 20 liters of milk. Is the economy use of its all available recourses to produce it? Explain

The point 3 automobile and 20 liters of milk lie inside the PPC. This point is attainable but it unemployment point (not use of its all available recourses to produce it)

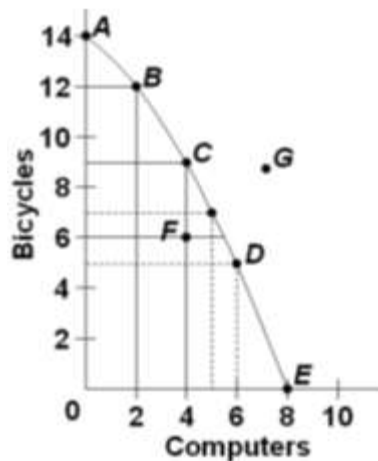
7. What would production at point outside the production possibilities curve indicate? What must occur before the economy can attain such a level of production?

Any point lie outside the production possibilities curve is unattainable point.

Before the economy can attain such a level of production it must increase the recourses of the production or improvement in the level of technology used.

Example:

Refer to the diagram to answer questions that follow it



- A. If society is currently producing at point B, what is the opportunity cost of producing one more Computer?

If the economy at point B, and its wants to increase production of computers it will move from point B to point C.

$$\text{Opportunity cost} = \frac{\Delta \text{ Bicycles}}{\Delta \text{ Computer}} = \left| \frac{(9-12)}{(4-2)} \right| = \frac{3}{2} = 1.5 \text{ bicycles}$$

- B. If society is currently producing at point D, what is the opportunity cost of producing one more Bicycle?

If the economy at point D, and its wants to increase production of bicycles, it will move from point D to point C.

$$\text{Opportunity cost} = \frac{\Delta \text{ Computers}}{\Delta \text{ Bicycles}} = \left| \frac{(4-6)}{(9-5)} \right| = \frac{2}{4} = \frac{1}{2} \text{ computer}$$

- C. What is the total opportunity cost of twelve Bicycles

$$\text{Opportunity cost of one bicycle} = \frac{\Delta \text{ Computers}}{\Delta \text{ Bicycles}} = \left| \frac{(2-8)}{(12-0)} \right| = \frac{6}{12} = \frac{1}{2} \text{ computer}$$

Total opportunity cost of twelve Bicycles = $\frac{1}{2} * 12 = 6$

D. If society is currently producing at point F, what is the opportunity cost of producing one more computer?

Opportunity cost = 0

The society can increase production of computer without decrease the production of bicycles.

Any point inside the PPC, the opportunity cost at that points is zero.

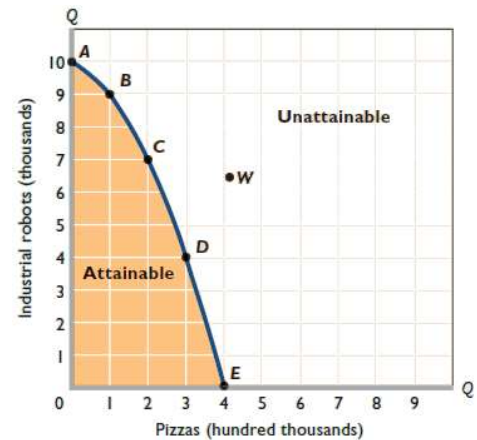
Law of Increasing Opportunity Costs قانون التكلفة المتزايدة

The law of increasing opportunity costs. As the production of particular good increases, the opportunity cost of producing an additional unit rises.

قانون التكلفة المتزايدة: إن إنتاج وحدات متتالية من سلعة ما يؤدي إلى التضحية بكميات متزايدة من السلعة الأخرى. والسبب في ذلك هو عدم قدرة عناصر الإنتاج المختلفة على إنتاج كافة السلع بنفس الكفاءة.

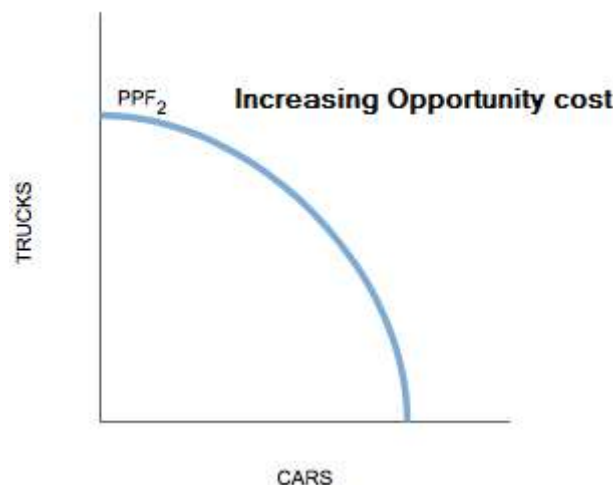
Shape of the Curve:

The law of increasing opportunity costs is reflected in the shape of the production possibilities curve: *The curve is bowed out from the origin of the graph.* Figure shows that when the economy moves from A to E, it must give up successively larger amounts of industrial robots (1, 2, 3, and 4). This is shown in the slope of the production possibilities curve, which becomes steeper as we move from A to E.



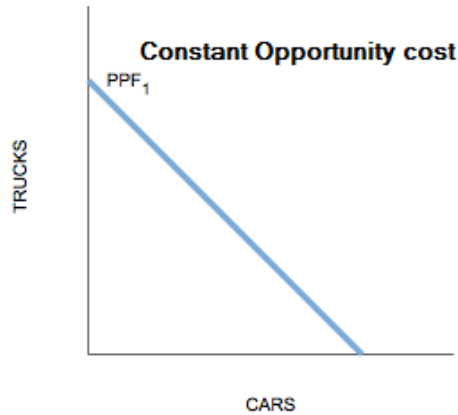
- Production possibilities curve is bowed out from the origin because it reflects the law of increasing opportunity cost.

إذا كان منحنى إمكانيات الإنتاج منحنى للخارج فإنه يعكس قانون التكلفة المتزايدة للفرصة البديلة



- Production possibilities curve is straight line because it reflects the law of constant opportunity cost.

إذا كان منحنى إمكانيات الإنتاج خطاً مستقيماً منحدر للأسفل فإنه يعكس قانون التكلفة الثابتة للفرصة البديلة



Example

The table below lists five points on the production possibilities frontier for chocolate bars and cans of cola.

Point	Production chocolate bars	Production cans of cola
A	0	100
B	10	90
C	20	70
D	30	40
E	40	0

Does the law of increasing opportunity cost hold here? Show how?

Point	Production chocolate bars	Production cans of cola	Opportunity cost of one more chocolate bare
A	0	100	---
B	10	90	1
C	20	70	2
D	30	40	3
E	40	0	4

When we move from A to B, opportunity cost of one more chocolate bare is 1, as we move from point B to C, opportunity cost increase to 2, as move from point C to D, opportunity cost increase to 3 → production possibilities curve follow the law of increasing opportunity cost

Example

The table above represents the production possibilities frontier for Mobile Phone and Pizza.

Points	Mobile Phone	Pizza
A	0	2,000
B	200	1,600
C	400	1,200
D	600	800
E	800	400
F	1,000	0

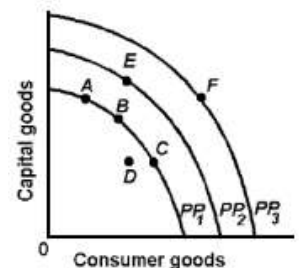
Does the law of increasing opportunity cost hold here? Explain?

Points	Mobile Phone	Pizza	Opportunity cost of one more Mobile phone
A	0	2,000	----
B	200	1,600	$(1,600 - 2,000) / (200 - 0) = 2$
C	400	1,200	$(1,200 - 1,600) / (400 - 200) = 2$
D	600	800	$(800 - 1,200) / (600 - 400) = 2$
E	800	400	$(400 - 800) / (800 - 600) = 2$
F	1,000	0	$(0 - 400) / (1000 - 800) = 2$

When we move from A to B, opportunity cost of one more Mobile phone is 2, as we move from point B to C, opportunity cost is 2, as move from point C to D, opportunity cost is 2 (constant) → production possibilities curve follow the law of constant opportunity cost

Example: Choose the correct answer

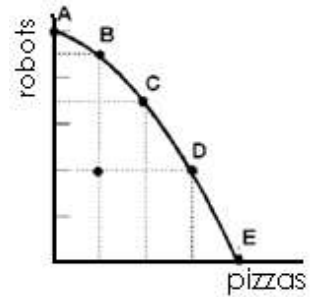
- A production possibilities curve shows:
 - That resources are unlimited.
 - That people prefer one of the goods more than the other.
 - The maximum amounts of two goods that can be produced, assuming the full use of available resources.**
 - Combinations of capital and labor necessary to produce specific levels of output
- Any point inside the production possibilities curve indicates:
 - The presence of technological change.
 - That resources are imperfectly substitutable among alternative uses.
 - The presence of inflationary pressures.
 - That more output could be produced with available resources**
- The typical production possibilities curve is:
 - an up-sloping line that is bowed out from the origin.
 - a down sloping line that is bowed in toward the origin.
 - a down sloping line that is bowed out from the origin.**
 - a straight up sloping line.
- The slope of the typical production possibilities curve:
 - is positive.
 - increases as one moves southeast along the curve.**
 - is constant as one moves down the curve.
 - decreases as one moves southeast along the curve.
- The production possibilities curve has:
 - a positive slope that increases as we move along it from left to right.
 - a negative slope that increases as we move along it from left to right.**
 - a negative slope that decreases as we move along it from left to right.
 - a negative slope that is constant as we move along it from left to right.
- Based on the following production possibilities curve answer the following question: Refer to the above diagram. The concept of opportunity cost is best represented by the:
 - Move from B on PPI to E on PP2.
 - Move from B on PPI to C on PP1.**
 - Move from D inside PPI to B on PPI.
 - Shift of the production possibilities curve from PPI to PP2.



Optimal Allocation

Of all the attainable combinations of pizzas and industrial robots on the curve in Figure, which is optimal (best)? That is, what specific quantities of resources should be allocated to pizzas and what specific quantities should be allocated to industrial robots in order to maximize satisfaction?

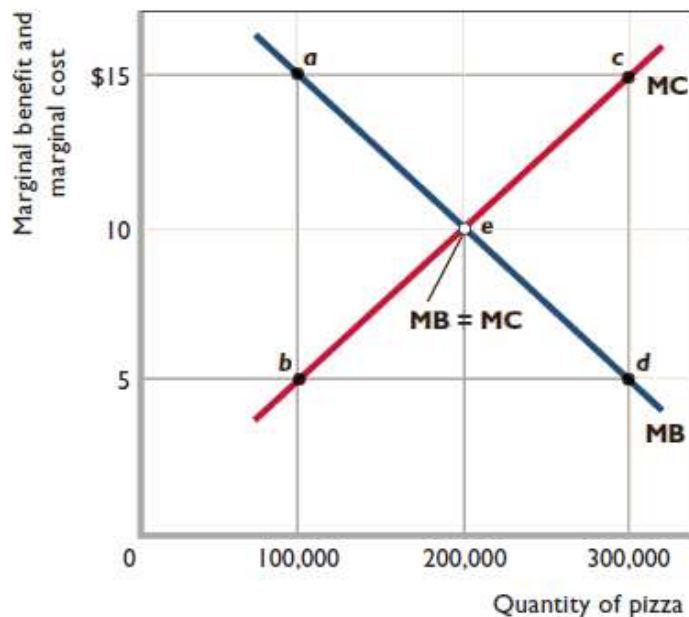
ذكرنا سابقاً أن منحنى إمكانيات الإنتاج يمثل أقصى ما يستطيع المجتمع إنتاجه. فالنقطة (A) والنقطة (B) والنقطة (C)، وكل نقطة على المنحنى تمثل أحد البدائل أو الخيارات التي يمكن للمجتمع أن ينتجها إذا استخدم جميع العناصر المتوفرة لديه. ونقول في هذه الحالة أن هذه البدائل التي تقع على المنحنى تمثل كفاءة إنتاجية (Productive Efficiency).



Economic decisions center on comparisons of marginal benefit (MB) and marginal cost (MC). Any economic activity should be expanded as long as marginal benefit exceeds marginal cost and should be reduced if marginal cost exceeds marginal benefit. *The optimal amount of the activity occurs where $MB = MC$.* Society needs to make a similar assessment about its production decision.

Consider pizzas. We already know from the law of increasing opportunity costs that the marginal costs of additional units of pizza will raise as more units are produced. At the same time, we need to recognize that the extra or marginal benefits that come from producing and consuming pizza decline with each successive unit of pizza. Consequently, each successive unit of pizza brings with it both increasing marginal costs and decreasing marginal benefits.

The optimal quantity of pizza production is indicated by point *e* at the intersection of the MB and MC curves: 200,000 units in Figure. Why is this amount the optimal quantity? If only 100,000 units of pizzas were produced, the marginal benefit of an extra unit of pizza (point *a*) would exceed its marginal cost (point *b*). When society gains something worth \$15 at a marginal cost of only \$5, it is better off. In Figure above, net gains can continue to be realized until pizza product production has been increased to 200,000.



If $MB > MC$ → production should be increased

If $MB < MC$ → production should be decreased

If $MB = MC$ → the optimal amount of the production occurs (optimal allocation)

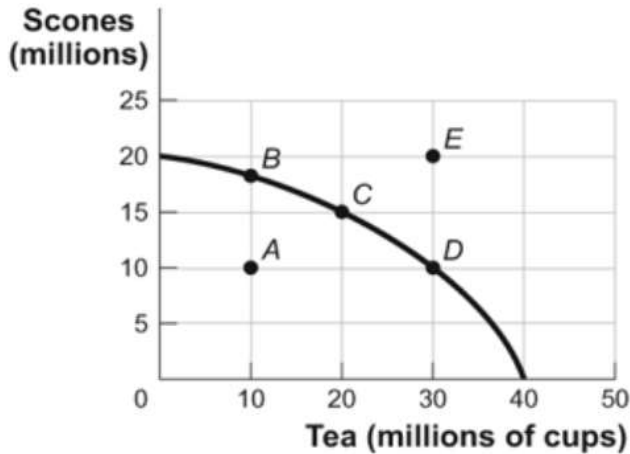
Productive Efficiency (كفاءة إنتاجية)

The production of any particular good in the least costly way (إنتاج السلعة بأقل التكاليف).

- Each point occurs on the production possibilities curve represents productive efficiency.
- Each point occurs inside the production possibilities curve represents productive inefficiency.

Example:

A production possibilities frontier for two products, Tea and Scones, is found below.



Refer to the production possibilities curve in the figure.

1. Which point is unattainable? Point E
2. Which point is attainable and efficient? Points B, C, and D
3. Which point is inefficient? Point A

Allocative efficiency (كفاءة توزيعية)

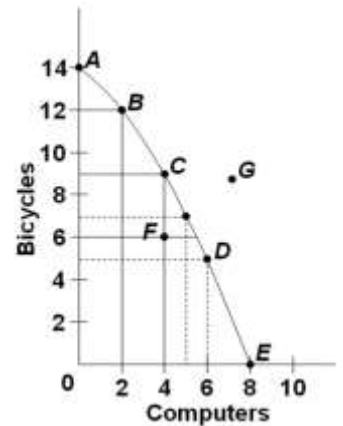
The particular mix of goods and services most highly valued by society (إنتاج ما يرغبه افراد المجتمع).

Economic Efficiency = Productive Efficiency + Allocative efficiency

Example: Choose the correct answer

1. The optimal point on a production possibilities curve is achieved where:
 - A. the smallest physical amounts of inputs are used to produce each good.
 - B. **each good is produced at a level where marginal benefits equal marginal costs.**
 - C. large amounts of capital goods are produced relative to consumer goods.
 - D. large amounts of consumer goods are produced relative to capital goods.
2. The marginal cost curve is:
 - A. **upsloping because of increasing marginal opportunity costs.**
 - B. upsloping because successive units of a specific product yield less and less extra utility.
 - C. downsloping because of increasing marginal opportunity costs.
 - D. downsloping because successive units of a specific product yield less and less extra utility.

3. The output of MP3 players should be:
- reduced if marginal benefits exceed marginal costs.
 - reduced if marginal costs exceed marginal benefits.**
 - increased if marginal costs exceed marginal benefits.
 - reduced to zero if their unit costs exceed the unit costs of alternative products.
4. Refer to the above diagram. Points *A*, *B*, *C*, *D*, and *E* show:
- That the opportunity cost of bicycles increases, while that of computers is constant.
 - Combinations of bicycles and computers that society can produce by using its resources efficiently.**
 - That the opportunity cost of computers increases, while that of bicycles is constant.
 - That society's demand for computers is greater than its demand for bicycles.



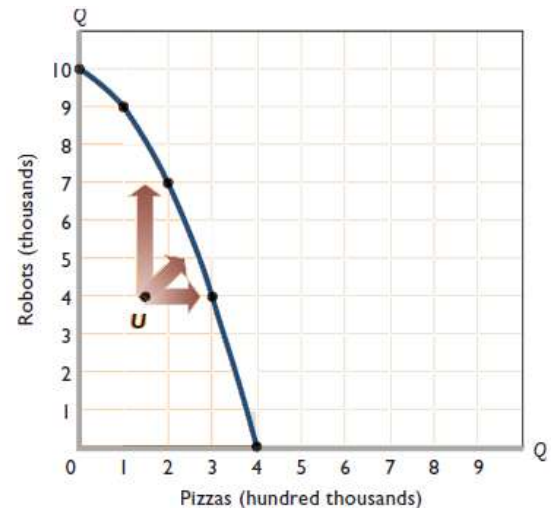
Unemployment, Growth, and the Future

Unemployment of Resources

عدم التوظيف الكامل لعناصر الإنتاج يحدث عندما تكون بعض عناصر الإنتاج غير مستغلة، أو غير مستغلة بصورة كاملة. وهذا يعني أن أي نقطة داخل منحنى إمكانيات الإنتاج تمثل عدم التوظيف الكامل لعناصر الإنتاج.

Any point inside the production possibilities curve, such as *U*, represents unemployment or a failure to achieve full employment.

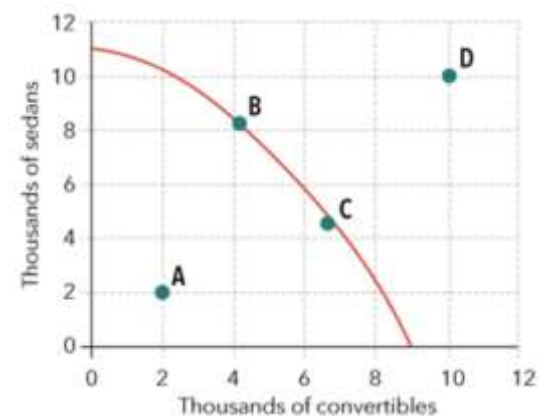
The arrows indicate that by realizing full employment, the economy could operate on the curve. This means it could produce more of one or both products than it is producing at point *U*.



Example

Refer to the production possibilities curve.

- Which point represents unemployment point? Point A
(لا يوجد هناك استغلال كامل لعناصر الإنتاج (جزء من عناصر الإنتاج معطل))
- Which points represent productive efficiency? Points B, and C



Growing Economy النمو الاقتصادي

When we drop the assumptions that the quantity and quality of resources and technology are fixed, the production possibilities curve shifts positions and the potential maximum output of the economy changes.

Production possibilities curve shifters: العوامل التي تؤدي إلى انتقال منحنى إمكانيات الإنتاج

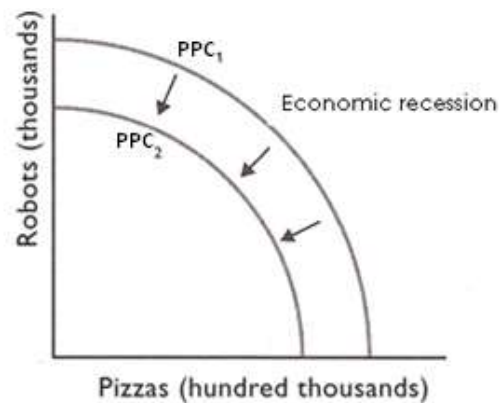
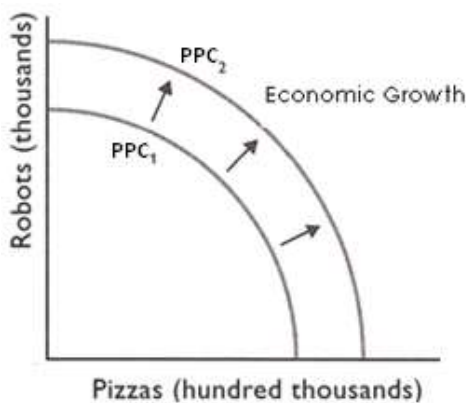
1. Increases in Resource Supplies: زيادة كمية و نوعية المصادر الإنتاجية

The increase in supplies of resources (land, labor, capital, and entrepreneurial ability), improvements in resource quality, move the production possibilities curve outward and to the right, allowing the economy to have larger quantities of both types of goods (Economic Growth).

The increase in supplies of resources, improvements in resource quality, shifts the production possibilities curve outward and to the right (Economic Growth).

إذا افترضنا أن كمية الموارد الإنتاجية قد زادت نتيجة لتزايد السكان والقوى العاملة في المجتمع، ونتيجة للاكتشافات الجديدة للثروة المعدنية، وزيادة التراكم الرأسمالي. إن ذلك يعني ببساطة أن مقدرة هذا المجتمع، أي طاقة الإنتاجية، سوف تزيد، وبالتالي يستطيع هذا المجتمع أن ينتج كميات أكبر من البضائع والخدمات سنوياً (نمو اقتصادي). ويمكن الحصول على نفس النتيجة إذا تحسنت نوعية الموارد المتاحة للمجتمع، مثل استصلاح الأراضي الزراعية، وتدريب العاملين، وصيانة الآلات، وغيرها.

A decrease in supplies of resources, shift the production possibilities curve inward and to the left from PPC_1 to PPC_2 . (Economic recession (ركود اقتصادي).



2. Advances in Technology تطور التكنولوجيا التي يستخدمها المجتمع

An advancing technology brings both new and better goods and improved ways of producing them. Increase in output leads to economic growth.

An advancing technology shifts PPC to the right, this leads to increase output.

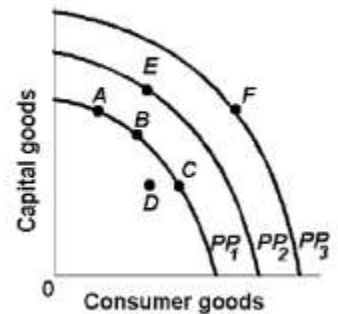
Example: Choose the correct answer

1. Unemployment:

- A. causes the production possibilities curve to shift outward.
- B. can exist at any point on a production possibilities curve.
- C. is illustrated by a point outside the production possibilities curve.
- D. is illustrated by a point inside the production possibilities curve.

2. A nation's production possibilities curve might shift to the left (inward) as a result of:
- technological advance.
 - increases in the size of the labor force.
 - the depletion of its soil fertility (إستنزاف خصوبة التربة) due to overplanting and overgrazing (الرعي الجائر)**
 - investing in more capital goods.

3. Refer to the above diagram. The concept of economic growth is best represented by the:

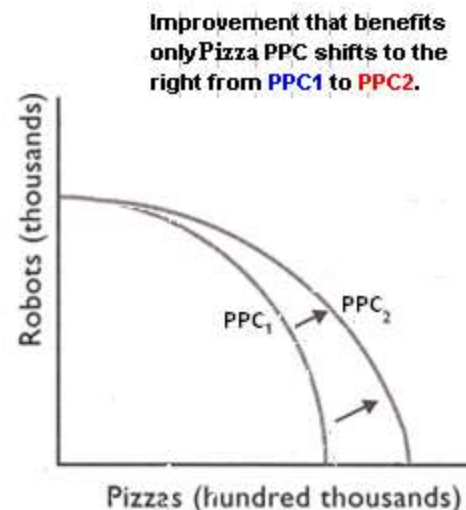
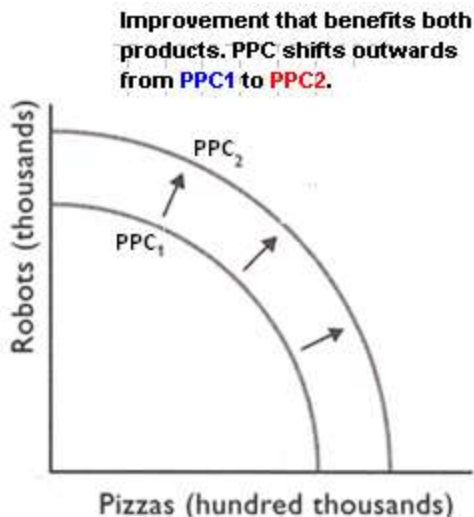


- Move from point B to point C.
 - Move from point C to point D.
 - Move from point B to point E.**
 - Move from point F to point E
4. Which of the following will shift the production possibilities curve to the right?
- an increase in the unemployment rate from 6 to 8 percent
 - a decline in the efficiency with which the present labor force is allocated
 - a decrease in the unemployment rate from 8 to 6 percent
 - a technological advance that allows farmers to produce more output from given inputs
5. Which of the following will shift the production possibilities curve to the right?
- an increase in the unemployment rate from 6 to 8 percent
 - a decline in the efficiency with which the present labor force is allocated
 - a decrease in the unemployment rate from 8 to 6 percent
 - a technological advance that allows farmers to produce more output from given inputs**

Biased Growth and Unbiased Growth: النمو المتوازن وغير المتوازن

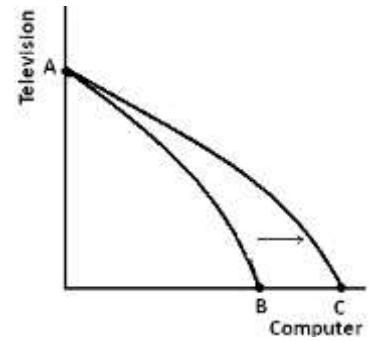
يحدث النمو المتوازن عندما يزداد إنتاج جميع السلع (Pizza and Robots) في مثالنا السابق بنفس النسبة. أما النمو الغير متوازن يحدث نتيجة لزيادة إنتاج سلعة ما دون غيرها. فعلى سبيل المثال، قد يتم تطوير تكنولوجيا خاصة بإنتاج الطعام أو يتم زيادة الأراضي الزراعية، وهذا ما سيؤدي إلى زيادة إنتاج الطعام دون أن يؤثر على إنتاج المكائن. وبالمقابل فقد يتم تطوير تكنولوجيا خاصة بإنتاج المكائن دون أن يؤثر ذلك على إنتاج لطعام.

Generally we assume an increase in available resources raises the production capacity of both goods. An improvement in technology, however, may be specific to one product. In this situation the PPC shifts outward only along one axis.



Example: Choose the correct answer

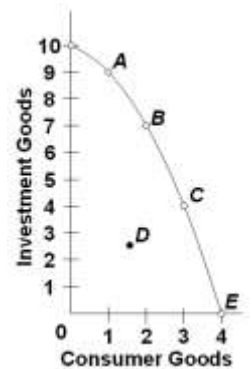
- Which of the following could explain the shift in the production possibilities frontier from AB to AC?
 - technological improvement in both television production and computer production
 - technological improvement in television production that has no effect on computer production
 - technological improvement in computer production that has no effect on television production**
 - an increase in the labor that can produce either television products or computer



- To improve the rate of growth of labor productivity a number of economists have suggested that there needs to be:
 - Improved microeconomic budgeting
 - An increase in investment relative to consumption**
 - Elimination of the large deficit in international trade
 - A reduction in defense spending and an increase in spending on social programs

- The optimal point on a production possibilities curve is achieved where:
 - The smallest physical amounts of inputs are used to produce each good.
 - Each good is produced at a level where marginal benefits equal marginal costs.**
 - Large amounts of capital goods are produced relative to consumer goods.
 - Large amounts of consumer goods are produced relative to capital goods.

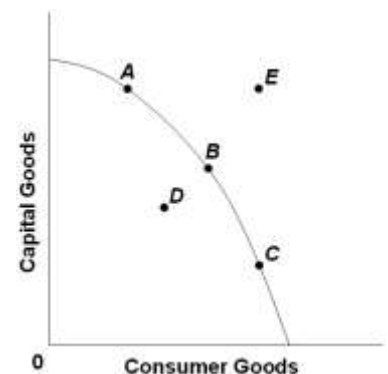
- Refer to the graph. Which point in the graph would allow a simultaneous increase in the production of both investment and consumer goods?



- A
- B
- C
- D

- The negative slope of the production possibilities curve is a graphical way of indicating that:
 - Any economy "can have its cake and eat it too."
 - To produce more of one product we must do with less of another.**
 - The principle of increasing opportunity costs applies to only parts of the economy.
 - Consumers buy more when prices are low than when prices are high.

- Refer to the diagram. Other things equal, this economy will achieve the most rapid rate of growth if:
 - The ratio of capital to consumer goods is minimized.
 - It chooses point C.
 - It chooses point B.
 - It chooses point A.**



Chapter One Appendix: Graphs and Their Meaning

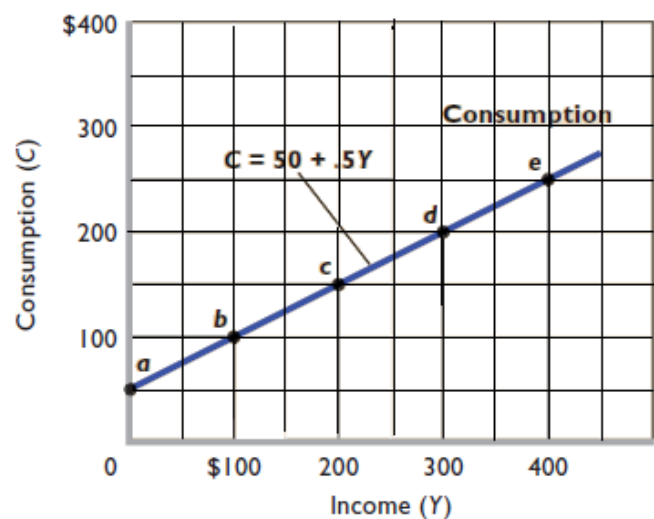
Construction of a Graph

A graph is a visual representation of the relationship between two variables.

إن الرسوم البيانية تهدف إلى تمثيل وتوضيح العلاقات بين المتغيرات الاقتصادية وخاصة عندما نريد أن نربط علاقة متغيرين مع بعضهما البعض. والخطوة الأولى في عملية التمثيل البياني هي أن نرسم محورين متعامدين يطلق على المحور الأفقي "المحور السيني" (Horizontal Axis) وعلى المحور العمودي "المحور الصادي" (Vertical Axis). كما أن عملية الرسم البياني تناسب جداً مع دراسة متغيرين، أحدهما تابع (dependent) والآخر مستقل (independent)، حيث يخص المحور الصادي (Vertical Axis) للمتغير التابع (dependent) والمحور السيني (Horizontal Axis) للمتغير المستقل (Independent).

The table in Figure 1 is a hypothetical illustration showing the relationship between income and consumption for the economy as a whole. Without even studying economics, we would logically expect that people would buy more goods and services when their incomes go up. Thus, it is not surprising to find in the table that total consumption in the economy increases as total income increases. The information in the table is expressed graphically in Figure 1. Here is how it is done: We want to show visually how consumption changes as income changes. We therefore represent income on the horizontal axis of the graph and consumption on the vertical axis.

Income per Week	Consumption per Week	Point
\$ 0	\$ 50	a
100	100	b
200	150	c
300	200	d
400	250	e



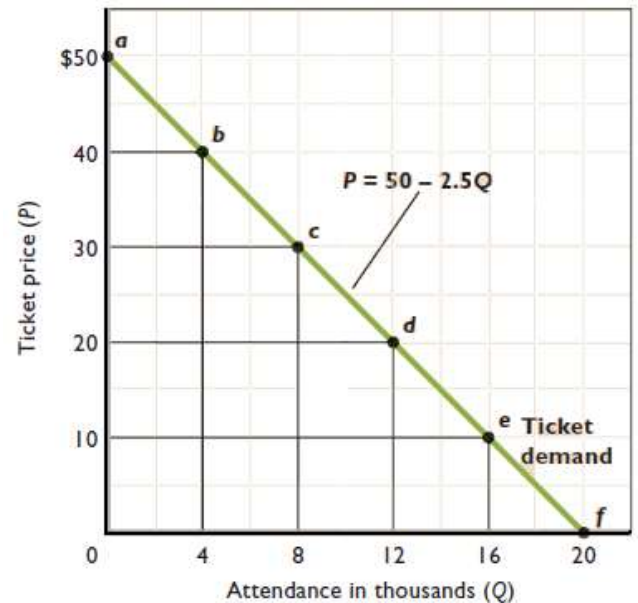
❖ If the curve is a straight line, as in Figure, we say the relationship is linear.

Direct and Inverse Relationships العلاقة الطردية والعلاقة العكسية

The line in Figure above slopes upward to the right, so it depicts a direct relationship between income and consumption. By a direct relationship (or positive relationship) we mean that two variables change in the same direction. An increase in consumption is associated with an increase in income; a decrease in consumption accompanies a decrease in income. When two sets of data are positively or directly related, they always graph as an upsloping line, as in Figure above.

In contrast, two sets of data may be inversely related. Consider the table in Figure below, which shows the relationship between the price of basketball tickets and game attendance. Here we have an inverse relationship (or negative relationship) because the two variables change in opposite directions. When ticket prices decrease, attendance increases. When ticket prices increase, attendance decreases. The six data points in the table in Figure 2 are plotted in the graph. Observe that an inverse relationship always graphs as a down sloping line

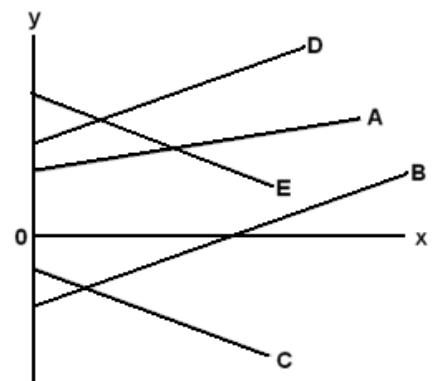
Ticket Price	Attendance, Thousands	Point
\$50	0	a
40	4	b
30	8	c
20	12	d
10	16	e
0	20	f



- When two sets of variables are positively or directly related, they always graph as an upward sloping line.
- When two sets of variables are negatively or inversely related, they always graph as a down sloping line.

Multiple Choices:

1. If we say that two variables are directly related, this means that:
 - A. the relationship between the two is purely random.
 - B. an increase in one variable is associated with a decrease in the other variable.
 - C. **an increase in one variable is associated with an increase in the other variable.**
 - D. the two graphs as a down sloping line.
2. If we say that two variables are inversely related, this means that:
 - A. the two graph as an upsloping line.
 - B. **an increase in one variable is associated with a decrease in the other.**
 - C. an increase in one variable is associated with an increase in the other.
 - D. the resulting relationship can be portrayed by a straight line parallel to the horizontal axis.
3. Refer to the diagram. Which line(s) show(s) a positive relationship between x and y?
 - A. A only.
 - B. A and D only.
 - C. **C, A, B, and D.**
 - D. Both C and E.
4. Refer to the diagram. Which line(s) show(s) a negative relationship between x and y?
 - A. A only.
 - B. both A and D.
 - C. A, B, and D.
 - D. **Both C and E.**



5. If a positive relationship exists between x and y:
 - A. an increase in x will cause y to decrease.
 - B. a decrease in x will cause y to increase.
 - C. **the relationship will graph as an upsloping line.**
 - D. the vertical intercept must be positive.
6. If price (P) and quantity (Q) are directly related, this means that:
 - A. a change in Q will alter P, but a change in P will not alter Q.
 - B. if P increases, Q will decrease.
 - C. **if P increases, Q will also increase.**
 - D. an increase in P will cause Q to change, but the direction in which Q changes cannot be predicted.

Dependent and Independent Variables

The independent variable is the cause or source; it is the variable that changes first.

Dependent variable is the effect or outcome; it is the variable that changes because of the change in the independent variable.

As in our income-consumption example, income generally is the independent variable and consumption the dependent variable. Income causes consumption to be what it is rather than the other way around. Similarly, ticket prices determine attendance basketball games; attendance at games does not determine the printed ticket prices for those games. Ticket price is the independent variable and the quantity of tickets purchased is the dependent variable.

Mathematicians put the independent variable (cause) on the horizontal axis and the dependent variable (effect) on the vertical axis.

Multiple Choices:

1. Which of the following statements is correct?
 - A. The value of the independent variable is determined by the value of the dependent variable.
 - B. **The value of the dependent variable is determined by the value of the independent variable.**
 - C. The dependent variable designates the "cause" and the independent variable the "effect."
 - D. Dependent variables graph as upsloping lines; independent variables graph as downsloping lines.

Slope of a line

The slope of a straight line is the ratio of the vertical change to the horizontal change between any two points of the line.

$$\text{Slope} = \frac{\text{Vertical change}}{\text{Horizontal change}} = \frac{\Delta y}{\Delta x}$$

Positive Slope

Slope is positive when X and Y have a direct relationship. Because consumption and income change in the same direction; that is, consumption and income are directly or positively related.

Example:

Income per Week	Consumption per Week	Point
\$ 0	\$ 50	a
100	100	b
200	150	c
300	200	d
400	250	e

Calculate the slope between point b and c.

Because income is the independent variable and consumption the dependent variable, when we plotted the graph we put consumption on the vertical axis and income in the horizontal axis.

$$\text{Slope} = \frac{\Delta \text{Consumption}}{\Delta \text{Income}} = \frac{(150 - 100)}{(200 - 100)} = \frac{50}{100} = \frac{1}{2}$$

The slope of 0.5 tells us there will be a \$0.5 increase in consumption for every \$1 increase in income. Or when income increase by \$2, consumption increase by \$1.

Negative Slope

Slope is negative when X and Y have an inverse relationship.

Example:

The slope between point a and b is:

$$\text{Slope} = \frac{\Delta \text{Ticket price}}{\Delta \text{Attendance}} = \frac{(40 - 50)}{(4 - 0)} = \frac{-10}{4} = -2.5$$

Ticket Price	Attendance, Thousands	Point
\$50	0	a
40	4	b
30	8	c
20	12	d
10	16	e
0	20	f

The slope of - 2.5 means that when person attendance increase by 1 person, then the ticket price reduce by \$2.5

Slopes and Marginal Analysis

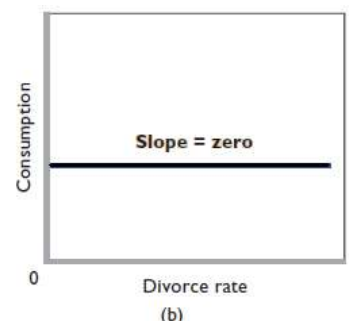
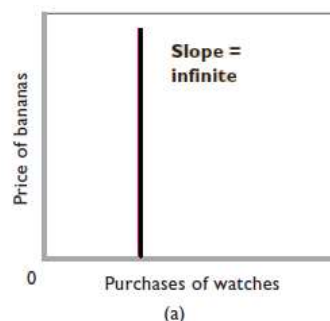
The concept of slope is important in economics because it reflects marginal changes-those involving 1 more (or 1 less) unit. For example, the 0.5 slope shows that \$.50 of extra or marginal consumption is associated with each \$1 change in income. In this example, people collectively will consume \$.50 of any \$1 increase in their incomes and reduce their consumption by \$.50 for each \$1 decline in income.

Infinite and Zero Slopes

Many variables are unrelated or independent of one another, the slope of this line is infinite or zero.

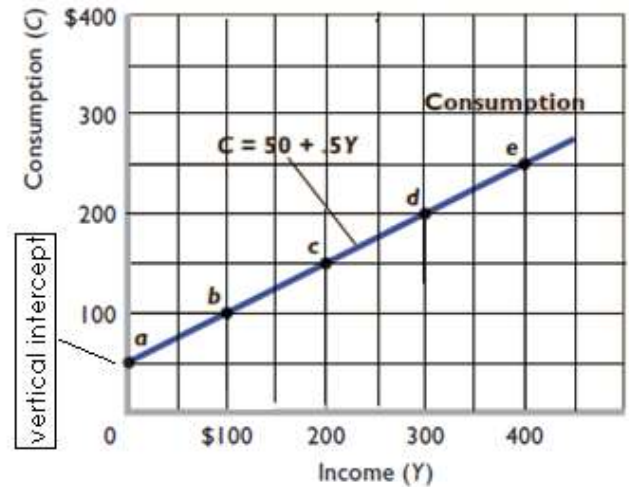
A line parallel to the vertical axis (موازي لمحور الصادات) has an infinite slope.

A line parallel to the horizontal axis (موازي لمحور السينات) has a zero slope.



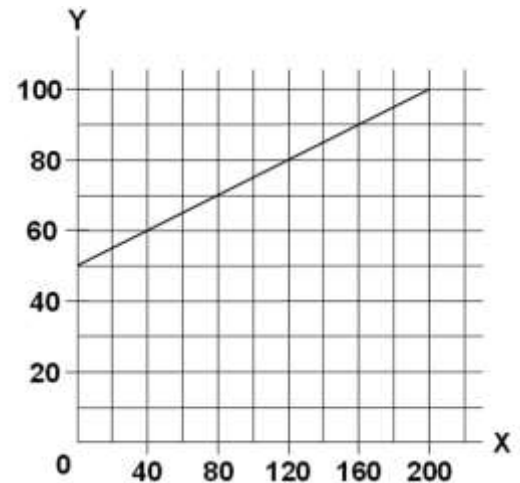
Vertical Intercept

The vertical intercept of a line is the point where the line meets the vertical axis. In Figure below the intercept is \$50. This intercept means that if current income were zero, consumers would still spend \$50. They might do this through borrowing or by selling some of their assets. Similarly, the \$50 vertical intercept in Figure 2 shows that at a \$50 ticket price, GSU's basketball team would be playing in an empty arena.



Multiple Choices:

- Refer to the above diagram. The variables X and Y are:
 - inversely related.
 - directly related.**
 - unrelated.
 - negatively related.
- Refer to the above diagram. The vertical intercept:
 - is 40.
 - is 50.**
 - is 60.
 - cannot be determined from the information given.
- Refer to the above diagram. The slope of the line:
 - is $^{-1}/4$.
 - is $+1/4$.
 - is 0.40.
 - cannot be determined from the information given.
- Refer to the above data sets. The vertical intercept is positive for:
 - all five data sets.
 - data sets 1 and 3 only.**
 - data sets 1, 3, and 5 only.
 - data set 2 only.



(1)		(2)		(3)		(4)		(5)	
J	K	L	M	N	P	R	T	U	V
0	10	0	-15	100	40	0	-15	0	0
40	20	30	-5	80	50	20	-25	5	10
80	30	60	5	60	60	40	-35	10	20
120	40	90	15	40	70	60	-45	15	30
160	50	120	25	20	80	80	-55	20	40
200	60	150	35	0	90	100	-65	25	50

Equation of a Linear Relationship

If we know the vertical intercept and slope, we can describe a line succinctly in equation form. In its general form, the equation of a straight line is $y = a + bx$

Where y = dependent variable
 a = vertical intercept
 b = slope of line
 x = independent variable

For our income-consumption example, if C represents consumption (the dependent variable) and Y represents income (the independent variable), we can write $C = a + bY$.

By substituting the known values of the intercept and the slope, we get $C = 50 + 0.5 Y$. This equation also allows us to determine the amount of consumption C at any specific level of income. You should use it to confirm that at the \$250 income level, consumption is \$175.

Example:

Refer to the diagram below write the linear equation that shows the relationship between Y and X

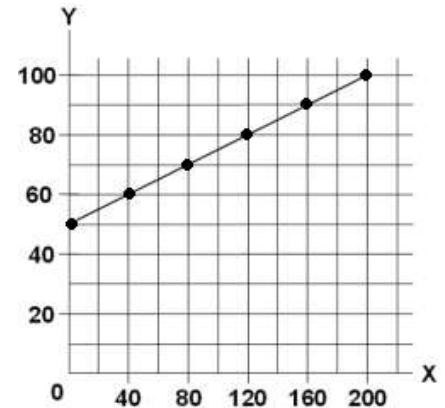
The linear equation form: $y = a + b x$

a = vertical intercept = 50

b = slope of line

$$\text{Slope} = \frac{\text{Vertical change}}{\text{Horizontal change}} = \frac{\Delta y}{\Delta x} = \frac{(70-60)}{(80-40)} = \frac{10}{40} = \frac{1}{4}$$

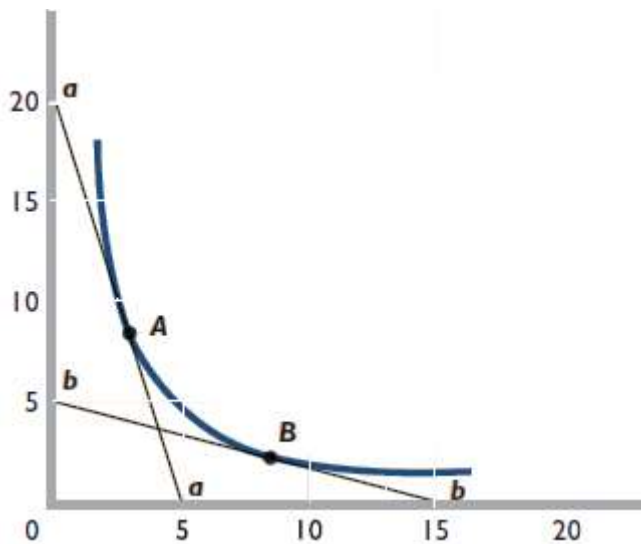
$$\rightarrow y = 50 + \frac{1}{4} x$$



Slope of a Nonlinear Curve

The slope of a straight line is the same at all its points. The slope of a line representing a nonlinear relationship changes from one point to another. Such lines are always referred to as curves.

To measure the slope at a specific point on nonlinear curve, we draw a straight line tangent (مماس) to the curve at that point. (A line is tangent at a point if it touches, but does not intersect).



CHAPTER 2

The Market System and the Circular Flow

نظام السوق والتدفق الدائري

Economic Systems: النظم الاقتصادية

Economic system: a particular set of institutional arrangements and a coordinating mechanism to achieve economics goals.

يعرف النظام الاقتصادي بأنه مجموعة المؤسسات التي يسعى المجتمع من خلالها إلى تحقيق الأهداف الاقتصادية التي يرغب فيها. وقد تتضمن هذه الأهداف إنتاج أكبر كمية من السلع، والعدالة في توزيعها بين أفراد المجتمع، والنمو في الناتج القومي، والاستقرار في أسعار السلع وغيرها.

Economic system has to determine what goods are produced, how they are produced, who gets them, how to accommodate changes, and how to promote technological progress. Economic systems differ as to (1) who owns the factors of production and (2) the method used to motivate, coordinate, and direct economic activity.

النظام الاقتصادي يحدد السلع والخدمات التي سيتم إنتاجها ، وكيف يتم إنتاجها وكيف يتم توزيعها بين أفراد المجتمع. هناك نوعان من النظم الاقتصادية الوضعية التي تختلف فيما بينها من حيث ملكية الموارد الإنتاجية، وآلية معالجة المشاكل الاقتصادية، وفلسفة توزيع البضائع والخدمات بين أفراد المجتمع.

Laissez-Faire Capitalism (Pure Capitalism) النظام الرأسمالي الحر

Laissez-faire capitalism, in which government interaction is at a very minimum and markets and prices are allowed to direct nearly all economic activity.

في سوق الرأسمالي الحر (سوق عدم التدخل) ، حيث يكون التدخل الحكومي في السوق عند حده الأدنى ، مما يسمح للأسواق والأسعار بتوجيه كل النشاط الاقتصادي تقريباً.

In pure capitalism—or laissez-faire capitalism— government's role would be limited to protecting private property and establishing an environment appropriate to the operation of the market system. The term "laissez-faire" means "let it be," that is, keep government from interfering with the economy. The idea is that such interference will disturb the efficient working of the market system.

في سوق الرأسمالي الحر يكون دور الحكومة مقصوراً على حماية الملكية الخاصة وإنشاء بيئة مناسبة لتشغيل نظام السوق. مصطلح "دعه يعمل" يعني منع الحكومة من التدخل في الاقتصاد. الفكرة هي أن مثل هذا التدخل من شأنه أن يزعج كفاءة عمل نظام السوق.

The Command (Socialism) System النظام الاشتراكي

In that system, government owns most property resources and economic decision making occurs through a central economic plan. A central planning board appointed by the government makes nearly all the major decisions concerning the use of resources, the composition and distribution of output, and the organization of production.

The government owns most of the business firms, which produce according to government directives. The central planning board determines production goals for each enterprise and specifies the amount of resources to be allocated to each enterprise so that it can reach its production goals. The division of output between capital and consumer goods is centrally decided, and capital goods are allocated among industries on the basis of the central planning board's long-term priorities.

يقوم النظام الاشتراكي على المرتكزات التالية: الملكية العامة للموارد الاقتصادية، والدولة هي التي تمتلك الموارد الإنتاجية بصفة عامة، أو هي التي تسيطر عليها. فالأراضي والمكانن والمباني والمناجم كلها ملك للدولة. كما تقوم الدولة في ظل هذا النظام بمواجهة المشاكل الاقتصادية المختلفة وتحديد خيارات المجتمع (ماذا ننتج، وكيف ننتج، ولمن ننتج) بواسطة التخطيط والتنسيق الحكومي المركزي. فالصين والإتحاد السوفياتي السابق هما اقرب إلى النظام الاشتراكي.

The Market System (capitalism)" النظام السوق "النظام الرأسمالي"

*The system is characterized by the private ownership of resources and the use of markets and prices to coordinate and direct economic activity. Participants act in their own self-interest. Individuals and businesses seek to achieve their economic goals through their own decisions regarding work, consumption, or production. The system allows for the private ownership of capital, communicates through prices, and coordinates economic activity through *markets*—places where buyers and sellers come together. Goods and services are produced and resources are supplied by whoever is willing and able to do so. The result is competition among independently acting buyers and sellers of each product and resource.*

أهم ما يميز النظام الرأسمالي الملكية الخاصة لعناصر الإنتاج. فالأراضي والمناجم والمكانن وغيرها من الموارد الاقتصادية الأخرى ملك للأفراد أو المؤسسات الخاصة التي يمتلكها الأفراد. ويقوم هذا النظام على حماية الملكية الخاصة بكافة أشكالها بما في ذلك حقوق الملكية وبراءات الاختراع. كذلك الحرية الشخصية في الاختيار: فالفرد في ظل هذا النظام يستطيع اختيار العمل الذي يرغب فيه، ويستطيع إنتاج السلع التي يراها مربحة. وكذلك يتم حل المشاكل الاقتصادية المختلفة في النظام الرأسمالي من خلال نظام السوق باستخدام آلية السعر.

Example: Choose the correct answer

1. Economic planning by central government agencies is primarily associated with
 - A. **Command economies.**
 - B. Market economies.
 - C. Laissez faire economies.
 - D. Mixed economies.
2. The market system is an economic system that:
 - A. Produces more consumer goods than capital goods
 - B. Produces more capital goods than consumer goods
 - C. **Gives private individuals the right to own resources used in production**
 - D. Emphasizes the government's power to control markets and direct economic activity
3. One element of the command system is:
 - A. Capitalism
 - B. Free markets
 - C. Private ownership
 - D. **Central planning**
4. Which would *not* be characteristic of a capitalist economy?
 - A. **Government ownership of most factors of production**
 - B. Competition and unrestricted markets
 - C. Reliance on the market system
 - D. Freedom of enterprise and choice
5. In a command system:
 - A. The government makes production and allocation decisions
 - B. Market traders command what outputs are produced and how they are allocated
 - C. Government ownership of most factors of production (resources)
 - D. **Both A and C are true**
6. Laissez-faire capitalism (pure capitalism) is characterized by:
 - A. Very limited government role in the economy
 - B. government's role would be limited to protecting private property
 - C. Private ownership of resources and the use of market and prices to coordinate and direct economic activity
 - D. **All of the above**
7. An economic system in which the government decides what goods are produced, how they are produced, and for whom they are produced is known as a
 - A. Market system
 - B. **Command system**
 - C. Capitalism
 - D. Laissez-fair capitalism

Characteristics of the Market System (النظام الرأسمالي)

- **Private Property** الملكية الخاصة لعناصر الإنتاج

In a market system, private individuals and firm, not the government, own most of the property resources (land and capital). It is this extensive private ownership of capital that gives capitalism its name.

حيث يقوم النظام الرأسمالي على ملكية الأفراد لعناصر الإنتاج، ويعترف القانون بهذه الملكية ويحميها، فالمالك له مطلق الحرية في التصرف فيما يملك بالبيع وخلافه، وله الحق في استغلاله في أي مجال طالما لا يتعارض مع القانون. فيمكن أن يوظف أمواله وما لديه في النشاط الزراعي أو الصناعي أو يتركه عاطلاً، فهو له مطلق الحرية فيما يملك، ومن أهم الوظائف التي يؤديها حق الملكية الخاص لعناصر الإنتاج أنه يوفر الباعث على الادخار، فمن يملك يستهلك جزءاً مما يملكه ويدخر الباقي، وبذلك يكون هناك مدخرات لأغراض الاستثمار وزيادة الدخل، فبدون الباعث على الادخار الذي يتيح نظام الملكية الفردية لا تتوافر الأموال التي توجه إلى الاستثمار.

- **Freedom of Enterprise and Choice** حرية اختيار النشاط الاقتصادي

Businesses are free to obtain and use economic resources to produce their choice of goods and serves and to sell them in their chosen market.

ويقوم هذا النظام على الحرية الشخصية في الاختيار: فالفرد في ظل هذا النظام يستطيع اختيار العمل الذي يرغب فيه، ويستطيع إنتاج السلع التي يراها مربحة.

- **Self-Interest** المصلحة الشخصية

In the market system, self-Interest is the motivating force of the various economic units as they express their free choices. Self-Interest simply means that each economic unit tries to achieve its own particular goal, which usually requires delivering something of value to others.

يعد حافز الربح في النظام الرأسمالي هو الدافع الأساسي لزيادة الإنتاج، وهو المحرك الرئيس لأي قرار يتخذه المنتجون، فكل فرد في هذا النظام إنما يتصرف بما تمليه عليه مصلحته الشخصية بما يتفق مع تحقيق أهدافه الخاصة، وبما أن الربح هو الفرق بين الإيرادات والتكاليف، فإن المنتجين في النظام الرأسمالي يختارون النشاط الاقتصادي الملائم لاستغلال الموارد بأفضل طريقة ممكنة، وحين يحدث ذلك في جميع الأنشطة الاقتصادية فإن كل الموارد الاقتصادية تكون قد استخدمت ونظمت بحيث تعطي أقصى أرباح ممكنة، وبالتالي يحصل المجتمع على أقصى دخل ممكن من موارده.

Entrepreneurs try to maximize profit or minimize loss. Property owners try to get the highest price for the sale or rent of their resources. Workers try to maximize their utility (satisfaction) by finding jobs.

- **Competition** المنافسة

The market system depends on competition among economic units. Competition requires two or more buyers and two or more seller acting independently in a particular product or resources market. Freedom of sellers and buyers to enter or leave markets.

وهي من أهم خصائص النظام الرأسمالي، حيث تعتبر من العوامل التي تعمل على زيادة الكفاءة الاقتصادية والإنتاجية، فالمنتجون يتنافسون فيما بينهم لاجتذاب أكبر عدد من المستهلكين، والنتيجة هي اتجاه الأسعار للانخفاض وخروج المنتجين ذوي الكفاءة المنخفضة، ولا يتبقى في السوق إلا الأكفاء، ومن ثم يؤدي ذلك إلى الاستخدام الأفضل للموارد ومن ثم التخصيص الكفء للموارد. ومن ناحية أخرى توجد المنافسة على مستوى المستهلكين الذين يتنافسون فيما بينهم للحصول على السلع والخدمات التي يحتاجونها؛ ما يؤدي إلى ارتفاع الأسعار، بحيث يخرج المستهلكون الذين لا تمثل لهم السلع ضرورة قصوى، أو الذين لا تتناسب المنفعة التي يحصلون عليها من السلعة مع ثمن السلعة. ولا يتبقى في السوق إلا الذين تكون حاجتهم للسلعة أكبر. وهكذا يؤدي التنافس بين المنتجين فيما بينهم وبين المستهلكين فيما بينهم إلى الاستغلال الكفء للموارد الاقتصادية؛ حيث إن توفر خاصية المنافسة يؤدي إلى توفير السلع بأحسن جودة وأفضل الأسعار.

- **Market and Prices** آلية التسعير

In the market system, markets, prices, and profits organize and market effective the many millions of individual economic decision that occur daily.

توجد رغبات للمستهلكين في سلع معينة، هذه الرغبات تسمى بقوة الطلب، وتوجد رغبات للمنتجين في عرض منتجاتهم وبيعها لتحقيق أنظم ربح ممكن، ويسمى ذلك بقوة العرض، فنتيجة للتفاعل بين قوى الطلب وقوى العرض تتحدد الأسعار وتتجدد كمية كل منتج في السوق.

- **Technology and Capital Goods** التكنولوجيا

Advanced technology and capital goods are important because the most direct methods of production are often the least efficient.

التقنية المتقدمة والسلع الإنتاجية مهمة لأن باستخدام مستوى تكنولوجيا متقدم نستطيع إنتاج نفس الكمية بأقل تكلفة (كفاءة إنتاجية).

- **Specialization**

Specialization is the use of resources of an individual, firm, region, or nation to produce one or a few goods or services. These goods and services are then exchanged for a full range of desired products.

التخصص هو استخدام موارد المجتمع لإنتاج سلعة أو خدمة واحدة أو بضع سلع. ثم يتم استبدال هذه السلع والخدمات بمجموعة كاملة من المنتجات المرغوبة.

- **Use of money** استعمال النقود

The characteristic of any economic system is the extensive use of money. Money performs several functions, but first and foremost it is a medium of exchange.

تحدد مكانة النقود وأهميتها في الاقتصاد الرأسمالي في أن النقود تسهل عملية التبادل التجاري، كذلك فإن وظيفة النقود المتعلقة بحفظ قيمة النقود لهي وظيفة لا غنى عنها لتمكين الاقتصاد القائم على المبادلة من أن يتطور وينمو. والواقع أن الاقتصاد الرأسمالي يركز على أساس ملكية الأفراد لأدوات الإنتاج، وإن الإنتاج هو إنتاج تلقائي يتم عن طريق قوى السوق وجهاز الائتمان الذي يلعب الدور الحيوي في توزيع القوى الإنتاجية، بعبارة أخرى السوق وحركات الائتمان هي الأساس في التنسيق في الاقتصاد الرأسمالي، وفي هذا الاقتصاد لا تكمن أهمية النقود فقط في كونها وسيطاً للتبادل، بل هي تدخل في معاملات السوق على هيئة الائتمان، فإن كل طلب على سلعة يوجد مقابله عرض للنقود، والعكس بالعكس.

- **Active, but limited, government**

An active, but limited, government is the final characteristics of market system in modern advanced industrial economies. Although a market system protests a high degree of efficiency in the use of its resources.

فكرة الاقتصاد الحر هو عدم تدخل الدولة في الأنشطة الاقتصادية وترك السوق يضبط نفسه بنفسه. والرأسمالية تعتمد بالأساس على فكرة الحرية الفردية، ولمعرفة فكرة الاقتصاد الحر أو اقتصاد السوق بشكل ايجابي فسيكون التعريف هو ان الفرد ولد حراً، بالتالي فإن له الحرية في أن يقوم بأى نشاط اقتصادي. ومع ذلك فإن اقتصاد السوق لا يعني بأي شكل من الأشكال غياب القطاع العام ودور الدولة في تنظيم الحياة الاقتصادية. فالحكومة قد تتدخل لفرض سقف سعري للحماية المستهلكين عندما يكون السعر مرتفع أو لفرض ارضية سعرية لحماية المنتجين عندما يكون السعر منخفض.

Example: Choose the correct answer

1. Which of the following is *not* a characteristic of the market system?
A. Private property.
B. Freedom of enterprise.
C. **Government ownership of major industries.**
D. Competition in product and resource markets.
2. Which of the following is a fundamental characteristic of the market system?
A. **Property rights.**
B. Central planning by government.
C. Unselfish behavior.
D. Government-set wages and prices.
3. Specialization in production is important primarily because it:
A. **Results in greater total output.**
B. Allows society to avoid the coincidence-of-wants problem.
C. Allows society to trade by barter.
D. Allows society to have fewer capital goods.
4. Competition means that:
A. Sellers can manipulate market price by causing product scarcities.
B. **There are independently-acting buyers and sellers in each market.**
C. A product can be purchased at a number of different prices.
D. There is more than one seller in a market
5. The use of money contributes to economic efficiency because:
A. Governmental direction of the production and distribution of output can be avoided by using money.
B. Roundabout production could not occur without the availability of money.
C. It is necessary for the creation of capital goods.
D. **It promotes specialization by overcoming the problems with barter.**

Five Fundamental Questions: الأمور التي يهتم بها علم الاقتصاد

The key features of the market system help explain how market economies respond to five fundamental questions:

- What goods and services will be produced?
- How will the goods and services be produced?
- Who will get the goods and services?
- How will the system accommodate change?
- How will the system promote progress?

• **What Will Be Produced?** ما هي السلع والخدمات التي ينتجها المجتمع

The goods and services produced at a continuing profit will be produced, and those produced at a continuing loss will not. Profits and losses are the difference between the total revenue (TR) a firm receives from the sale of its products and the total opportunity cost (TC) of producing those products.

The market system produces products whose production and sale yield total revenue sufficient to cover total cost ($TR > TC \Rightarrow$ profit). It does not produce products for which total revenue continuously falls short of total cost ($TR < TC \Rightarrow$ losses). Competition forces firms to use the lowest-cost production techniques.

يتم إنتاج السلع والخدمات التي تحقق أرباح بينما لا يتم السلع والخدمات التي يعود على إنتاجها خسارة على المجتمع. على الاقتصاد القومي أو المجتمع أن يختار السلع والخدمات التي يجب أن ينتجها وفقاً لموارده الإنتاجية المتاحة. يُنتج نظام السوق المُنتجات التي تعود عليه بإيراد إجمالي كافٍ لتغطية التكلفة الكلية (ربح). هو لا يُنتج المُنتجات التي إيرادها أقل من التكلفة الكلية بشكل مستمر (خسارة). تُجبر المنافسة الشركات لاستعمال تقنيات إنتاج بأقل تكلفة.

In the market system, consumers are sovereign (in command). **Consumer sovereignty** is crucial in determining the types and quantities of goods produced. Consumers spend their income on the goods they are most willing and able to buy. Through these **"dollar votes"** they register their wants in the market. If the dollar votes for a certain product are great enough to create a profit, businesses will produce that product and offer it for sale. In contrast, if the dollar votes do not create sufficient revenues to cover costs, businesses will not produce the product. So the consumers are sovereign.

في نظام السوق ، المستهلكون ذوو سيادة. سيادة المستهلك مهمة في تحديد أنواع وكميات السلع المنتجة. ينفق المستهلكون دخلهم على السلع الأكثر استعداداً وقدرة على شرائها. من خلال هذه "الأصوات الدولارية" يسجلون رغباتهم في السوق. إذا كان تصويت الدولار لمنتج معين كبيراً بما يكفي لتحقيق ربح ، فإن الشركات ستنتج هذا المنتج وتعرضه للبيع. في المقابل ، إذا لم تحقق الأصوات بالدولار عائدات كافية لتغطية التكاليف ، فلن تنتج الشركات المنتج. لذا فالمستهلكون ذوو سيادة.

- **How will the goods and services be produced?** كيف ننتج السلع والخدمات

What combinations of resources and technologies will be used to produce goods and services? How will the production be organized? *The answer: In combinations and ways that minimize the cost per unit of output.* Because competition eliminates high-cost producers, profitability requires that firms produce their output at minimum cost per unit. Achieving this least-cost production necessitates, for example, that firms use the right mix of labor and capital, given the prices and productivity of those resources. It also means locating production facilities optimally to hold down production and transportation expenses. Least-cost production also means that firms must employ the most economically efficient technique of production in producing their output. The most efficient production technique depends on the available technology, that is, the various combinations of resources that will produce the desired results, the prices of the needed resources.

ما هي كمية الموارد الإنتاجية ومستوى التكنولوجيا التي سيتم استخدامها لإنتاج السلع والخدمات؟ الأسلوب الأمثل لإنتاج السلع والخدمات هو إنتاج كميات متباينة من السلع والخدمات بأقل تكلفة (تكون تكلفة الوحدة أقل ما يمكن). يتطلب زيادة الأرباح أن يتم إنتاج الوحدة بأقل تكلفة ممكنة، ولتحقيق ذلك لا بد من الاستخدام الأمثل لكمية عناصر الإنتاج وكذلك استخدام مستوى تكنولوجيا أكثر تقدماً في الإنتاج. بالطبع ستعتمد كيفية الإنتاج على مدى توفير عنصر من عناصر الإنتاج. فمثلاً الاقتصاد القومي أو المجتمع الذي تتوفر فيه أعداد كبيرة من الموارد البشرية (العمال) سيختار أسلوب إنتاجي يعتمد على استخدام الأيدي العاملة بنسبة أكثر من استخدام الماكينات والآلات، بعكس مجتمع لديه قلة في الأيدي العاملة وعنده تكنولوجيا متقدمة فسيختار أسلوب إنتاجي يعتمد على استخدام رأس المال (الماكينات والآلات) بنسبة أكثر من الأيدي العاملة. والأسلوب الأمثل للإنتاج هو الإنتاج بأقل تكلفة (تكون تكلفة الوحدة أقل ما يمكن).

- **How will get the goods and services?** لمن ننتج السلع والخدمات

The market system enters the picture in two ways when determining the distribution of total output. Generally, any product will be distributed to consumers on the basis of their ability and willingness to pay its existing market price. The ability to pay the prices for products depends on the amount of income that consumers have, along with the prices of, and preferences for, various goods. If consumers have sufficient income and want to spend their money on a particular good, they can have it.

على من يتم توزيع السلع والخدمات التي تم إنتاجها؟ في نظام السوق يتم توزيع السلع والخدمات على المستهلكين بناء على قدرتهم الشرائية. تعتمد قدرة الفرد الشرائية على الدخل الذي يمتلكه و على ذوق الفرد على السلعة أو الخدمة. فإذا كان الفرد يمتلك دخل كافٍ وكان لديه رغبة في تلك السلعة فإنه يصبح مالك لتلك السلعة.

- **How will the system accommodate change?** كيف يمكن للنظام الاقتصادي أن تستوعب التغيير

Market systems are dynamic: Consumer preferences, technology, and supplies of resources all change. This means that the particular allocation of resources that is now the most efficient for a specific pattern of consumer tastes, range of technological alternatives, and amount of available resources will become obsolete and inefficient as consumer preferences change, new techniques of production are discovered, and

resource supplies change over time. Can the market economy adjust to such changes? Suppose consumer tastes change. For instance, assume that consumers decide they want more fruit juice and less milk than the economy currently provides. Those changes in consumer tastes will be communicated to producers through an increase in spending on fruit and a decline in spending on milk. Other things equal, prices and profits in the fruit juice industry will rise and those in the milk industry will fall

النظام الاقتصادي هو نظام حيوي قابل للتغيير. ذوق المستهلك، مستوى التكنولوجيا المستخدم، ومالكي المصادر تتغير من وقت لآخر. هذا يعني أن كمية معينة من الموارد التي هي الآن الأكثر كفاءة لنمط معين من أذواق المستهلكين، ومجموعة من البدائل التكنولوجية، وحجم الموارد المتاحة فهي غير فعالة مع تغير أذواق المستهلكين. فإنتقال المجتمع من مجتمع زراعي إلى مجتمع صناعي يتطلب تحويل جزء كبير من الموارد الانتاجية لإستخدامها في إنتاج سلع جديدة تلي رغبات افراد المجتمع. فمثلاً إذا زاد اقبال المستهلكين على عصير الفواكه على حساب الحليب فإن ذلك يعطي اشارة الى المنتجين عصير الفاكهة على زيادة كمية الانتاج وتقليل كمية الانتاج من الحليب وهذا بالتالي يؤدي الى زيادة اسعار والارباح في صناعة عصير الفاكهة وانخفاضها في صناعة الحليب.

• How will the system promote progress? كيف يشجع النظام الاقتصادي على التقدم

Society desires economic growth (greater output) and higher standards of living (greater income per person). How does the market system promote technological improvements and capital accumulation, both of which contribute to a higher standard of living for society?

يسعى كل مجتمع الى تحقيق نمو اقتصادي (زيادة كمية السلع والخدمات المنتجة) وكذلك الى رفع مستويات المعيشة لافراد المجتمع (زيادة دخل الفرد). ولتحقيق هذه الاهداف الاقتصادية فإنه ينبغي على المجتمع زيادة كمية المصادر الانتاجية وزيادة إنتاجية هذه الموارد من خلال تحسين مستوى التكنولوجيا المستخدم في الانتاج وكلاهما يساهم في رفع مستوى المعيشة للمجتمع وتحقيق نمو اقتصادي.

The "Invisible Hand" مفهوم اليد الخفية

In his 1776 book *The Wealth of Nations*, Adam Smith first noted that the operation of a market system creates a curious unity between private interests and social interests. Firms and resource suppliers, seeking to further their own self-interest and operating within the framework of a highly competitive market system, will simultaneously, as though guided by an "invisible hand," promote the public or social interest. For example, we have seen that in a competitive environment, businesses seek to build new and improved products to increase profits. Those enhanced products increase society's well-being. Businesses also use the least costly combination of resources to produce a specific output because doing so is in their self-interest.

لأيدي الخفية مصطلح في السوق استخدمه لأول مرة آدم سميث في كتابه الشهير ثروة الأمم عام 1776 فهو يشرح النظرية التي تقول إن الأفراد يجتمعون على مصالح شخصية، وبالتالي مصالح المجتمع الذي يوجدون فيه. ففي النظرية أن أيدي الخفية تضبط السوق بمعرفتها أي عندما ترتفع الأسعار فإن الطلب ينخفض على السلع المرتفعة وبالتالي تخفيف الطلب يعود بالأسعار إلى نحو آخر نحو الانخفاض بفضل أيدي الخفية التي تتحكم في الاقتصاد عن طريق العرض والطلب.

ومن هذه النظرية خرج نظام عدم التدخل الاقتصادي ومن ثم ظهرت أنظمة اقتصادية ونظريات اقتصادية ليبرالية إلى حد ما فظهرت الكيثرية في وقت الكساد الكبير وقال إن أيدي الخفية لا تستطيع أن تعتمد عليها دائماً وغير مضمونة وعلى الحكومة أن تتدخل في الاقتصاد بشكل معين من أجل ضبط الاقتصاد إذا واجهته مشكلة ما.

ورغم أن آدم سميث استخدم المصطلح ثلاث مرات إلا أن المصطلح انتشر بشكل كبير بعد ذلك وهناك من يربط نظريات آدم سميث نفسها بمصطلح أيدي الخفية.

إذن استعمل سميث المصطلح في كتاب ثروة الأمم إلا أن مفهوم اليد الخفية أخذ معنى أشمل مما بدأ به سميث إذ تخطى استعماله المقارنة بين التجارة الداخلية والتجارة الخارجية حتى أن سميث ألمح إلى استعماله أخرى في كتابه أما ميلتون فريد مان الحائز على جائزة نوبل في الاقتصاد سعى فكرة اليد الخفية بفكرة التعاون بدون إكراه إذ إن المفهوم يعني نشرته طبيعية وليست آلية اجتماعية كما صنفها ليون والرس وفيلغريدو باريتو فيما بعد .

Example: Choose the correct answer

1. Which of the following is one of the Five Fundamental Questions?
 - A. Which products will be in scarce supply and which in excess supply?
 - B. Who should appoint the head of the central bank?
 - C. How much should society save?
 - D. **What goods and services will be produced?**
2. The market system's answer to the fundamental question "What will be produced?" is essentially:
 - A. **"Goods and services that are profitable."**
 - B. "Low cost goods and services."
 - C. "Goods and service that can be produced using large amounts of capital."
 - D. "Goods and services that possess lasting value."
3. The market system's answer to the fundamental question "How will the goods and services be produced?" is essentially:
 - A. "With as much machinery as possible."
 - B. "Using the latest technology."
 - C. "By exploiting labor."
 - D. **"Using the least-cost production techniques."**
4. The market system's answer to the fundamental question "Who will get the goods and services?" is essentially:
 - A. **"Those willing and able to pay for them."**
 - B. "Those who physically produced them."
 - C. "Those who most need them."
 - D. "Those who get utility from them."
5. The market system's answer to the fundamental question "How will the system accommodate change?" is essentially:
 - A. "Through government leadership and direction."
 - B. **"Through the guiding function of prices and the incentive function of profits."**
 - C. "Through training and retraining programs."
 - D. "Through trial and error."
6. The market system's answer to the fundamental question "How will the system promote progress?" is essentially:
 - A. "Through government funded research programs."
 - B. "Through redistribution of income to promote greater equality."
 - C. "Through training and retraining programs."
 - D. **"Through the profit potential that encourages development of new technology."**
7. "Consumer sovereignty" refers to the:
 - A. Fact that resource prices are higher than product prices in capitalistic economies.
 - B. Idea that the pursuit of self-interest is in the public interest.
 - C. **Idea that the decisions of producers must ultimately conform to consumer demands.**
 - D. Fact that a Federal agency exists to protect consumers from harmful and defective products.
8. "Consumer sovereignty" means that:
 - A. Buyers can dictate the prices at which goods and services will be purchased.
 - B. Advertising is ineffective because consumers already know what they want.
 - C. Buyers control the quality of goods and services through regulatory agencies.
 - D. **Buyers determine what will be produced based on their "dollar votes" for the goods and services offered by sellers.**
9. The invisible hand refers to the:
 - A. Fact that the U.S. tax system redistributes income from rich to poor.
 - B. **Notion that, under competition, decisions motivated by self-interest promote the social interest.**
 - C. Tendency of monopolistic sellers to raise prices above competitive levels.
 - D. Fact that government controls the functioning of the market system.

The Circular Flow Model"(التدفق الدوري)

يمثل الشكل نموذجاً مبسطاً لنظام رأسمالي يبين كيف يتم تبادل الموارد الإنتاجية والسلع بين الوحدات الاقتصادية في المجتمع من خلال مجموعة من الأسواق المختلفة. وقد تجاهلنا دور الحكومة لتبسيط الأمور. كما افترضنا بأن لدينا اقتصاداً مغلقاً (أي أنه لا توجد تجارة مع العالم الخارجي)

The dynamic market economy creates continuous, repetitive flows of goods and services, resources, and money. The circular flow diagram, shown in Figure below illustrates those flows. Observe that in the diagram we group private decision makers into businesses and households and group markets into the resource market and the product market.

Resource Market:

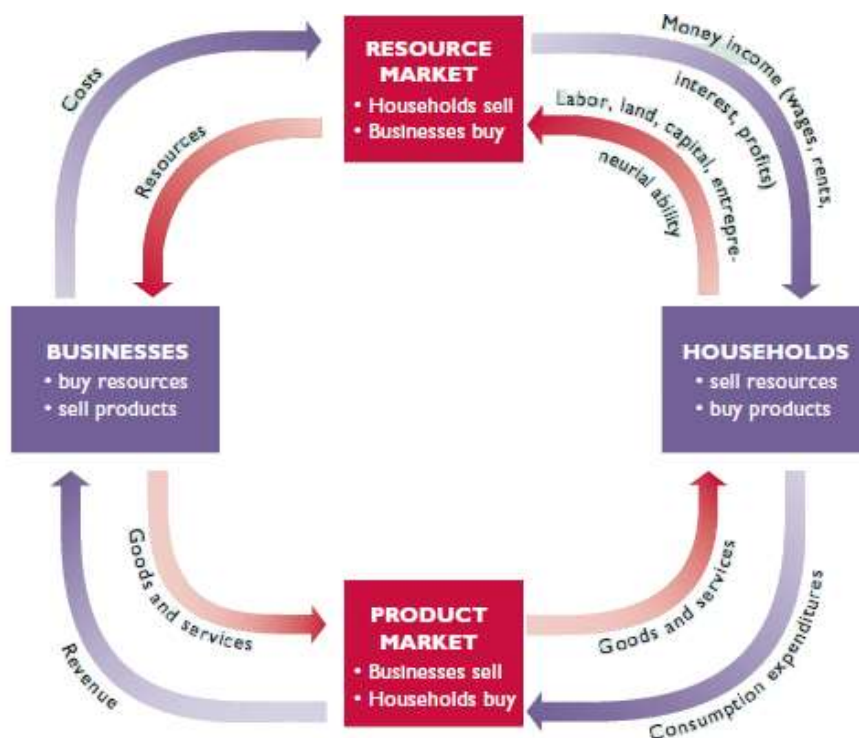
The place where resources or the services of resource suppliers are bought and sold. In the resource market, households sell resources and businesses buy them. Households (that is, people) own all economic resources either directly as workers or entrepreneurs or indirectly through their ownership of business corporations. They sell their resources to businesses, which buy them because they are necessary for producing goods and services.

سوق المصادر هو المكان أو الآلية التي يتم فيها تبادل المصادر الإنتاجية أو خدمات العناصر الإنتاجية بين البائعين لها والمشتريين. في سوق المصادر الأسر تبيع المصادر بينما قطاع الأعمال (الشركات) هو المشتري لها. الأسر تمتلك كافة الموارد الاقتصادية سواء بشكل مباشر كعمال أو رجال الأعمال أو بشكل غير مباشر من خلال ملكيتها للشركات التجارية. أنها تبيع مواردها للشركات، التي تحتاجها لأنها ضرورية لإنتاج السلع والخدمات.

Product Market

The product market: the place where goods and services produced by businesses are bought and sold. In the product market, businesses combine resources to produce and sell goods and services. Households use the (limited) income they have received from the sale of resources to buy goods and services. The monetary flow of consumer spending on goods and services yields sales revenues for businesses.

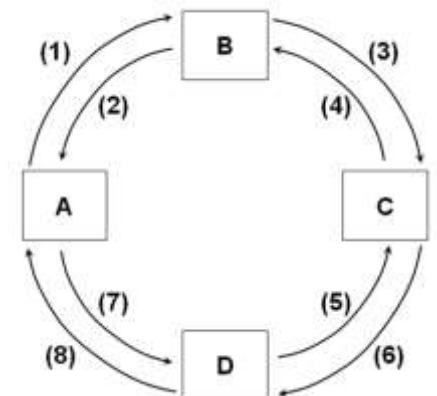
سوق المنتجات: المكان الذي يتم شراء السلع والخدمات المنتجة من قبل الشركات وبيعها. في سوق المنتجات تقوم الشركات باستخدام الموارد لإنتاج وبيع السلع والخدمات. الأسر تستخدم الدخل الذي تتلقاه من بيع المصادر الإنتاجية لشراء السلع والخدمات. التدفق نقدي من الإنفاق الاستهلاكي على السلع والخدمات ينتج إيرادات المبيعات للشركات.



- Resources flow from households to businesses through the resource market.
- Products flow from businesses to households through the product market.
- Opposite these real flows are monetary flows. Households receive income from businesses (their costs) through the resource market, and businesses receive revenue from households (their expenditures) through the product market.
- In this circular flow diagram, resources flow counterclockwise (عكس عقارب الساعة).
- In this circular flow diagram, money flows clockwise.

Example: Choose the correct answer

- In the resource market:
 - Businesses borrow financial capital from households.
 - Businesses sell services to households.
 - Households sell resources to businesses.**
 - firms sell raw materials to households
- The resource market is the place where:
 - Households sell products and businesses buy products.
 - Businesses sell resources and households sell products.
 - Households sell resources and businesses buy resources (or the services of resources).**
 - Businesses sell resources and households buy resources (or the services of resources).
- The simple circular flow model shows that:
 - Households are on the buying side of both product and resource markets.
 - Businesses are on the selling side of both product and resource markets.
 - Households are on the selling side of the resource market and on the buying side of the product market.**
 - Businesses are on the buying side of the product market and on the selling side of the resource market.
- In this circular flow diagram:
 - Money flows counterclockwise.
 - Resources flow counterclockwise.**
 - Goods and services flow clockwise.
 - Households are on the selling side of the product market.
- In this circular flow diagram:
 - (A) Households spend income in the product market.**
 - Firms sell resources to households.
 - Households receive income through the product market.
 - Households produce goods.
- Refer to the above figure. If box A represents households, B the product market, and C businesses, and if flow (3) represents revenues, then (4) would represent ____ while flow (5) would represent _____.
 - Resources; goods and services
 - Goods and services; resources**
 - Costs; resources
 - Goods and services; costs.



CHAPTER 3

Demand, Supply, and Market Equilibrium

الطلب والعرض وتوازن السوق

Markets

Markets bring together buyers (“demanders”) and sellers (“suppliers”), and they exist in many forms. The corner gas station, an e-commerce site, the local music store, a farmer’s roadside stand—all are familiar markets. Palestinian Stock Exchange is a market where buyers and sellers of stocks and bonds and farm commodities from all over the world communicate with one another to buy and sell.

يعرف السوق بأنه الوسيلة أو الطريقة التي يتصل بواسطتها البائعون مع المشتريين اتصالاً وثيقاً لتحديد كمية ونوعية وسعر سلعة معينة يتم تبادلها بينهما.

هنالك سوقاً لكل سلعة من السلع، فهناك سوق القمح، وسوق للقمصان، وسوقاً للأحذية، وسوقاً للأوراق المالية والسندات وغيرها. وقد يكون السوق منطقة جغرافية، ولكن قد يكون أيضاً جهاز الهاتف أو جهاز التلكس أو البريد أو الفاكس، حيث تمثل هذه الأجهزة وسائل اتصال بين البائعين والمشتريين لتحديد كمية ونوعية وسعر السلعة التي يرام تبادلها.

Demand الطلب على السلعة

Demand is a schedule or a curve that shows the various amounts of a product that consumers are willing and able to purchase at each of a series of possible prices during a specified period of time. Demand shows the quantities of a product that will be purchased at various possible prices, other things equal.

فالطلب هو أقصى كمية يرغب المستهلك شراءها من سلعة ما مع توفر المقدرة على شراء تلك الكمية وذلك حسب دخل المستهلك ومستوى سعر تلك السلعة مع أخذ العوامل الأخرى المؤثرة في الكمية المطلوبة بعين الاعتبار. يوضع الطلب الكمية التي يتم شراؤها على سعر معين مع ثبات العوامل الأخرى التي تؤثر على الطلب.

Law of Demand قانون الطلب

Other thing equal, as price falls, the quantity demanded rises, and as price rises, the quantity demanded falls.

مع ثبات العوامل الأخرى ، عندما ينخفض السعر ، تزداد الكمية المطلوبة ، وعندما يرتفع السعر ، تنخفض الكمية المطلوبة

$$P \uparrow \Rightarrow Q_d \downarrow \quad \text{or} \quad P \downarrow \Rightarrow Q_d \uparrow$$

There is a negative or inverse relationship between price and quantity demanded. يوجد علاقة عكسية بين السعر والكمية المطلوبة.

Demand schedule or demand curve

Because price and quantity demanded are inversely related, an individual's demand schedule graphs as a down sloping curve such as *D*. Other things equal, consumers will buy more of a product as its price declines and less of the product as its price rises.

Demand Schedule

Price (dollars per smartwatch)	Quantity (millions of smartwatches per week)
\$450	3
400	4
350	5
300	6
250	7



The inverse relationship between price and quantity demanded for any product can be represented on a simple graph, in which, by convention, we measure quantity demanded on the horizontal axis and price on the vertical axis. Such a curve is called a demand curve. *Its downward slope reflects the law of demand—people buy more of a product, service, or resource as its price falls. The relationship between price and quantity demanded is inverse (or negative).*

Why the inverse relationship between price and quantity demanded?

Three explanations of these relationships

- People ordinarily do buy more of a product at a low price than at a high price. Price is an obstacle that deters consumers from buying. The higher that obstacle, the less of a product they will buy; the lower the price obstacle, the more they will buy.

عادة ما يشتري المستهلكون أكثر من السلعة عندما ينخفض السعر مقارنة عند ارتفاع السعر. السعر عتبة تمنع المستهلكين من الشراء. وكلما ارتفعت تلك العتبة ، قلت الكمية الذي يشترونها : كلما انخفض عائق السعر ، زاد شرائهم للسلعة.

- In any specific time period, each buyer of a product will derive less satisfaction (or benefit, or utility) from each successive unit of the product consumed. The second Big Mac will yield less satisfaction to the consumer than the first and the third still less than the second. That is, consumption is subject to diminishing marginal utility. And because successive units of a particular product yield less and less marginal utility, consumers will buy additional units only if the price of those units is progressively reduced.

ينص قانون تناقص المنفعة الحدية (diminishing marginal utility) على أن المنفعة الحدية التي يحصل عليها المستهلك نتيجة استهلاكه لوحدة متتالية من السلعة خلال فترة زمنية محددة ستكون متناقصة. بمعنى أن المنفعة التي تضيفها كل وحدة إلى منفعة المستهلك ستكون أقل من تلك المنفعة التي أضافتها الوحدة التي سبقتها. لذلك فالمستهلك مستعد أن يشتري وحدات إضافية إذا سعر تلك الوحدات كان أقل.

- We can also explain the law of demand in terms of income and substitution effects.

The income effect indicates that a lower price increases the purchasing power (القوة الشرائية) of a buyer's money income, enabling the buyer to purchase more of the product than before.

عندما يقل سعر السلعة فإن القوة الشرائية للمستهلك تزداد مما يؤدي إلى زيادة الكمية المطلوبة من السلعة.

The substitution effect suggests that at a lower price buyer have the incentive to substitute what is now a less expensive product for similar products that are now relatively more expensive.

عندما يقل سعر السلعة فإنها تصبح أرخص من السلع البديلة لهذه السلعة وبالتالي يؤدي إلى زيادة الكمية المطلوبة من تلك السلعة ونقصان الطلب على السلع البديلة.

For example, a decline in the price of chicken will increase the purchasing power of consumer incomes, enabling people to buy more chicken (the income effect). At a lower price, chicken is relatively more attractive and consumers tend to substitute it for lamb, beef, and fish (the substitution effect). The income and substitution effects combine to make consumers able and willing to buy more of a product at a low price than at a high price.

على سبيل المثال ، سيؤدي انخفاض سعر الدجاج إلى زيادة القوة الشرائية لدخل المستهلك ، مما يمكن المستهلكين من شراء المزيد من الدجاج (تأثير الدخل). فعندما ينخفض سعر الدجاج ، يكون الدجاج أكثر جاذبية نسبياً ويميل المستهلكون إلى استبداله بلحم الضأن ولحم البقر والأسماك (تأثير البديل). يتم الجمع بين تأثير الدخل وتأثير البديل مما يجعل المستهلكين قادرين وراغبين في شراء المزيد من الدجاج عندما ينخفض السعر.

Example: Choose the Correct Answer

1. Demand is the total quantity of a good or service that customers:
 - A. Are willing to purchase.
 - B. Are able to purchase.
 - C. Are willing and able to purchase.**
 - D. Need.
2. The law of demand states that, other things remaining the same, the higher the price of a good, the
 - A. Smaller is the demand for the good.
 - B. Smaller is the quantity of the good demanded**
 - C. Larger is the quantity of the good demanded.
 - D. Larger is the demand for the good.
3. The law of demand states that the quantity of a good demanded varies
 - A. Inversely with its price.**
 - B. Directly with population.
 - C. Directly with income.
 - D. Inversely with the price of substitute goods.
4. Each point on the demand curve reflects
 - A. The highest price consumers are willing and able to pay for that particular unit of a good.**
 - B. The highest price sellers will accept for all units they are producing.
 - C. The lowest-cost technology available to produce a good.
 - D. All the wants of a given household.
5. When the price of a product increases, a consumer is able to buy less of it with a given money income. This describes the:
 - A. Cost effect.
 - B. Inflationary effect.
 - C. Income effect.**
 - D. Substitution effect.
6. An increase in the price of a product will reduce the amount of it purchased because:
 - A. Supply curves are upsloping.
 - B. The higher price means that real incomes have risen.
 - C. Consumers will substitute other products for the one whose price has risen.**
 - D. Consumers substitute relatively high-priced for relatively low-priced products.
7. When the price of a product rises, consumers shift their purchases to other products whose prices are now relatively lower. This statement describes:
 - A. An inferior good.
 - B. The rationing function of prices.
 - C. The substitution effect.**
 - D. The income effect.
8. Which is consistent (يتفق) with the law of demand?
 - A. A decrease in the price of Iced coffee causes no change in the quantity of Iced coffee demanded
 - B. An increase in the price of Iced coffee causes an increase in the quantity of Iced coffee demanded
 - C. A decrease in the price of Iced coffee causes a decrease in the quantity of Iced coffee demanded
 - D. A decrease in the price of Iced coffee causes an increase in the quantity of Iced coffee demanded**
9. The horizontal axis of a graph which shows a market demand curve indicates the:
 - A. Prices at which various levels of output can be sold
 - B. Number of consumers who are in the market for this product
 - C. Various quantities of output at which the market will be cleared
 - D. Quantities which consumers will be willing and able to buy at various prices**

Individual Demand الطلب الفردي

Is the quantity demand by single buyer at each price level.

نعني بالطلب الفردي الطلب على مستوى الفرد الواحد (مستهلك واحد أو وحدة استهلاكية مثل أسرة من الأسر). ويبين الطلب الفردي العلاقة بين الكمية المطلوبة من سلعة ما من قبل أحد المستهلكين وسعر هذه السلعة، مع بقاء العوامل الأخرى المؤثرة في الطلب ثابتة.

Market Demand طلب السوق

The market demand is the summation the quantities demanded by all consumers at each of the various possible prices. The market demand curve is the horizontal summation of the individual demand curves of all the consumers in the market.

الطلب الفردي يمثل طلب أحد المستهلكين على سلعة معينة. أما طلب السوق فيمثل طلب جميع المستهلكين في السوق على نفس السلعة. ويبين طلب السوق العلاقة بين الكمية المطلوبة من سلعة ما من قبل جميع المستهلكين في السوق وسعر هذه السلعة مع افتراض العوامل الأخرى المؤثرة في الطلب ثابتة.

Example

Suppose that there are three buyers in the market of Corn. At each price level, the quantity demanded is given.

Price per Bushel	Quantity Demanded			Market demand
	Majed	Yousef	Sama	
\$5	10	12	8	$10 + 12 + 8 = 30$
4	20	23	17	$20 + 23 + 17 = 60$
3	35	39	26	$35 + 39 + 26 = 100$
2	55	60	39	$55 + 60 + 39 = 154$
1	80	87	54	$80 + 87 + 54 = 221$

Example

For a market of 200 corn buyers, each with a demand as shown in the table below. What is the market demand curve?

Price per Bushel	Quantity Demanded per Week	Market Demand = (Q^d * # of buyers)
\$5	10	$10 * 200 = 2,000$
4	20	$20 * 200 = 4,000$
3	35	$35 * 200 = 7,000$
2	55	$55 * 200 = 11,000$
1	80	$80 * 200 = 16,000$

Example

The table below shows the demand for wheat in a market where there are just three buyers.

	Buyer 1	Buyer 2	Buyer 3
Price	Qd 1	Qd 2	Qd 3
\$6	7	4	6
5	9	7	8
4	15	10	12
3	21	15	16

1. Refer to the table. At a price of \$4, what is the market demand for wheat?

Market demand = demand for Buyer 1 + demand for Buyer 2 + demand for Buyer 3

Market demand = $15 + 10 + 12 = 37$ units

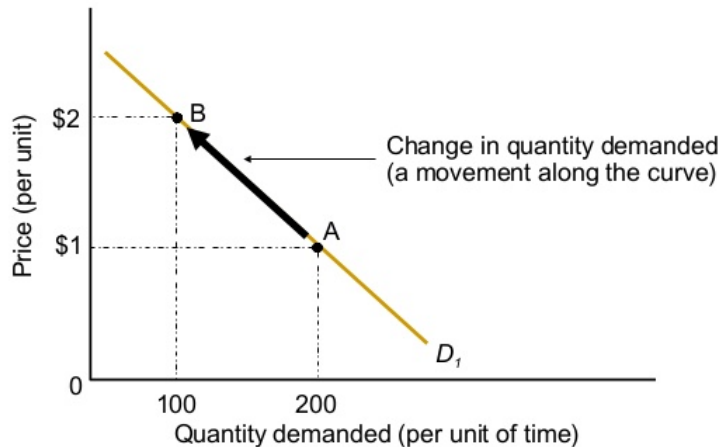
Change in Quantity Demanded التغير في الكمية المطلوبة

Is a movement from one point to another point on a fixed demand schedule or demand curve.

التغير في الكمية المطلوبة : تعني الانتقال من نقطة إلى نقطة على نفس منحنى الطلب. ويحدث تغيير في الكمية المطلوبة عندما يغير سعر السلع.

Change in quantity demand is cause by increase or decrease in the price of the product.

Change in Quantity Demanded



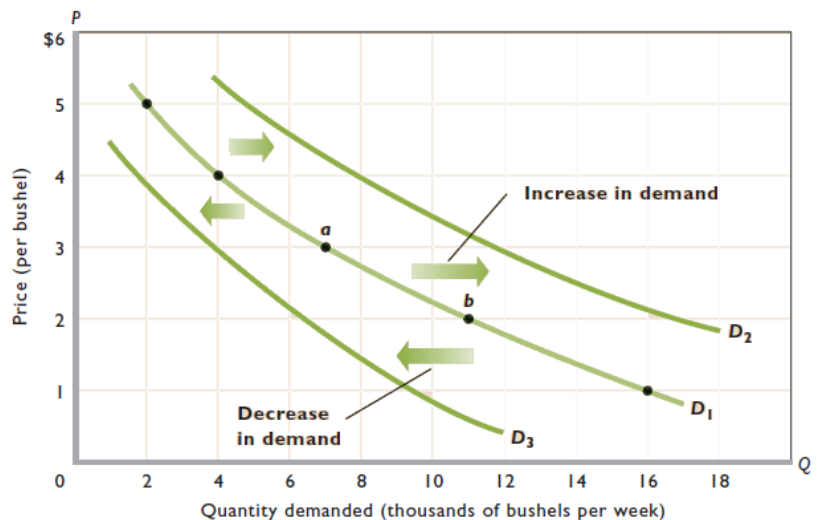
For example, an increase in the price of corn from \$1 to \$2 will decrease the quantity of corn demanded from 200 to 100 bushels. Movement from point A to point B on the demand curve represents a change in quantity demanded (decrease in quantity demanded).

Change in Demand التغير في الطلب

التغير في الطلب : تعني الانتقال كامل منحنى الطلب. ويحدث تغيير في الطلب عندما يغير إحدى محددات الطلب والتي سيتم توضيحها لاحقاً. يشير مفهوم التغير في الطلب على ان الطلب على السلعة يتغير على نفس السعرها.

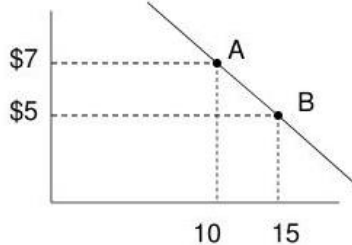
A change in the demand schedule or, graphically, a shift in the demand curve is called a change in demand

- If the consumer desires to buy more units at each possible price, then demand increase. *Increase in demand is shown as a shift of the demand curve to the right, say, from D_1 to D_2 .*
- A decrease in demand occurs when consumers buy fewer units at each possible price. *Decrease in demand is shown as a shift of the demand curve to the leftward, say, from D_1 to D_3 .*



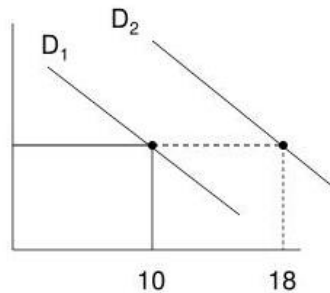
- Change in Quantity demanded

- Movement along the curve
- Result of a change in the price
- Other factors remain constant



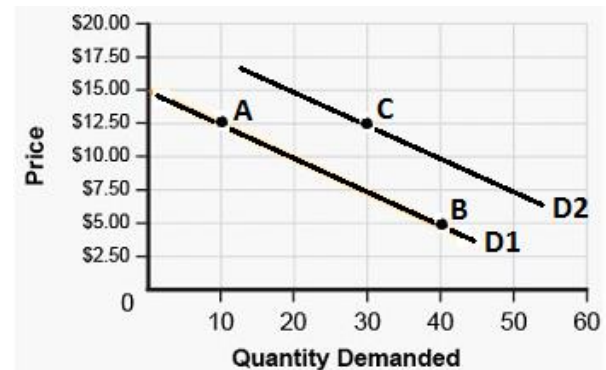
- Change in Demand

- A shift in the curve
- Price remains constant
- One of the underlying factors change



Example: Chose the correct answer

1. Refer to the diagram, which shows two demand curves for coffee, which of the following could explain a movement from point B to point A?
 - A. An increase in quantity demanded
 - B. A decrease in quantity demanded**
 - C. An increase in demand
 - D. A decrease in demand
2. Refer to the diagram, which shows two demand curves for coffee, which of the following could explain a movement from point A to point C?
 - A. An increase in quantity demanded
 - B. A decrease in quantity demanded
 - C. An increase in demand**
 - D. A decrease in demand
3. Refer to the diagram, which shows two demand curves for coffee, which of the following could explain a movement from point A to point B?
 - A. An increase in quantity demanded**
 - B. A decrease in quantity demanded
 - C. An increase in demand
 - D. A decrease in demand
4. A barber (حلاق) raises the price of haircuts and finds that the volume of business declines. This indicates:
 - A. A decrease in demand
 - B. An increase in demand
 - C. A decrease in quantity demanded**
 - D. An increase in quantity demanded
5. The consumer was able to buy 10 cans of cola at a price of \$1 in last week. In this week, it is able to buy 14 of the same cans of cola at a price of \$1. Evidently, the consumer has experienced a(n):
 - A. Increase in demand**
 - B. Increase in supply
 - C. Decrease in demand
 - D. Increase in quantity demanded



Determinants of demand (demand shifters) محددات الطلب

- **Consumer's Tastes (preferences) ذوق المستهلك**

A favorable change in consumer tastes for a product makes the product more desirable; means that more of it will be demanded at each price. Demand will increase (shift to the right).

An unfavorable change in consumer tastes for a product will decrease demand (shift to the left).

من الواضح أن ذوق المستهلك يلعب دوراً كبيراً في تحديد الكميات التي يطلبها المستهلك من سلعة معينة. فكلما زاد المستهلك رغبته بسلعة ما كلما زادت الكميات التي يطلبها من تلك السلعة، وكلما قل المستهلك رغبته بسلعة ما، كلما قلت الكميات التي يطلبها منها.

- **Number of Buyers عدد المستهلكين**

An increase in the number of buyers in a market is likely to increase product demand → shift demand curve to the right

A decrease in the number of buyers will lead to decrease demand → shift demand curve to the left

- **Income دخل المستهلك**

- A. Normal goods (Superior goods)

Goods whose demand varies directly with money income are called normal goods or "superior goods".

Income increase → demand increase → shift demand curve to the right.

Income decrease → demand decrease → shift demand curve to the left.

Examples for normal goods: Steak; Furniture; Clothing; car

- B. Inferior goods السلعة الرديئة

Goods whose demand varies inversely with money income are called inferior goods.

Income increase → demand decrease → shift demand curve to the left.

Income decrease → demand increase → shift demand curve to the right.

Examples for inferior goods: Used Furniture, Used Clothing

Example: Chose the correct answer

1. If a good is inferior and income decreases then
 - A. **The demand curve will shift to the right**
 - B. The supply curve will shift to the right
 - C. The demand curve will shift to the left
 - D. The supply curve will shift to the left
2. Gasoline is a normal good. When consumer income increases, there will be
 - A. a rightward shift in gasoline supply curve
 - B. A leftward shift in gasoline supply curve
 - C. **A rightward shift in gasoline demand curve**
 - D. A leftward shift in gasoline demand curve

3. If used cars are inferior goods and incomes decline
 - A. Demand for new cars remain unchanged
 - B. Demand for used cars decline
 - C. Demand for new cars increase
 - D. **Demand for used cars increase**
4. Which of the following is most likely to be an inferior good?
 - A. Fur coats
 - B. Ocean cruises
 - C. **Used clothing**
 - D. Steak
5. Which of the following will cause the demand curve for product A to shift to the left?
 - A. Population growth that causes an expansion in the number of persons consuming A.
 - B. An increase in money income if A is a normal good.
 - C. **An increase in money income if A is an inferior good.**
 - D. A favorable change in consumer tastes for a product makes the product more desirable

- **Prices of Related Goods**

A. **Substitutes good** (السلع البديلة) : Is one that can be used in place of another good.

نسمي السلعتين بديلتين إذا كان بإمكان المستهلك أن يستخدم أحدهما بدلاً من الأخرى في الاستهلاك.

Examples: Coca-Cola and Pepsi; Colgate toothpaste and Crest; Nike and Reeboks; Chevrolets and Fords

When two products are substitutes, an increase in the price of one will increase the demand for the other.

For example, an increase in the price of Coca-Cola, consumers will buy less of it and increase their demand for Pepsi. → Shift demand curve for Pepsi to the right.

B. **Complements good** (السلع المكملة): Is one that is used together with another good?

تعرف السلعتان بأنهما مكملتان لبعضهما إذا اقترن استهلاك الأولى باستهلاك الثانية، وحتى يحصل المستهلك على منفعة معينة فإنه يستهلك السلعتين معاً.

Examples: Car and Gasoline; Computers and Software; Camera and film; Cell phone and Cellular service

When two products are complements, an increase in the price of one will decrease the demand for the other.

For example, a decline in the price of cars, consumers will buy more of it and increase the demand for gasoline → shift demand curve for gasoline to the right

C. **Unrelated good** (السلع الغير مرتبطة)

Goods are not related to one another is called unrelated or independent.

Examples: Butter and Golf balls; Potatoes and Automobiles; Bananas and Camera

If a change in the price of one has no effect on the demand for the other, then the two good are unrelated

Example: Chose the correct answer

1. Tennis rackets and ballpoint pens (اقلام الحبر الجاف) are:
 - A. substitute goods.
 - B. complementary goods.
 - C. inferior goods.
 - D. **independent goods.**
2. If the price of orange juice rises, the demand for grapefruit juice will
 - A. **increase because the two goods are substitutes**
 - B. increase because it is a complement
 - C. decrease because the two goods are substitutes
 - D. decrease because the two goods are complements
2. If the price of a complement decreases, all else equal,
 - A. Quantity demanded will decrease.
 - B. **Demand will increase.**
 - C. Demand will decrease.
 - D. Supply will increase.
3. If products A and B are complements and the price of B decreases the:
 - A. demand curves for both A and B will shift to the left.
 - B. amount of B purchased will increase, but the demand curve for A will not shift.
 - C. **demand for A will increase and the quantity of B demanded will increase.**
 - D. demand for A will decline and the demand for B will increase.
4. Assume chickens are normal goods and chickens and meat are substitutes, which of the following will cause the demand curve for chickens to shift to the left.
 - A. Increase in consumers' incomes
 - B. Decrease in the price of chickens
 - C. Increase in the price of meat
 - D. **Decrease in the price of meat**
5. Which of the following events would increase a student's demand for Falafel?
 - A. An increase in the price of Falafel
 - B. A decrease in the price of Hamburgers (Falafel and Hamburgers are substitutes)
 - C. **A decrease in the price of Coca-Cola (Falafel and Coca-Cola are complements)**
 - D. An increase in student monthly allowance (مصرف شهري) that the student receives from his family (Falafel is an inferior good).
6. A rightward shift in the demand curve for product C might be caused by:
 - A. An increase in income if C is an inferior good.
 - B. A decrease in income if C is a normal good.
 - C. A decrease in the price of a product that is a close substitute for C.
 - D. **A decrease in the price of a product that is complementary to C.**
7. If the price of gasoline rises dramatically,
 - A. The quantity demanded for cars will decrease.
 - B. The demand for commuter train rides will decrease.
 - C. **The demand for cars will decrease.**
 - D. The quantity of commuter train rides demanded will increase.
8. Which of the following will increase the demand for large automobiles?
 - A. A fall in the price of small automobiles.
 - B. **A decrease in insurance rates for large automobiles.**
 - C. A fall in the price of large automobiles.
 - D. A decrease in buyers' incomes (assuming large automobiles to be a normal good).

- **Consumer Expectations** توقعات المستهلك تجاه التغير في سعر السلعة

Expectation of higher future prices may cause consumers to buy now in order to anticipated (يتجنب) price rises
 → increasing current demand (shift current demand to the right)

For example, inclement weather (الطقس الرديئ) creates an expectation of higher future prices of Tomato, this lead to increasing today's demand for Tomato.

Example: Chose the correct answer

1. If buyers expect the price of a good to rise in the future, the result is
 - B. An increase in supply today
 - C. A decrease in quantity demanded today
 - D. An increase in demand today**
 - E. An increase in quantity demanded today
2. Which of the following would mostly likely increase the demand for gasoline?
 - A. The expectation by consumers that gasoline prices will be higher in the future.**
 - B. The expectation by consumers that gasoline prices will be lower in the future.
 - C. A widespread shift in car ownership from SUVs to hybrid sedans.
 - D. A decrease in the price of public transportation.

Supply العرض على السلعة

Is a schedule or curve showing the various amounts of a product that producers are willing and able to make available for sale at each price level.

العرض هو أقصى كمية يرغب المنتج بإنتاجها وعرضها من سلعة ما مع توفر القدرة على إنتاج تلك السلعة.

Law of Supply

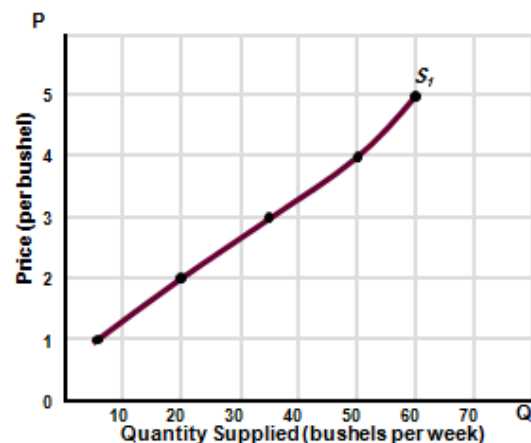
Other thing equal: as price rises, the quantity supplied rises; as price fall, the quantity supplied falls.

$P \uparrow \rightarrow Q_s \uparrow$

$P \downarrow \rightarrow Q_s \downarrow$

There is a positive relationship between price and quantity supplied.

Price per Bushel	Quantity supplied per week
\$5	60
4	50
3	35
2	20
1	5



The supply curve

- **Individual supply curve** العرض الفردي

The supply curve for an individual producer graphs as an up-sloping curve. Other thing equal, producers will offer more of a product for sale as its price rises and less of the product for sale as its price falls.

عرض أحد المنتجين يبين العلاقة بين الكمية المعروضة من سلعة ما من قبل أحد المنتجين وسعر هذه السلعة، مع بقاء العوامل الأخرى ثابتة.

- **Market Supply** عرض السوق

The market supply is the summation the quantities supplied by all consumers at each of the various possible prices.

ذكرنا أن العرض الفردي يمثل عرض أحد المنتجين، أما عرض السوق فيمثل عرض جميع المنتجين. ويبين عرض السوق العلاقة بين الكمية المعروضة من سلعة ما من قبل جميع المنتجين في السوق وسعر هذه السلعة، مع افتراض العوامل الأخرى المؤثرة في العرض ثابتة.

Example

The table below shows the supply for wheat in a market where there are just three suppliers (firms).

	Firm 1	Firm2	Firm 3
Price	Q_S	Q_S	Q_S
\$3	7	4	6
4	9	7	8
5	15	10	12
6	21	15	16

1. Refer to the above table. At a price of \$4, what is the market supply for wheat?

Market supply = Q_s (firm1) + Q_s (firm2) + Q_s (firm3) = 9+ 7+ 8 = 24

2. Refer to the above table. At a price of \$6, what is the market supply for wheat?

Market supply = Q_s (firm1) + Q_s (firm2) + Q_s (firm3) = 21 + 15 + 16 = 52

Example

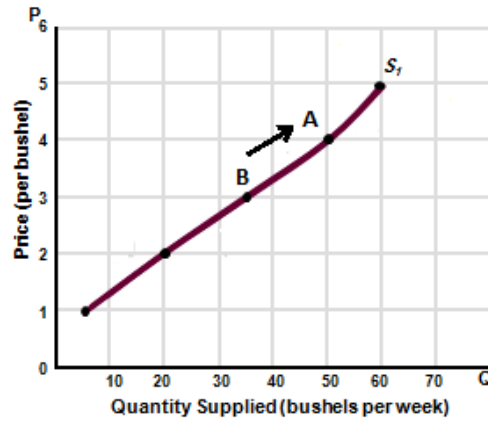
For a market of 200 corn sellers, each with a quantity supply as shown in the table below. What is the market supply schedule?

Price per Bushel	Quantity Supplied per Week	Market supply
\$5	60	60 * 200 = 12,000
4	50	50 * 200 = 10,000
3	35	35 * 200 = 7,000
2	20	20 * 200 = 4,000
1	5	5 * 200 = 1,000

Change in Quantity Supplied التغير في الكمية المعروضة

Is a movement from one point to another point on a fixed supply schedule or supply curve. Change in quantity supply is caused by a change in the price of the product.

تغيير في الكمية المعروضة تعني انتقال من نقطة الى نقطة اخرى على نفس المنحنى. يحدث تغيير في الكمية المعروضة فقط عند تغيير سعر السلعة



For example, an increase in the price of corn from \$3 to \$4, increase the quantity of corn supplied from 35,000 to 50,000. Movement from point A to B on the fixed supply curve.

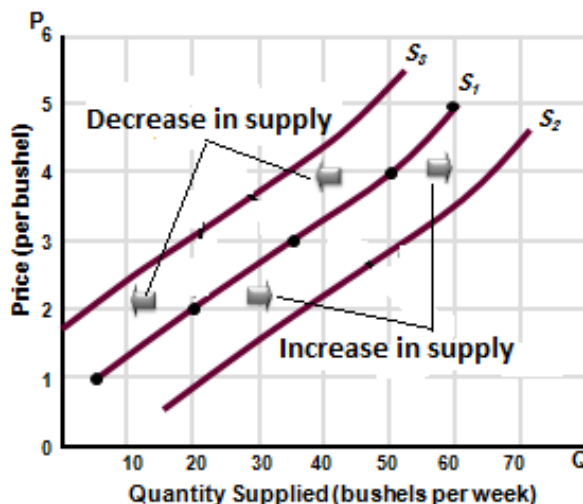
مثال: ارتفاع سعر السلعة من \$3 الى \$4 يؤدي الى زيادة الكمية المعروضة من 35 الى 50. اي الانتقال من النقطة A الى النقطة B على نفس المنحنى.

Change in Supply تغيير في الطلب

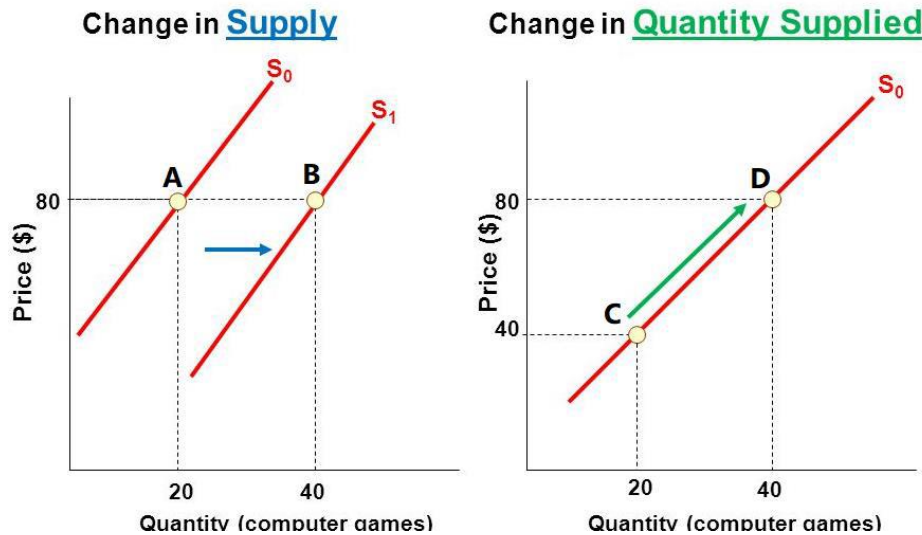
A change in one or more of the determinants of supply causes a change in supply.

تغيير في العرض تعني انتقال من نقطة على منحنى عرض الى نقطة أخرى على منحنى عرض آخر.

An increase in supply is shown as a rightward shift of the supply curve as from S1 to S2. A decrease in supply is shown as a leftward shift of the supply curve as from S1 to S3.



Changes in Supply vs. Changes in Quantity Supplied

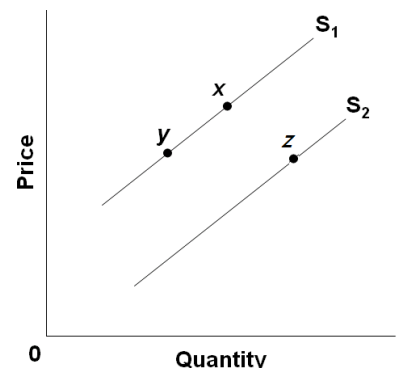


تغيير في الكمية المعروضة تعني انتقال من نقطة الى نقطة اخرى على نفس المنحنى . الشكل في اليمين، عند ارتفاع سعر السلعة من \$40 الى \$ 80 يؤدي الى زيادة الكمية المعروضة من 20 الى 40 ، وهذا يعني الانتقال من النقطة C الى النقطة D.

تغيير في العرض تعني الانتقال من نقطة الى نقطة اخرى على منحنى مختلف. في الشكل في اليسار، عند سعر \$ 80 على منحنى S_0 يكون الكمية المعروضة 20 ، اذا بقي سعر السلعة عند \$ 80 ولكن العرض زاد الى 40 فهذا يعني الانتقال من النقطة A على منحنى S_0 الى النقطة B على منحنى S_1 .

Example: Chose the correct answer

- The supply curve shows the relationship between:
 - price and quantity supplied.**
 - production costs and the amount demanded.
 - total business revenues and quantity supplied.
 - physical inputs of resources and the resulting units of output.
- The "law of supply" states that, other things remaining the same, firms produce
 - more of a good the less it costs to produce it.
 - less of a good the more it costs to produce it.
 - more of a good the higher its price.**
 - less of a good as the required resources become scarcer
- Refer to the diagram. A decrease in supply is depicted by a:
 - move from point x to point y.
 - move from point y to point x.
 - move from point Y to point z.
 - move from point z to point y.**
- Refer to the diagram. An increase in quantity supply is depicted by a:
 - move from point x to point y.
 - move from point y to point x.**
 - move from point Y to point z.
 - move from point z to point y.



Determinants of Supply (Supply Shifters) العوامل المؤثرة في العرض

1. Resource Prices أسعار الموارد الإنتاجية

- Higher resource prices raise production cost, this leads to decrease the profit. Reduction in profits reduces the incentive for firms to supply output at each product price → shift supply curve to the left (upward).

ارتفاع اسعار الموارد الانتاجية يؤدي الى زيادة تكاليف الانتاج وبالتالي انخفاض الارباح وهذا يؤدي بلمنتجين الى انخفاض الكمية المنتجة والمعرضة من السلعة. ازاحة منحنى العرض للخلف.

- Lower resource prices reduce production cost and increase the profit. Raises profits raise the incentive for firms to supply output at each product price → shift supply curve to the right.

انخفاض اسعار الموارد الانتاجية يؤدي الى انخفاض تكاليف الانتاج وبالتالي ارتفاع في ارباح المنتج وهذا يشجع المنتجين الى زيادة الكمية المنتجة والمعرضة من السلعة. ازاحة منحنى العرض لليمين.

Example

A decrease in the price of microchips increases the supply of computers.

An increase in the price of textile, decrease the supply of furniture.

مثال: انخفاض اسعار رقاقة الكمبيوتر يؤدي الى زيادة العرض على الكمبيوتر. كذلك ارتفاع في اسعار القماش يؤدي الى انخفاض العرض على الاثاث.

2. Technology

Improvement in technology enable firms to produce units of output with fewer resources ⇒ reduce production cost → increase the supply (shift supply curve to the right)

تحسن في التكنولوجيا تمكن المنتجين من انتاج نفس الكمية من السلعة باستخدام كمية مصادر اقل. وهذا يؤدي الى انخفاض تكاليف الانتاج وبالتالي زيادة الانتاج والعرض على السلعة.

For example, the development of more effective wireless technology increases the supply of cell phones.

3. Taxes and Subsidies الضرائب والدعم الحكومي

An increase in sale or property taxes will increase production cost and reduce supply (shift supply curve to the left)

لا شك أن فرض الحكومة ضرائب على السلعة يؤدي إلى زيادة تكاليف الإنتاج وبالتالي تقليل الكميات المعروضة .

If the government subsidizes the production of a good, it in effect lowers the production costs and increase supply.

إذا قدمت الحكومة دعم لمنتجي الخبز فإن ذلك يؤدي الى انخفاض تكاليف الانتاج وبالتالي القدرة على انتاج كمية اكبر وعرض كمية أكبر

Examples

An increase in the excise tax cigarettes reduces the supply of cigarettes.

- A decline in subsidies to state universities reduce the supply of higher education

إنخفاض الدعم الحكومي المقدم للجامعات يؤدي الى انخفاض العرض على التعليم

4. Prices of Other Goods أسعار السلع البديلة في الإنتاج

تعرف السلعتان البديلتان في الإنتاج أنهما سلعتان يمكن إنتاجهما بنفس المواد الإنتاجية. فالقمح والشعير، يعتبران بديلين في الإنتاج حيث أن بإمكان المزارع أن ينتج أي منهما باستخدام نفس المواد التي يمتلكها. فإذا ازداد سعر الشعير فإن المزارع سيندفع نحو زراعة الشعير وذلك على حساب القمح، أي أن الكميات المعروضة من القمح ستتناقص.

Firms that produce a particular product, say, soccer balls, can sometimes use their plant and equipment to produce alternative goods, say, basketballs and volleyballs since soccer balls and basketballs are substitutes in production.

The higher prices of these "other goods" may entice soccer ball producers to switch production to those other goods in order to increase profits. This substitution in production results in a decline in the supply of soccer balls.

Example: An increase in the price of cucumbers decrease the supply of watermelons.

إذا ازداد سعر الخيار فإن المزارع سيندفع نحو زراعة الخيار وذلك على حساب البطيخ، أي أن الكميات المعروضة من البطيخ ستتناقص.

5. Producer Expectations about the future price توقعات من قبل المنتجين بتغيير سعر السلعة في المستقبل القريب

Farmers anticipating a higher wheat price in the future might withhold some of their current wheat harvest from the market, thereby causes a decrease in the current supply of wheat.

إذا توقع منتج القمح بان سعر القمح سيزداد في المستقبل القريب فهذا يؤدي بالمنتجين بحجب الكمية عن المستهلكين من أجل بيعها في المستقبل القريب عندما يكون سعرها أعلى. ويعني هذا أن العرض على السلعة في الوقت الحالي سينخفض. إزاحة منحني العرض إلى الشمال.

6. Number of Sellers عدد الباعة في السوق

Other things equal, the larger the number of suppliers, the greater the market supply. As more firms enter an industry, the supply curve shifts to the right.

زيادة عدد المنتجين في سوق سلعة يؤدي إلى زيادة في الكمية المنتجة وبالتالي زيادة العرض على السلعة. إزاحة منحني العرض إلى اليمين.

Example: Chose the correct answer

1. If an excise tax is imposed on a good or service,
A. the supply curve shifts upward
B. the supply curve shifts downward
C. the price paid by consumers decreases
D. the quantity produced and sold increases
2. Supply curves do not shift if there is a change in the
A. Number of sellers of the good.
B. Technology used to produce the good.
C. Price of the good.
D. Price of resources used to produce the good.
3. All of the following shift the supply of watches to the right except (باستثناء)
A. an increase in the price of watches
B. an advance in the technology used to manufacture watches
C. a decrease in the wage of workers employed to manufacture watches
D. manufactures' expectation of lower watch prices in the future

4. What will happen in the rice market if sellers are expecting higher prices in the near future?
 - A. The demand for rice will increase.
 - B. The demand for rice will decrease.
 - C. The supply for rice will decrease.**
 - D. The supply of rice will increase
5. Wheat is the main input in the production of flour. If the price of wheat increases, all else equal, we would expect
 - A. The supply of flour to be unaffected.
 - B. The supply of flour to decrease.**
 - C. The supply of flour to increase.
 - D. The demand for flour to decrease.
6. If good Y is a substitute in production for X then an increase in the price of Y will:
 - A. Cause an increase in the supply for X.
 - B. Cause a decrease in the supply for X.**
 - C. Cause an increase in the supply for Y.
 - D. Cause a decrease in the demand for Y.
7. Which one of the following would cause the supply of bananas to *increase*?
 - A. A technological advance which lowers the cost of banana production.**
 - B. A decrease in the number of producers of bananas.
 - C. An increase in the price of a fertilizer used in growing bananas.
 - D. A severe rain shortage (which causes banana trees to die off).
8. Which would cause a rightward shift in the supply curve for telephone service?
 - A. A decrease in the wages of telephone workers**
 - B. An increase in the price of telephones
 - C. An increase in the taxes paid by telephone companies
 - D. A decrease in a subsidy given to telephone companies

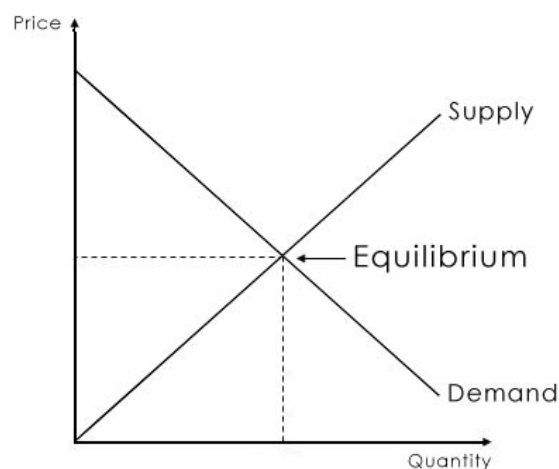
Market Equilibrium توازن السوق

Equilibrium Price and Quantity سعر التوازن وكمية التوازن

The equilibrium price (market clearing price) is the price where quantity demanded equals quantity supplied.

At equilibrium price: $Q_d = Q_s$

Graphically, the equilibrium price is indicated by the intersection (تقاطع) of the supply curve and the demand curve.



At equilibrium price, there is neither a shortage nor a surplus.

When $Q_D > Q_S \rightarrow$ shortage (excess demand): Shortage = $Q_S - Q_D$

When $Q_S > Q_D \rightarrow$ surplus (excess supply) : Surplus = $Q_S - Q_D$

- The surpluses caused by above equilibrium price

إذا كان السعر أعلى من سعر التوازن فإن ذلك يسبب مشكلة فائض من السلعة في السوق، أي أن الكمية المعروضة أكبر من الكمية المطلوبة.

- The shortage caused by below equilibrium price

إذا كان السعر أقل من سعر التوازن فإن ذلك يسبب مشكلة نقص من السلعة في السوق، أي أن الكمية المطلوبة أكبر من الكمية المعروضة.

Example

Based on the following table which represents the supply and demand schedule answer the following questions

Price per Bushel	Total Quantity Supplied	Total Quantity Demanded	Surplus (+) or Shortage (-)	The effect on price
\$5	12,000	2,000		
\$4	10,000	4,000		
\$3	7,000	7,000		
\$2	4,000	11,000		
\$1	1,000	16,000		

1. Complete the table

Price per Bushel	Total Quantity Supplied	Total Quantity Demanded	Surplus (+) or Shortage (-) ($Q_s - Q_d$)	The effect on price
\$5	12,000	2,000	+ 10,000	Decrease
\$4	10,000	4,000	+ 6,000	Decrease
\$3	7,000	7,000	0	no effect
\$2	4,000	11,000	- 7,000	Increase
\$1	1,000	16,000	- 15,000	Increase

2. What is the equilibrium price? What is the equilibrium quantity?

The equilibrium price equals \$3, when $Q_d = Q_s$

The equilibrium quantity equal 7000 bushels of corn.

3. At market price of \$4, calculate the excess supply

Excess Supply = $Q_s - Q_d = 10,000 - 4,000 = 6,000$

Example

Based on the following table which represents the supply and demand schedule for one seller of meat

Price	Quantity demanded	Quantity supplied
\$20	395	200
\$22	375	250
\$24	350	290
\$26	320	320
\$28	280	345

- A. Suppose that there are 100 sellers and 100 buyers of meat in this market. What is the equilibrium price and quantity of meat in this market?

Market demand = number of buyers * Quantity demanded for one buyer.

Market supply = number of sellers * Quantity supplied for one seller.

At equilibrium price: $Q_d = Q_s$: equilibrium price = \$26 equilibrium quantity = 32,000

Price	Market demand	Market supply
\$20	39,500	20,000
\$22	37,500	25,000
\$24	35,000	29,000
\$26	32,000	32,000
\$28	28,000	34,500

- B. When government sets the price of a meat at \$28, will there be a shortage or surplus? By what amount?

At \$28 of price: $Q_s = 34,500$, $Q_d = 28,000 \rightarrow Q_s > Q_d \rightarrow$ surplus of the meat by the amount of 6,500 units ($34,500 - 28,000$)

Example

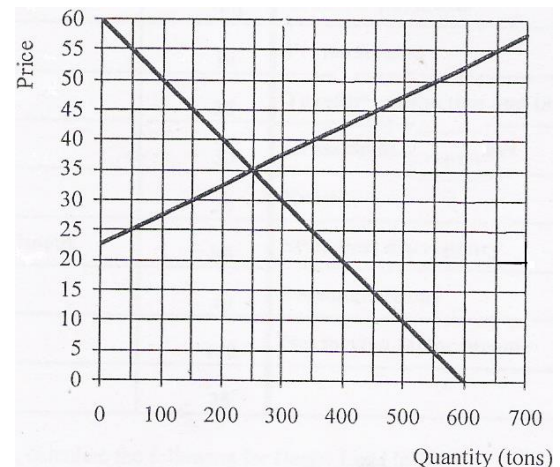
Consider the following market demand and supply curves for Cheese. Quantities are in tons and prices in dollars.

What is the equilibrium price and quantity of Cheese in this market?

The equilibrium price is indicated by the intersection of the supply curve and the demand curve.

Equilibrium price: \$35

Equilibrium quantity: 250 tons



Example: Choose the correct answer

- There is a shortage in a market for a product when:
 - The current price is higher than the equilibrium price
 - Supply is less than demand
 - Quantity demanded is less than quantity supplied
 - Quantity demanded is greater than quantity supplied**
- There is a surplus in a market for a product when:
 - The price is set above the equilibrium level**
 - Competition is driving the price higher
 - Supply is more than demand
 - Quantity demanded is more than quantity supplied
- If the market price is above the equilibrium price:
 - A shortage will occur and producers will produce more and lower prices
 - A surplus will occur and producers will produce less and lower prices**
 - A surplus will result and consumers will bid prices up
 - Producers will make extremely high profits

Example: Use the following to answer questions:

1. What is the equilibrium price and quantity?

At equilibrium: demand curve intersects the supply curve

$$P = \$1.5 \quad Q = 28$$

2. At $P = \$2$, is there a shortage or surplus? What is the amount of shortage or surplus?

$$\text{At } P = \$2: Q_D = 20 \quad Q_S = 30$$

$$Q_S > Q_D \rightarrow \text{surplus}$$

$$\text{Amount of surplus} = Q_S - Q_D = 30 - 20 = 10$$

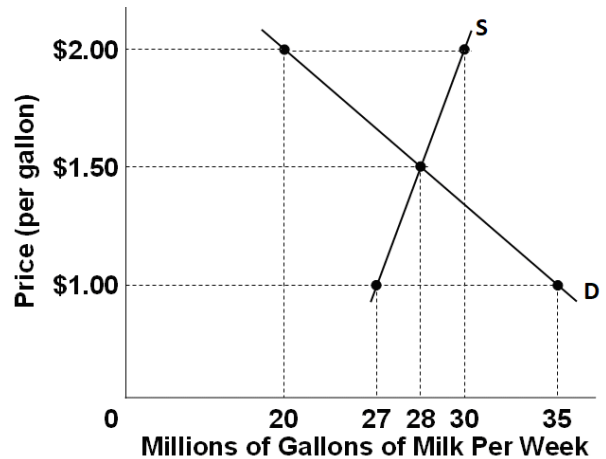
3. At $P = \$1$, is there a shortage or surplus? What is the amount of shortage or surplus? Is price increase or decrease?

$$\text{At } P = \$1: Q_D = 35 \quad Q_S = 27$$

$$Q_D > Q_S \rightarrow \text{shortage}$$

$$\text{Amount of shortage} = Q_D - Q_S = 35 - 27 = 8$$

Shortage: price will tend to rise



Application: Government Set Prices تدخل الحكومة في الأسواق

من أبرز أشكال تدخل الحكومة في الاقتصاد هو تدخلها في تسعير بعض السلع والخدمات. إن سعر التوازن ليس بالضرورة أن يكون منخفضاً، بل على العكس يمكن أن يكون مرتفعاً. فإذا كان سعر التوازن مرتفعاً فإن المستهلكين يبدؤون بالتذمر من ارتفاع السعر، وإذا كان سعر التوازن منخفضاً فإن المنتجين هم الذين سيتذمرون. وفي تلك الحالات قد تتدخل الحكومة وتفرض سعر حماية المستهلكين في حالة ارتفاع السعر أو لحماية المنتجين في حالة تدني السعر.

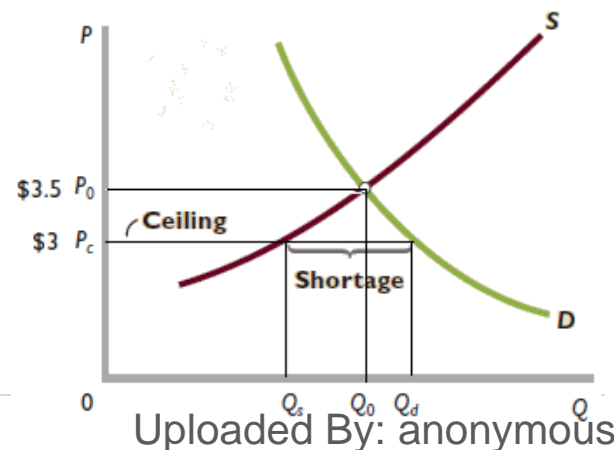
Price Ceilings: السقف السعري

A price ceiling sets the maximum legal price a seller may charge for a product or services. A price at or below the ceiling is legal; a price above it is not.

السقف السعري هو أعلى سعر قانوني يسمح أن تباع وتشتري به السلعة. كذلك يمكن أن تباع وتشتري السلعة عند مستوى سعر أقل من السقف السعري. أما أعلى منه فلا يجوز.

A price ceiling is a maximum legal price such as P_c . When the ceiling price is below the equilibrium price, a persistent product shortage result. Here that shortage is shown by the horizontal distance between Q_d and Q_s .

نتيجة فرض سقف سعري تكون الكمية المعروضة أقل من الكمية المطلوبة، مما يشير إلى وجود عجز في سوق تلك السلعة. أي أن الحكومة حاولت حل مشكلة ارتفاع السعر، ولكن ذلك على حساب مشكلة العجز الذي ظهر في السوق. ويمكن للحكومة أن تتبع عدة أساليب للتخلص من مشكلة العجز هذه، ومن بين هذه الأساليب أن تقوم الحكومة بتوفير كميات إضافية من السلعة لسد العجز الناجم من السقف السعري. وإذا لم تقم الحكومة بذلك فقد يؤدي وجود العجز الناتج عن فرض سقف سعري إلى ظهور سوق سوداء.

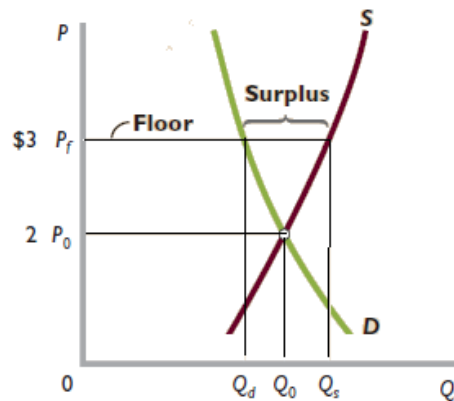


Price Floors: الأرضية السعرية

A price floor is a minimum price fixed by the government. A price at or above the price floor is legal; a price below it is not.

يمكن أن تتدخل الحكومة لحماية المنتجين. وعندما تدخل الحكومة في هذا المجال فإنها تفرض عادة سعراً أعلى من سعر التوازن يسمى أرضية سعرية، وهو أدنى سعر قانوني يسمح أن تباع وتشتري به تلك السلعة.

A price floor is a minimum legal price such as P_f . When the price floor is above the equilibrium price, a persistent product surplus result. Here that surplus is shown by the horizontal distance between Q_s and Q_d .



Suppose the equilibrium price for wheat is \$2 per bushel and, because of that low price, many farmers have extremely low incomes. The government decides to help out by establishing a legal price floor or price support of \$3 per bushel. What will be the effects? At any price above the equilibrium price, quantity supplied will exceed quantity demanded—that is, there will be a persistent excess supply or surplus of the product. Farmers will be willing to produce and offer for sale more than private buyers are willing to purchase at the price floor.

Example

The table below shows the demand and supply schedule in the market for shoes. Answer the questions that follow.

1. What is the equilibrium price and quantity?

Equilibrium price = \$25

Equilibrium quantity = 2,500

Price	Quantity Demanded	Quantity Supplied
\$40	1,750	4,000
\$35	2,000	3,500
\$30	2,250	3,000
\$25	2,500	2,500
\$20	2,750	2,000

2. Suppose that the government set a price for shoes at \$20.

- A. What is this price control called? (Price floor or price ceiling)?

\$20 is the price less than the market price → Price ceiling

- B. At this price is there a shortage or surplus? Why?

At $P = \$20$: $QD = 2,750$ $QS = 2,000$ → $QD > QS$ → shortage

- C. What is the amount of shortage or surplus?

Surplus = $Qs - Qd = 2,750 - 2,000 = 750$

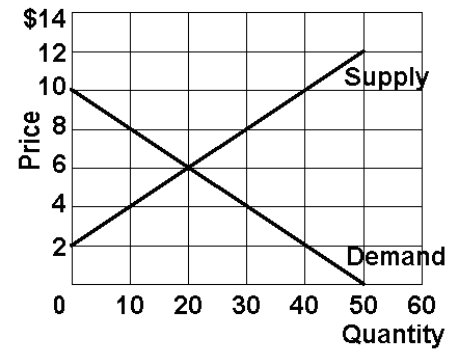
Example

Consider the following market demand and supply curves for Cheese. Quantities are in tons and prices in dollars.

Suppose that government imposed a price floor of \$8, would there be a shortage or a surplus at this price? Why? How much is the size of this shortage or surplus?

Surplus because $Q_s > Q_d$

Surplus = $Q_s - Q_d = 30 - 10 = 20$ tons



Change in Supply, Demand, and Equilibrium

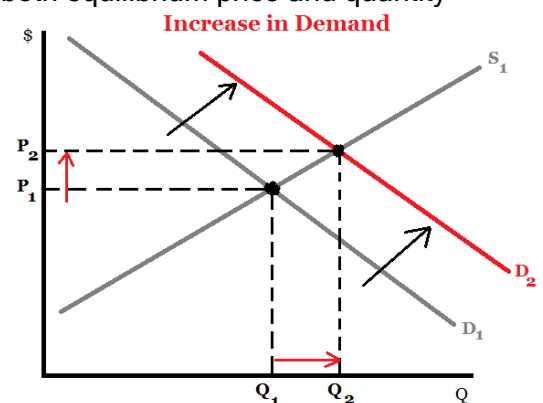
- Changes in Demand

Increase in Demand

Increase in demand: shift demand curve to the right → increase both equilibrium price and quantity

Price: Increase from P_1 to P_2

Quantity: Increase from Q_1 to Q_2

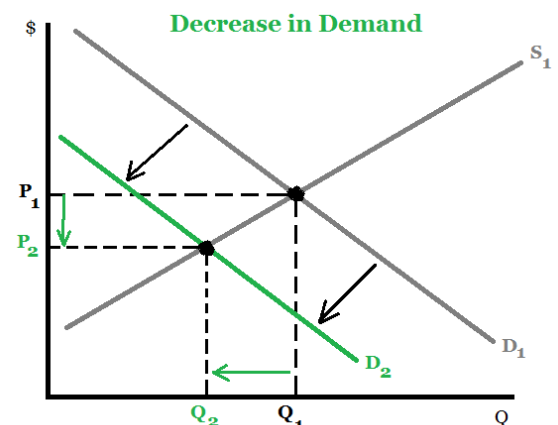


Decrease in Demand

Decrease in demand: shift demand curve to the left → decrease both equilibrium price and quantity

Price: Decrease from P_1 to P_2

Quantity: Decrease from Q_1 to Q_2



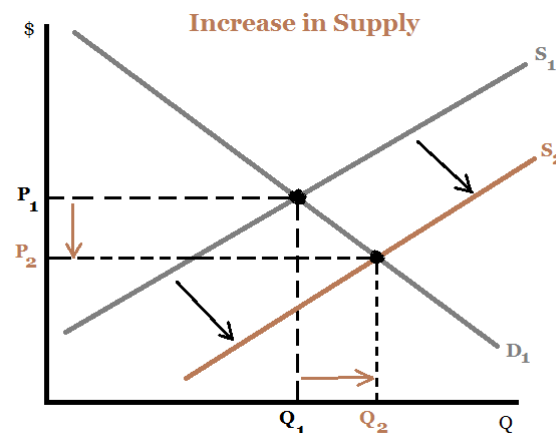
- Changes in Supply**

Increase in Supply

Increase in supply: shift supply curve to the right → decrease the equilibrium price and, increase the equilibrium quantity ($P \downarrow$; $Q \uparrow$)

Price: Decrease from P_1 to P_2

Quantity: Increase from Q_1 to Q_2

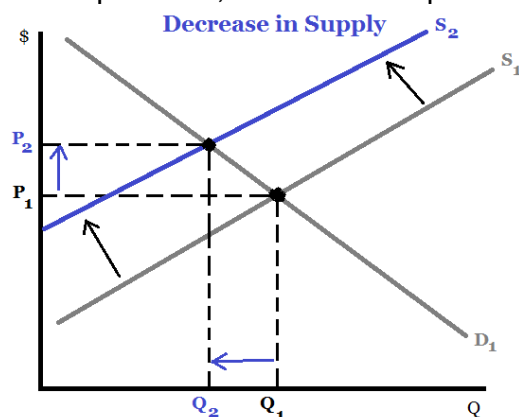


Decrease in Supply

Decrease in supply: shift supply curve to the left → decrease the equilibrium price and, increase the equilibrium quantity ($P \uparrow$; $Q \downarrow$)

Price: Increase from P_1 to P_2

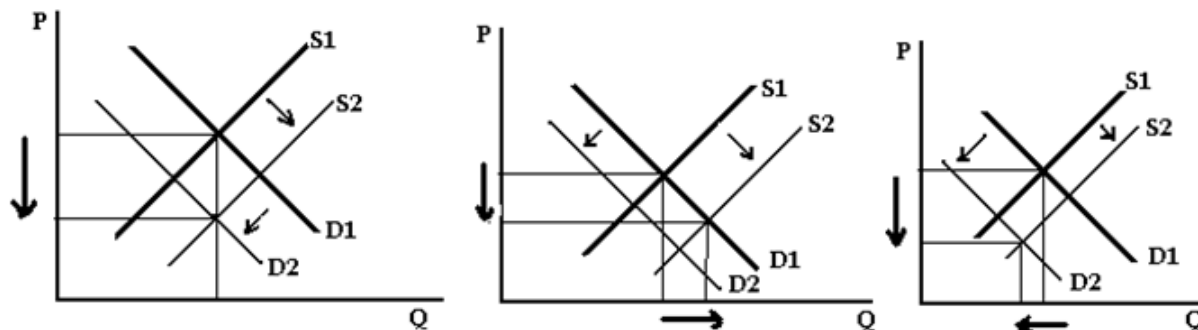
Quantity: Decrease from Q_1 to Q_2



- Supply Increase; Demand Decrease**

Increase in supply: shift supply curve to the right

Decrease in demand: shift demand curve to the left



Price: Decrease from P_1 to P_2

Quantity: Uncertain (لا يستطيع التحديد)

Effects of changes in both supply and demand on equilibrium price and quantity:

Change in Supply	Change in Demand	Effect on Equilibrium Price	Effect on Equilibrium Quantity
Increase	Decrease	Decrease	Uncertain
Decrease	Increase	Increase	Uncertain
Increase	Increase	Uncertain (Indeterminate)	Increase
Decrease	Decrease	Uncertain	Decrease

Example

Suppose that cheese is a normal goods, cheese and bread are complements, and milk is used to produce cheese. For each of the following cases, show what happens to demand, supply, equilibrium price, and equilibrium quantity of cheese.

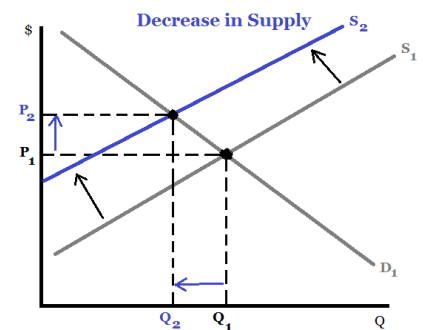
A. Price of milk increases.

Milk is used to produce cheese (resources of milk production). Increase in milk prices raise production cost, this leads to decrease the profit. Reduction in profits reduces the incentive for firms to supply output at each product price → shift supply curve to the left (decrease).

Demand curve for cheese: No change

Equilibrium price: Increase

Equilibrium quantity: Decrease



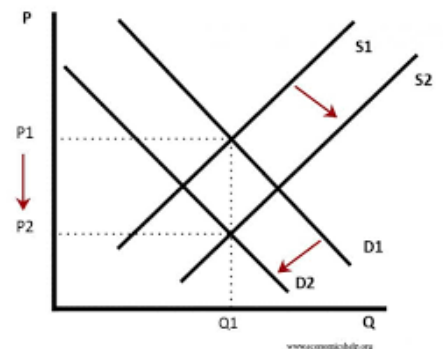
B. National income decreases and, at the same time, the number of sellers of local cheese has increased.

National income decrease: cheese is a normal goods → decrease income leads to decrease demand

The number of sellers of local cheese has increased → increased supply

Price: decrease

Quantity: uncertain



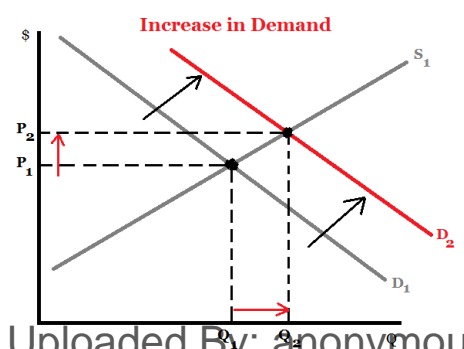
C. The government gives a subsidy to the producers of bread.

Subsidy to the producers of bread leads to increase the supply of bread → decrease the price of bread, but cheese and bread are complements → increase the demand for cheese.

Supply curve for cheese: No change

Price: increase

Quantity: increase



Example

Tea and coffee are substitutes and both tea and coffee are normal goods. Explain what happen to demand, supply, equilibrium price, equilibrium quantity of tea due to the following events.

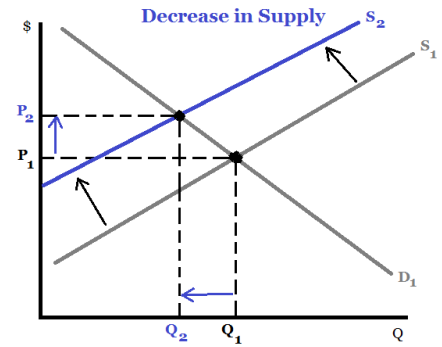
A. Government increase sales taxes on tea.

Increase sales taxes → decrease supply of tea

The demand for tea: no change.

The price of tea: increase

The quantity of tea: decrease



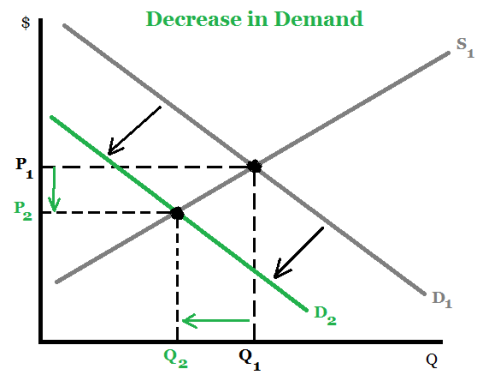
B. Price of coffee decrease considerably (بشكل كبير).

Tea and coffee are substitutes → Price of coffee decrease leads to increase demand for coffee and decrease demand for tea.

The supply of tea: no change

The price of tea: decrease

The quantity of tea: decrease



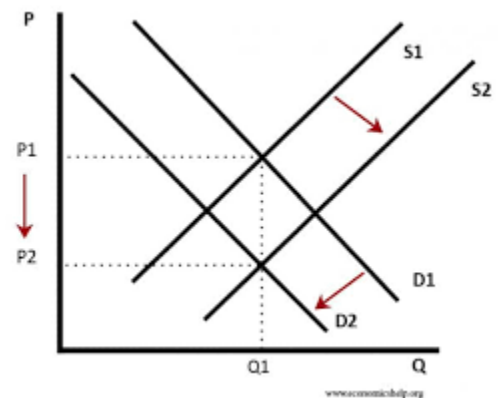
C. Consumers' income decreases and, at the same time, the cost of producing and transporting tea has also decreased.

Tea is a normal good ⇒ Consumers' income decreases leads to decrease the demand for tea

The cost of producing and transporting tea has decreased. ⇒ supply of tea increase

The price of tea: decrease

The quantity of tea: uncertain



Example

The table below shows the demand and supply schedule in the market for shoes. Answer the questions that follow.

Price	Quantity Demanded	Quantity Supplied
\$40	1,750	4,000
\$35	2,000	3,500
\$30	2,250	3,000
\$25	2,500	2,500
\$20	2,750	2,000

A. What is the equilibrium price and quantity?

Equilibrium price = \$25

Equilibrium quantity = 2,500

B. Suppose that consumer income increase that leads to increase demand by 750 units at each price level, what is the new equilibrium price and quantity?

Price	Quantity Demanded	Quantity Supplied	New Quantity Demanded
\$40	1,750	4,000	$1750 + 750 = 2,500$
\$35	2,000	3,500	$2,000 + 750 = 2,750$
\$30	2,250	3,000	$2,250 + 750 = \mathbf{3,000}$
\$25	2,500	2,500	$2,500 + 750 = 3,250$
\$20	2,750	2,000	$2,750 + 750 = 3,500$

Equilibrium price = \$30

Equilibrium quantity = 3,000

Example

The table below shows the demand and supply schedule in the market for milk. Answer the questions that follow.

Price	Quantity demanded	Quantity supplied
\$2	400	240
\$3	380	300
\$4	360	360
\$5	340	420
\$6	320	480

A. What is the equilibrium price and quantity?

Equilibrium price = \$4

Equilibrium quantity = 360

- B. Suppose that production cost of produce milk increase that leads to decrease supply by 160 units at each price level, what is the new equilibrium price and quantity?

Price	Quantity demanded	New Quantity supplied
\$2	400	$240 - 160 = 80$
\$3	380	$300 - 160 = 140$
\$4	360	$360 - 160 = 200$
\$5	340	$420 - 160 = 260$
\$6	320	$480 - 160 = 320$

New Equilibrium price = \$6

New Equilibrium quantity = 320

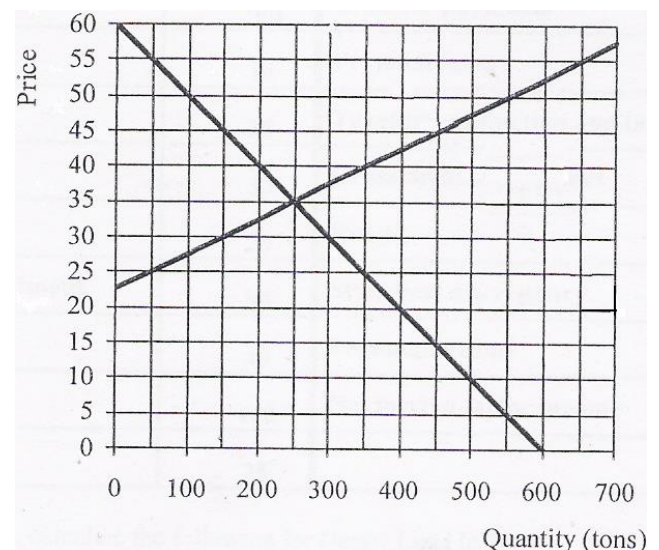
Example

Consider the following market demand and supply curves for Cheese. Quantities are in tons and prices in dollars.

- A. What is the equilibrium price and quantity of Cheese in this market?

Equilibrium price: \$35

Equilibrium quantity: 250 tons



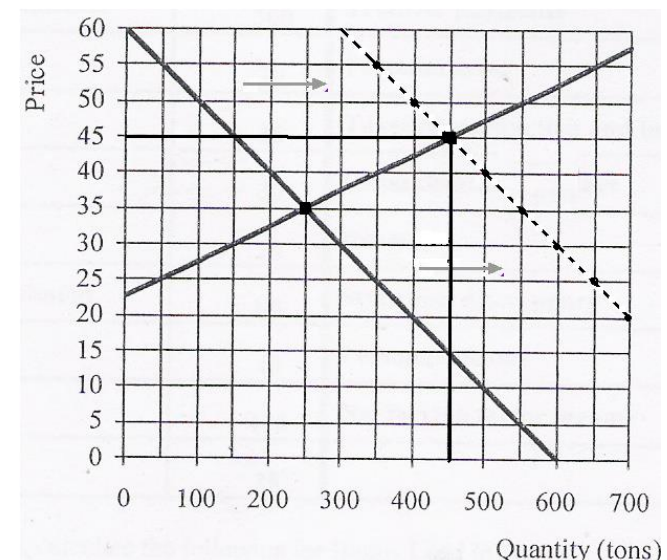
- B. Suppose the government purchased 300 tons of cheese at each price level (demand increase by 300 tons), what is the equilibrium price and quantity after this purchase?

Demand increase by 300 tons, means that the at each price quantity demand increase by 300 tons

Price	Q_d	$Q_d'(\text{new demand})$	Q_s
25	350	$350 + 300 = 650$	50
30	300	$300 + 300 = 600$	150
35	250	$250 + 300 = 550$	250
40	200	$200 + 300 = 500$	350
45	150	$150 + 300 = \mathbf{450}$	450
50	100	$100 + 300 = 400$	550

New equilibrium price: \$45

New equilibrium quantity: 450 tons



CHAPTER 6

Elasticity

المرونة

Price Elasticity of Demand مرونة الطلب السعرية

The law of demand tells us that, other things equal, consumers will buy more of a product when its price declines and less when its price increases. But how much more or less will they buy? The amount varies from product to product and over different price ranges for the same product. It also may vary over time. And such variations matter.

يخبرنا قانون الطلب أنه ، مع ثبات العوامل الأخرى ، يشتري المستهلكون المزيد من السلعة عندما ينخفض السعر وأقل عندما يرتفع السعر. ولكن ما هو المبلغ الذي سيشترونه أكثر أو أقل؟ يختلف المبلغ من سلعة لأخرى وعلى نطاقات أسعار مختلفة لنفس السلعة. قد تختلف أيضًا بمرور الوقت. وهذه الاختلافات مهمة.

Elasticity: is a measure of the percentage change in one variable brought about by a 1 percent change in some other variable.

Price Elasticity of Demand: is the percentage change in the quantity demanded of a good in response to a 1 percent change in its price.

تقيس مرونة الطلب السعرية مدى استجابة الكمية المطلوبة من سلعة ما نتيجة لتغير سعر السلعة بنسبة واحد بالمائة.

The responsiveness (or sensitivity) of consumers to a price change is measured by a product's price elasticity of demand. For some products *for example*, restaurant meals consumers are highly responsive to price changes. Modest price changes cause very large changes in the quantity purchased. Economists say that the demand for such products is *elastic*. For other products—*for example*, toothpaste— consumers pay much less attention to price changes. Substantial price changes cause only small changes in the amount purchased. The demand for such products is *inelastic*.

يتم قياس استجابة المستهلكين لتغير السعر من خلال مرونة الطلب السعرية للسلعة. بالنسبة لبعض السلع على سبيل المثال ، يستجيب مستهلكو وجبات الطعام بشكل كبير لتغيرات الأسعار. تؤدي التغيرات المتواضعة في الأسعار إلى تغييرات كبيرة جدًا في الكمية المشتراة. فيكون الطلب على هذه المنتجات مرن. بالنسبة للمنتجات الأخرى - على سبيل المثال ، معجون الأسنان - يولي المستهلكون اهتمامًا أقل لتغيرات الأسعار. تؤدي التغيرات الكبيرة في الأسعار إلى تغييرات طفيفة في الكمية التي تم شراؤها. فيكون الطلب على هذه المنتجات غير مرن.

Example: Choose the correct answer

- The basic formula for the price elasticity of demand coefficient is:
 - absolute decline in quantity demanded/absolute increase in price.
 - percentage change in quantity demanded/percentage change in price.**
 - percentage change in price/percentage change in quantity demanded.
 - change in quantity demanded/ change in price.
- If the elasticity of demand is -3 , this means that if ____
 - The price rises by one dollar, the quantity demanded will fall by two dollars.
 - The price rises by two-dollar, quantity demanded will fall by one dollar.
 - The price rises by 1 percent, the quantity demanded will rise by 3 percent.
 - The price rises by 1 percent, the quantity demanded will fall by 3 percent.**
- If the elasticity of demand is $-\frac{1}{2}$, this means that if ____
 - The price rises by one dollar, the quantity demanded will fall by two dollars.
 - The price rises by two-dollar, quantity demanded will fall by one dollar.
 - The price rises by one percent, the quantity demanded will rise by two percent.
 - The price rises by two percent, the quantity demanded will fall by one percent.**

The Price-Elasticity Coefficient and Formula

Economists measure the degree to which demand is price elastic or inelastic with the coefficient E_d , defined as:

$$E_d = \frac{\text{Percentage change in quantity demanded of product X}}{\text{percentage change in price of product X}} = \frac{\% \Delta Q}{\% \Delta P} = \frac{\Delta Q}{Q_1} \div \frac{\Delta P}{P_1}$$

$$E_d = \frac{Q_2 - Q_1}{Q_1} \div \frac{P_2 - P_1}{P_1} = \frac{Q_2 - Q_1}{Q_1} * \frac{P_1}{P_2 - P_1}$$

Example:

You are given market data that says when the price of pizza is \$4, the quantity demanded of pizza is 60 slices. When the price of pizza is \$2, the quantity demanded of pizza is 80 slices. Calculate the price elasticity of demand

$$E_d = \frac{Q_2 - Q_1}{Q_1} * \frac{P_1}{P_2 - P_1} = \frac{80 - 60}{60} * \frac{4}{2 - 4} = \frac{20}{60} * \frac{4}{-2} = \frac{80}{-120} = -0.67$$

Midpoint formula for calculating elasticity:

$$E_d = \frac{\text{Change in quantity demanded}}{\text{Sum of quantity / 2}} \div \frac{\text{change in price}}{\text{Sum of price / 2}}$$

$$E_d = \frac{Q_2 - Q_1}{Q_2 + Q_1 / 2} \div \frac{P_2 - P_1}{P_2 + P_1 / 2} = \frac{Q_2 - Q_1}{Q_2 + Q_1} \div \frac{P_2 - P_1}{P_2 + P_1}$$

$$E_d = \frac{Q_2 - Q_1}{Q_2 + Q_1} * \frac{P_2 + P_1}{P_2 - P_1}$$

Example

Use the midpoint formula for E_d to calculate the following

Product price	Quantity demanded
\$5	10
\$4	20
\$3	35
\$2	55
\$1	80

1. Calculate price elasticity of demand for the price decrease from \$4 to \$3.

$$E_d = \frac{Q_2 - Q_1}{Q_2 + Q_1} * \frac{P_2 + P_1}{P_2 - P_1} = \frac{35 - 20}{35 + 20} * \frac{3 + 4}{3 - 4} = \frac{15}{55} * \frac{7}{-1} = \frac{105}{-55} = -1.9$$

2. Calculate price elasticity of demand for the price increase from \$1 to \$2.

$$E_d = \frac{Q_2 - Q_1}{Q_2 + Q_1} * \frac{P_2 + P_1}{P_2 - P_1} = \frac{55 - 80}{55 + 80} * \frac{2 + 1}{2 - 1} = \frac{-25}{135} * \frac{3}{1} = \frac{-75}{135} = -0.55$$

Example

Suppose that the price elasticity of demand for maple syrup has been estimated at -2 . If quantity demanded increased by 10 percent, by how must price have changed?

$$-2 = \frac{10\%}{\% \Delta P} \rightarrow \% \Delta P = \frac{10\%}{-2} = -5\%$$

Price must be decrease by %5

Example:

Suppose that the demand for DVD increases by 40%, when price decreases from \$100 to \$90. Calculate the price elasticity of demand (Use the midpoint method for your calculation)

$$E_d = \frac{\% \Delta Q}{\% \Delta P}$$

$$\% \Delta P = \frac{P_2 - P_1}{(P_2 + P_1)/2} = \frac{90 - 100}{(90 + 100)/2} = \frac{-10}{95} = -0.105 = -10.5\%$$

$$E_d = \frac{\% \Delta Q}{\% \Delta P} = \frac{40\%}{-10.5\%} = -3.8$$

Elimination of Minus Sign

The price elasticity coefficient of demand E_d will always be a negative number, because the price and quantity demanded are inversely related.

We will use the absolute value of the elasticity coefficient. (عند حساب قيمة المرونة فإنه يتم اخذ القيمة المطلقة)

Interpretations of price elasticity of demand

We can interpret the coefficient of the price elasticity of demand as follows:

Elastic Demand طلب مرن

Demand is elastic if a percentage change in price results in a larger percentage change in quantity demanded ($\% \Delta Q > \% \Delta P$). Then E_d will be greater than 1.

Inelastic Demand طلب غير مرن

Demand is inelastic if a specific percentage change in price produces a smaller percentage change in quantity demanded ($\% \Delta P > \% \Delta Q$), demand is inelastic. Then E_d will be less than 1.

Unit Elasticity طلب احادي المرونة

Demand is unit elastic when the percentage change in price results in a same percentage change in quantity demanded ($\% \Delta P = \% \Delta Q$), demand is unit elastic. Then E_d will be equal to 1.

$$\left[\begin{array}{l} \text{if } E_d > 1 \Rightarrow \text{demand elastic} \\ \text{if } E_d < 1 \Rightarrow \text{demand inelastic} \\ \text{if } E_d = 1 \Rightarrow \text{demand unit elastic} \end{array} \right]$$

Example

Taleen spend all income on water and milk. When milk price \$3 per gallon, Taleen bought 14 gallons of milk. After the price of milk went up to \$6 per gallon, Taleen bought only 6 gallons of milk. Calculate Taleen's midpoint-price elasticity of milk when the price of milk increases from \$3 to \$6 per gallon. Is demand for milk elastic, inelastic or unit elastic?

$$E_d = \frac{Q_2 - Q_1}{Q_2 + Q_1} * \frac{P_2 + P_1}{P_2 - P_1} = \frac{6 - 14}{6 + 14} * \frac{6 + 3}{6 - 3} = \frac{-8}{20} * \frac{9}{3} = \frac{-24}{20} = |-1.2| = 1.2$$

$$E_d = 1.2 > 1 \rightarrow \text{Demand elastic}$$

Example: Choose the correct answer

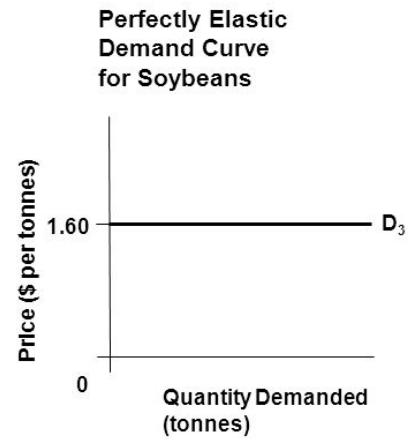
- When the percentage change in quantity demand is less than the percentage change in the price, then
 - Demand elastic
 - Demand inelastic**
 - Supply inelastic
 - Demand unit elastic
- the price of sprite cola rises by 25 percent, causing the quantity demanded to increase by 75 percent, then demand for sprite cola is
 - Elastic**
 - Inelastic
 - Unitary elastic
 - Perfectly elastic
- If demand is unitary elastic and price decreases by 30 percent, then we can expect quantity demanded to
 - Increase by 30 percent**
 - increase by 60 percent
 - decrease by 30 percent
 - decrease by 30 percent
- If the price elasticity of demand is -0.85 , then demand is
 - Elastic
 - Inelastic**
 - Unit elastic
 - Perfectly elastic
- If the demand for product X is inelastic, a 4 percent increase in the price of X will:
 - decrease the quantity of X demanded by more than 4 percent.
 - decrease the quantity of X demanded by less than 4 percent.**
 - increase the quantity of X demanded by more than 4 percent.
 - increase the quantity of X demanded by less than 4 percent.
- Which one of the following illustrates an inelastic demand?
 - A 10 percent rise in price leads to a 5 percent decrease in quantity demanded.**
 - A 10 percent rise in price leads to a 20 percent decrease in quantity demanded.
 - A price elasticity of demand equal to infinity.
 - A price elasticity of demand equal to 2.
- When the price of bubble gum is \$0.55, the quantity demanded is 400 packs per day. When the price falls to \$0.45, the quantity demanded increases to 600. Given this information, and using the midpoint method, what do you know about the demand for bubble gum?
 - It is inelastic.
 - It is elastic.**
 - It is unit elastic.
 - It is perfectly elastic

Perfectly inelastic and perfectly elastic demand curve

When we say demand is “elastic,” we do not mean that consumers are completely responsive to a price change. In that extreme situation, where a small price reduction causes buyer to increase their purchases from zero to all they can obtain, the elasticity coefficient is infinite (∞) and economists say demand is perfectly elastic. A line parallel to the horizontal axis.

If $E_d = \infty \rightarrow$ demand is perfectly elastic

A horizontal demand curve (line parallel to the horizontal axis), shows perfectly elastic demand graphically.

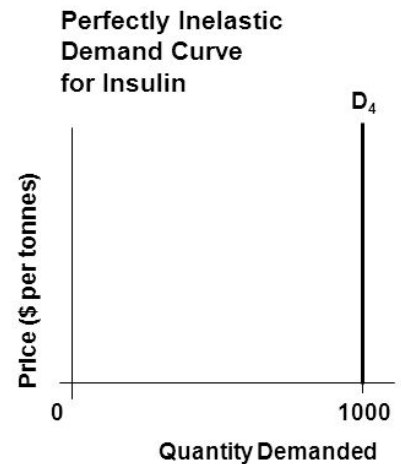


When we say demand is “inelastic,” we do not mean that consumers are completely unresponsive to a price change. In that extreme situation, where a price change results in no change whatsoever in the quantity demanded, economists say that demand is perfectly inelastic. The price-elasticity coefficient is zero because there is no response to a change in price. Approximate examples include an acute diabetic's demand for insulin (الأنسولين).

هناك حالة خاصة للطلب غير المرن عندما يكون منحنى الطلب عمودياً حيث لا تستجيب الكمية للتغير في السعر مطلقاً وتكون قيمة المرونة السعرية صفراً في هذه الحالة، ويسمى الطلب عديم المرونة (perfectly inelastic).

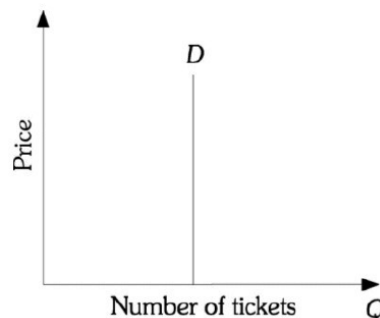
If $E_d = 0 \Rightarrow$ demand is perfectly inelastic

A vertical demand curve shows perfectly inelastic demand graphically.



Example: Choose the correct answer

1. A perfectly inelastic demand schedule:
 - A. rises upward and to the right, but has a constant slope.
 - B. can be represented by a line parallel to the vertical axis.**
 - C. cannot be shown on a two-dimensional graph.
 - D. can be represented by a line parallel to the horizontal axis.
2. A perfectly elastic demand schedule:
 - A. rises upward and to the right, but has a constant slope.
 - B. can be represented by a line parallel to the vertical axis.
 - C. cannot be shown on a two-dimensional graph.
 - D. can be represented by a line parallel to the horizontal axis**
3. Refer to Figure. The demand for tickets is
 - A. perfectly elastic.
 - B. perfectly inelastic.**
 - C. unit price elastic.
 - D. inelastic.

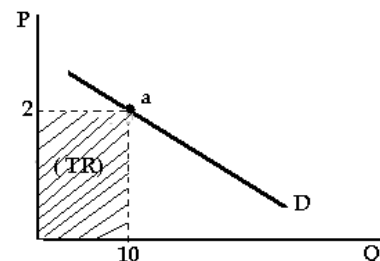


The Total-Revenue Test اختبار الإيراد الكلي

Total revenue (TR) is the total amount the seller receives from the sale of a product in a particular time period; it is calculated by multiplying the product price (P) by the quantity sold (Q). In equation form:

$$TR = P \times Q$$

Graphically, total revenue is represented by the $P \times Q$ rectangle lying below a point on a demand curve. At point a in Figure, for example, price is \$2 and quantity demanded is 10 units. So total revenue is \$20 (\$2 x 10), shown by the rectangle composed of the gold and orange areas under the demand curve.



Elastic Demand

If demand is elastic, a decrease in price will increase total revenue. Or if demand is elastic, an increase in price will decrease total revenue. Even though a lesser price is received per unit, enough additional units are sold to more than make up for the lower price.

$$\left\{ \begin{array}{l} P \downarrow \rightarrow TR \uparrow \\ or \\ P \uparrow \rightarrow TR \downarrow \end{array} \right\} \text{ Demand elastic}$$

For Example:

Price (P)	Quantity (Q)	Total revenue (TR)
\$2	10	$2 \times 10 = 20$
\$1	40	$1 \times 40 = 40$

Price decline from \$2 to \$1 and total revenue increases from \$20 to \$40. So, demand is elastic.

Inelastic Demand

If demand is inelastic, a price decrease will reduce total revenue or a price increase will increase total revenue

$$\left\{ \begin{array}{l} P \downarrow \rightarrow TR \downarrow \\ or \\ P \uparrow \rightarrow TR \uparrow \end{array} \right\} \text{ Demand inelastic}$$

For Example:

Price (P)	Quantity (Q)	Total revenue (TR)
\$4	10	$4 \times 10 = 40$
\$1.5	20	$1.5 \times 20 = 30$

Price declines from \$4 to \$1, and total revenue falls from \$40 to \$22. So, demand inelastic.

Unit Elasticity

An increase or a decrease in price leaves total revenue unchanged.

The loss in revenue from a lower unit price is exactly offset by the gain in revenue from the accompanying increase in sales.

$P \uparrow$ or $P \downarrow \rightarrow TR \text{ unchanged} \rightarrow \text{demand is unit elastic}$

For Example:

Price (P)	Quantity (Q)	Total revenue (TR)
\$3	10	$3 \times 10 = 30$
\$1	30	$1 \times 30 = 30$

Price declines from \$3 to \$1 and total revenue still 30 (unchanged). So, demand unit elastic.

Example:

The following is a straight-line demand curve that confronts a single firm.

Price	Quantity demanded	(3)	(4)
\$15	50	_____	_____
\$12.5	100	_____	_____
\$10	150	_____	_____
\$7.5	200	_____	_____
\$5	250	_____	_____
\$2.5	300	_____	_____

In column 3 (في العمود الثالث), compute (احسب) total revenue. In column 4, Indicate whether (حدد اذا كان) demand is elastic, inelastic, or unitary between each set of prices based on the total revenue test (بناءً على إختبار الإيراد الكلي).

Price	Quantity demanded	(3)	(4)
\$15	50	____750____	_____
\$12.5	100	____1,250____	____Elastic____
\$10	150	____1,500____	____Elastic____
\$7.5	200	____1,500____	____Unit Elastic____
\$5	250	____1,250____	____Inelastic____
\$2.5	300	____750____	____Inelastic____

Example: Choose the correct answer

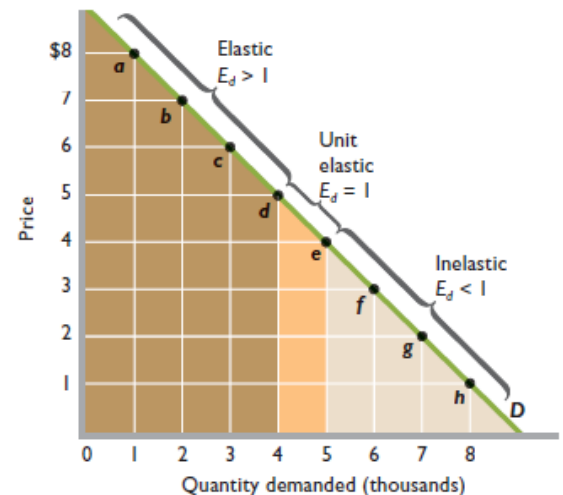
1. The price of canned salmon increases; total revenue from canned salmon remains unchanged. Canned salmon has a(n) ____ demand.
A. perfectly inelastic
B. perfectly elastic
C. unitarily elastic
D. inelastic
2. Total revenue will decrease if price ____ and demand is _____.
A. increases; inelastic
B. increases; unitarily elastic
C. decreases; inelastic
D. decreases; elastic
3. An excellent harvest causes apple to fall in price by 10%. Consumers buy 5% more apples. The price decrease has caused consumers to
A. Spend less on apples.
B. Spend more on apples.
C. Reduce the quantity of apples bought. We can't tell what has happened to spending.
D. Increase the quantity of apples bought. We can't tell what has happened to spending.
4. Other things the same, if a price change causes total revenue to change in the opposite direction, demand is:
A. Perfectly inelastic.
B. Relatively elastic.
C. Relatively inelastic.
D. Of unit elasticity.
5. Demand is said to be inelastic when:
A. An increase in price results in a reduction in total revenue
B. An increase in price results in no change in total revenue
C. A reduction in price results in a decrease in total revenue
D. The elasticity coefficient is more than one

Price Elasticity along a Linear Demand Curve

Using the total revenue test, when price fall and TR increases, demand is elastic; when price fall and TR unchanged, demand is unit elastic; and when price fall and TR decline, demand is inelastic.

Price Elasticity of Demand for Movie Tickets as Measured by the Elasticity Coefficient and the Total-Revenue Test

Total Quantity of Tickets Demanded	Price per Ticket	Elasticity Coefficient (E_d)	Total Revenue, (1) \times (2)	Total-Revenue Test
1	\$8		\$ 8000	
2	7	5.00	14,000	Elastic
3	6	2.60	18,000	Elastic
4	5	1.57	20,000	Elastic
5	4	1.00	20,000	Unit elastic
6	3	0.64	18,000	Inelastic
7	2	0.38	14,000	Inelastic
8	1	0.20	8000	Inelastic



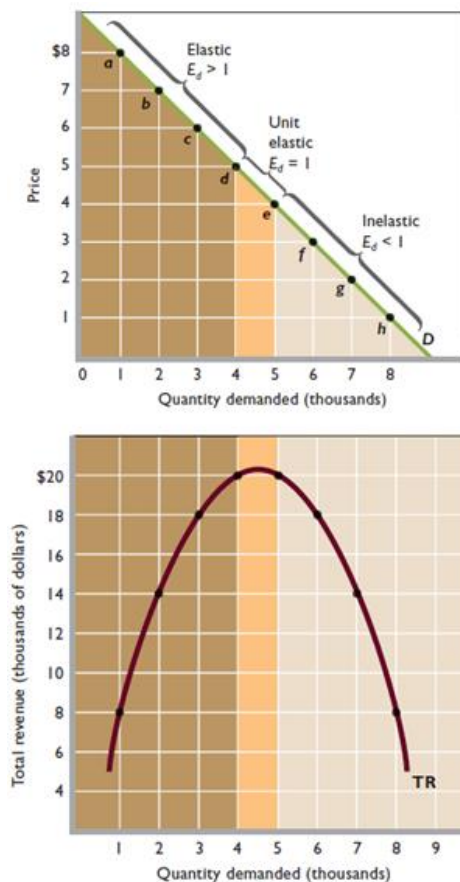
For a down sloping straight line, demand is more elastic at higher price range and inelastic at lower price ranges.

Example: Choose the correct answer

1. Along a linear demand curve, from top to bottom (higher price levels to lower price levels), elasticity varies from
 - A. elastic, to unit elastic, to inelastic
 - B. inelastic, to unit elastic, to elastic
 - C. unit elastic, to elastic, to inelastic
 - D. elastic, to inelastic, to unit elastic
2. Which of the following is true?
 - A. On a linear demand curve, elasticity is constant
 - B. **On a linear demand curve, the higher the price the more elastic is demand**
 - C. At the same price demand is more elastic on the steeper demand curve
 - D. None are true
3. For a linear demand curve:
 - A. elasticity is constant along the curve.
 - B. elasticity is unity at every point on the curve.
 - C. demand is elastic at low prices.
 - D. **demand is elastic at high prices.**

Price Elasticity and the Total-Revenue Curve

When price falls and TR increases, demand is elastic; when price falls and TR is unchanged, demand is unit elastic; and when price falls and TR declines, demand is inelastic.



Total revenue curve TR, which first slopes upward, then reaches a maximum, and finally turns downward. Tr reaches a maximum at unit elastic range of the demand curve

Determinants of Price Elasticity of Demand:

- **Substitutability** توفر بدائل للسلعة

The larger the number of substitute goods that are available, the greater the price elasticity of demand.

The elasticity of demand for a product depends on how narrowly the product is defined. Demand for Reebok sneakers is more elastic than is the overall demand for shoes. Many other brands are readily substitutable for Reebok sneakers, but there are few, if any, good substitutes for shoes.

بصورة عامة كلما زاد عدد البدائل المتوفرة للسلعة، كلما كان الطلب عليها أكثر مرونة، حيث أن ارتفاع سعر السلعة سيؤدي بالمستهلك لتقليل الكميات المطلوبة منها بصورة كبيرة والانتقال لاستهلاك السلع البديلة. أما عدم وجود بدائل للسلعة فإنه يؤدي بالمستهلك أن يرتبط باستهلاك تلك السلعة حتى لو ارتفع سعرها لعدم وجود بدائل لها.

كلما كان للسلعة بدائل كثيرة وجيدة كلما كان الطلب عليها أكبر مرونة، أو بمعنى آخر كلما عرفنا السلعة تعريفاً ضيقاً، وكلما كان لهذه السلعة بدائل كثيرة وجيدة كلما كان الطلب عليها أكبر مرونة، مثلاً الطلب على الصابون من نوع لوكس أكبر مرونةً من الطلب على الصابون بصورة عامة، والطلب على لحم الضأن أكبر مرونة من الطلب على اللحوم بصورة عامة.

- **Proportion of Income** نسبة الإنفاق على السلعة من الدخل المستهلك

Other things equal, the higher the price of a good relative to consumers incomes, the greater the price elasticity of demand.

بصورة عامة فإن الطلب على السلعة يكون أكثر مرونة كلما زادت نسبة الإنفاق على تلك السلعة من دخل المستهلك. فعلى سبيل المثال فإن الإنفاق على ملح الطعام يشكل نسبة قليلة جداً من دخل المستهلك وعليه فإن ارتفاع سعر ملح الطعام لن يؤدي الانخفاض الكمية المطلوبة منه بنسبة كبيرة بل يمكن أن لا تتأثر الكمية المطلوبة منه مطلقاً.

A 10 percent increase in the price of low-priced pencils or chewing gum amounts to a few more pennies relative to one's income, and quantity demanded will probably decline only slightly. Thus, *price elasticity for such low-priced items tends to be low*. But a 10 percent increase in the price of relatively high-priced automobiles or housing means additional expenditures of perhaps \$3000 or \$20,000, respectively. These price increases are significant fractions of the annual incomes and budgets of most families, and quantities demanded will likely diminish significantly. *Price elasticity for such items tends to be high*.

- **Luxuries versus Necessities** سلع الرفاهية والسلع الضرورية

The more that a good is considered to be a luxury rather than a necessity the greater the price elasticity of demand.

طبيعة السلعة من العوامل المحددة لمرونة الطلب السعرية، وذلك من حيث كون السلعة ضرورية أو كمالية. فارتفاع سعر السلعة الضرورية لن يؤثر كثيراً على الكمية المطلوبة منها نظراً للحاجة إليها وعدم إمكانية الاستغناء عنها. أما ارتفاع سعر السلعة الكمالية فسيؤدي الانخفاض في الكمية المطلوبة منها بصورة واضحة لإمكانية الاستغناء عنها أو التقليل منها بصورة كبيرة.

For example, electricity is regarded as a necessity: it is difficult to get along without it. A price increase will not significantly reduce the amount of lighting. On other hand, jewelry are luxuries. If the prices of jewelry rise, a consumer need not buy them.

- Time (المدى الطويل والمدى القصير)

Product demand is more elastic the longer the time period under consideration. Consumers often need time to adjust to changes in prices. For example, when the price of a product rises, time is needed to find and experiment with other product to see if they are acceptable.

بصفة عامة فإن مرونة الطلب على سلعة ما في المدى الطويل أعلى بكثير من مرونة الطلب عليها في المدى القصير نظراً لصعوبة التكيف في المدى القصير، خصوصاً بالنسبة لعادات المستهلك الشرائية فمثلاً لو ارتفع سعر زيت الزيتون فإن المستهلك الذي تعود على استهلاك هذه السلعة لن يستطيع الاستغناء عنها في المدى القصير ومن ثم فإن الطلب عليها في المدى القصير سيقل بنسبة أقل من نسبة ارتفاع السعر وهذا يعني أن الطلب عليها سيكون قليل المرونة، ولكن إذا استمر الارتفاع في سعرها في المدى الطويل فسيحاول المستهلك التكيف مع أنماط استهلاكية أخرى مثل استهلاك زيت الذرة أو السمن النباتي وبالتالي يكون الطلب على زيت الزيتون أكثر مرونة.

Example: Choose the correct answer

1. Which of the following is not a determinant of the price elasticity of demand?
 - A. Time to adjust
 - B. Availability of substitute goods
 - C. Whether the good is low-priced or high-priced
 - D. **Whether the consumer is low or high income**
2. Over time, the demand of a good or service
 - A. **becomes more elastic.**
 - B. becomes less elastic.
 - C. initially becomes more elastic and then becomes less elastic.
 - D. initially becomes less elastic and then becomes more elastic.
3. The _____ the portion of your income spent on a good, the _____ is your demand for the good.
 - A. larger; more income elastic.
 - B. **larger; more price elastic.**
 - C. smaller; more price elastic.
 - D. smaller; more income elastic.
4. Which of the following factors will make the demand for a product more elastic?
 - A. The product has no close substitutes.
 - B. A very small proportion of income is spent on the good.
 - C. **A long time period has elapsed since the product's price changed.**
 - D. A lower price.
5. The demand schedules for such products as eggs, bread, and electricity tend to be:
 - A. perfectly price elastic.
 - B. of unit price elasticity.
 - C. **relatively price inelastic.**
 - D. relatively price elastic
6. The elasticity of demand for a product is likely to be greater:
 - A. if the product is a necessity, rather than a luxury good.
 - B. **the greater the amount of time over which buyers adjust to a price change.**
 - C. the smaller the proportion of one's income spent on the product.
 - D. the smaller the number of substitute products available.
7. We would expect:
 - A. the demand for Coca-Cola to be less price elastic than the demand for soft drinks in general.
 - B. **the demand for Coca-Cola to be more price elastic than the demand for soft drinks in general.**
 - C. no relationship between the price elasticity of demand for Coca-Cola and the price elasticity of demand for soft drinks in general.
 - D. none of these to hold true.

Applications of Price Elasticity of Demand بعض التطبيقات العملية لمرونة الطلب السعرية

- **Large Grope Yields**

The demand for most products is highly inelastic. As a result, increase in the output of farm products arising from a good growing season or from increased productivity tend to depress both the prices of farm products and the total revenue of farmers.

تلجأ بعض الدول أو بعض المنتجين إلى تخفيض العرض من المنتجات الزراعية وذلك سعياً منهم إلى زيادة الإيراد الكلي لهذه المنتجات. والتحليل الاقتصادي لذلك هو أن الطلب على المنتجات الزراعية هو في الغالب طلب غير مرّن ولذلك فإن نقص العرض من هذه المنتجات يسبب ارتفاع السعر، ونظراً لأن الطلب على هذه المنتجات هو غير مرّن فإن الإيراد الكلي للمنتجين سوف يزداد. لذلك نرى أن حكومة مثل حكومة البرازيل تقوم بإتلاف جزء كبير من محصول القهوة بهدف زيادة الإيرادات الكلية لها، حيث أن إتلاف هذا الجزء من محصول القهوة سوف يؤدي إلى انخفاض العرض ومن ثم ارتفاع الأسعار وفي ظل طلب غير مرّن على القهوة فإن الإيرادات سوف تزداد.

- **Excise Taxes**

The government pays attention to elasticity of demand when it selects goods and services on which to levy excise taxes. If a \$1 tax is levied on a product and 10,000 units are sold, tax revenue will be \$10,000 (1x10,000). If the government rises the tax to \$1.5 but the higher price that results reduces sales to 5000 because of elastic demand, tax revenue will decline to \$75,000 (1.5 x 5000). Because a *higher tax on a product with elastic demand will bring in less tax revenue*, legislatures tend to seek out products that have inelastic demand such as liquor, gasoline, and cigarettes.

عندما تفكر الدولة في فرض ضريبة معينة فإنها تقوم بفرض هذه الضريبة على السلع التي يكون الطلب عليها غير مرّن، حيث أن ارتفاع أسعار هذه السلع بسبب زيادة الضريبة سوف يؤدي إلى زيادة الإيراد الكلي للدولة (أي زيادة حصيلة الدولة من الضريبة). ويلاحظ هنا إنه إذا كان الطلب على سلعة ما عديم المرونة فإن المستهلك يتحمل كامل عبء الضريبة، أما إذا كان الطلب على هذه السلعة غير مرّن فإن المستهلك يتحمل معظم عبء الضريبة أما إذا كان الطلب على هذه السلعة مرّن فإن المنتج يتحمل معظم عبء الضريبة، وأخيراً إذا كان الطلب على سلعة ما لانهائي المرونة فإن المنتج يتحمل كامل عبء الضريبة.

Price Elasticity of Supply مرونة العرض السعرية

The percentage change in the quantity supplied of a good in response to a 1 percent change in its price.

تقيس مرونة العرض السعرية مدى استجابة الكمية المعروضة من سلعة ما نتيجة لتغير سعر السلعة بنسبة واحد بالمائة.

If the quantity supplied by producers is relatively responsive to price changes, supply is elastic. If it is relatively insensitive to price changes, supply is inelastic.

$$E_s = \frac{\text{Percentage change in quantity supplied of product X}}{\text{Percentage change in the price of product X}}$$

$$E_s = \frac{\% \Delta Q_s}{\% \Delta P} = \frac{Q_2 - Q_1}{Q_2 + Q_1} \div \frac{P_2 - P_1}{P_2 + P_1} = \frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$$

The price elasticity coefficient of supply E_s will always be a positive number, because the price and quantity supplied are directly related.

For example, suppose an increase in the price of a good from \$4 to \$6 increase the quantity supplied from 10 units to 14 units. Find the price elasticity of supply from a price increase.

$$E_s = \frac{\% \Delta Q_s}{\% \Delta P} = \frac{Q_2 - Q_1}{Q_2 + Q_1} \div \frac{P_2 - P_1}{P_2 + P_1} = \frac{(14-10)}{(14+10)} \div \frac{(6-4)}{(6+4)} = \frac{4}{24} \div \frac{2}{10} = \frac{4}{24} \times \frac{2}{10} = \frac{40}{48} = 0.83 < 1 \text{ inelastic}$$

Supply is inelastic, if the $E_s < 1$

Supply is elastic, if the $E_s > 1$

Supply is unit elastic, if the $E_s = 1$

Example:

If a rise in the price of oranges from \$7 to \$9 a bushel, increases the quantity of bushels supplied from 4,500 to 5,500 bushels. Is demand for oranges elastic or inelastic?

$$E_s = \frac{\% \Delta Q_s}{\% \Delta P} = \frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1} = \frac{5,500 - 4,500}{5,500 + 4,500} \times \frac{9 + 7}{9 - 7} = \frac{1,000}{10,000} \times \frac{16}{2} = 0.8 > 1 \rightarrow \text{elastic}$$

Example:

The quantity supplied of new cars increases by 12 percent when the price of a new cars rises from \$20,000 to \$22,000. What is the price elasticity of supply?

$$\% \Delta P = \frac{P_2 - P_1}{(P_2 + P_1)/2} = \frac{22,000 - 20,000}{(22,000 + 20,000)/2} = \frac{2,000}{21,000} = 9.5\%$$

$$E_s = \frac{\% \Delta Q_s}{\% \Delta P} = \frac{12\%}{9.5\%} = 1.26$$

Example: Choose the correct answer

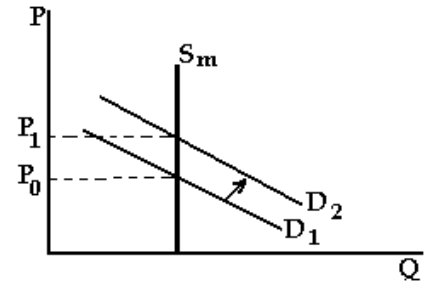
- If the elasticity of supply is 2, this means that if _____.
 - the price rises by one dollar, the quantity supplied will rise by two dollars.
 - the price rises by one percent, the quantity supplied will rise by two percent.**
 - the price rises by two percent, the quantity supplied will fall by two percent.
 - the price rises by two percent, the quantity supplied will rise by one percent.
- If a 3% decrease in the price of chocolate causes a 2% decrease in the quantity supplied, the
 - demand for chocolate is elastic.
 - demand for chocolate is inelastic.
 - supply of chocolate is elastic.
 - supply of chocolate is inelastic.**
- Supply is elastic if
 - a 1 percent change in price causes a larger percentage change in quantity supplied.**
 - the good in question is a normal good.
 - the slope of the supply curve is positive.
 - a 1 percent change in price causes a smaller percentage change in quantity supplied.
- If a raise in the price of oranges from \$7 to \$9 a bushel increases the quantity of oranges supplied from 4,000 bushels to 6,000 bushels, then
 - supply of oranges is elastic.**
 - supply of oranges is inelastic.
 - demand for oranges is inelastic.
 - demand for oranges is elastic.

In analyzing the impact of time on elasticity, economists distinguish among the immediate market period, the short run, and the long run.

Price Elasticity of Supply: The Market Period

Market period: is the period that occurs when the time immediately after a change in market price is too short for producers to respond with a change in quantity supplied.

In the immediate market period, there is insufficient time to change output, and so supply is perfectly inelastic.



Price Elasticity of Supply: The Short Run

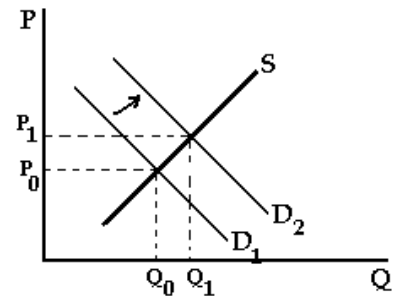
The short run: is a period of time too short to change plant capacity but long enough to use the fixed sized plant more or less intensively.

أن مفهوم المدى القصير في الاقتصاد لا يرتبط بفترة زمنية محددة، وإنما يرتبط بإمكانية تغيير جميع العناصر الإنتاجية أو عدم إمكانية ذلك. فالمدى القصير يمثل فترة زمنية ليست كافية لتغيير كمية جميع العناصر الإنتاجية، وبالتالي فإن كمية بعض هذه العناصر الإنتاجية تظل ثابتة خلال تلك الفترة.

فصاحب المنجرة على سبيل المثال، يستطيع أن يزيد عدد الكراسي الخشبية التي ينتجها عن طريق زيادة كمية الخشب التي يستخدمها وعدد العمال الذين يوظفهم، وكمية الزيوت والدهان التي يستعملها. ولكنه لا يستطيع أن يزيد كمية جميع هذه العناصر خلال فترة زمنية قصيرة. فإذا كان باستطاعته، على سبيل المثال، أن يزيد عدد العمال وكمية الخشب خلال ساعات أو أيام قليلة، فإنه سيحتاج إلى فترة زمنية طويلة لزيادة الطاقة الإنتاجية للمصنع (لتجهيز المباني، والقيام بالتوسعة اللازمة للمصنع واستيراد وتركيب المكائن).

In the short run plant capacity is fixed, but changing the intensity of its use can alter output; supply is therefore more elastic.

The outcome of an increase in demand from D_1 to D_2 is a smaller price rise and an increase in quantity from Q_1 to Q_2 .



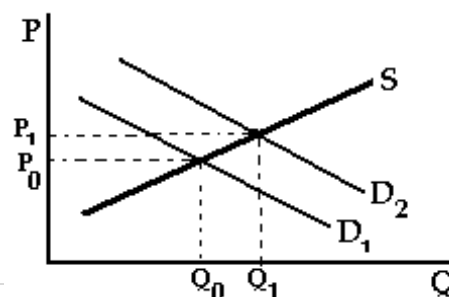
Price Elasticity of Supply: The Long Run

The long run: is a time period long enough for firms to adjust their plant size and for new firms to enter (or existing firms to leave) the industry.

أما المدى الطويل فهو يمثل فترة زمنية طويلة بما يكفي لتغيير كمية جميع العناصر الإنتاجية بالزيادة أو النقص.

In the long run all desired adjustment, including changes in plant capacity, can be made, and supply becomes still more elastic.

The outcome of an increase in demand from D_1 to D_2 is a smaller price rise and a larger output increase.



Price elasticity of supply and Total Revenue

If supply is elastic or inelastic, a decrease in price will decrease total revenue. Or an increase in price will increase total revenue.

Example: Choose the correct answer

1. If the price elasticity of supply for a product equals $\frac{1}{2}$, as its price rises the
 - A. total revenue increases.
 - B. quantity supplied does not change.
 - C. total revenue does not change.
 - D. total revenue decrease
2. A vertical supply curve indicates an elasticity of supply that equals
 - A. 0
 - B. infinity
 - C. 1
 - D. -1
3. A long-run supply curve, as compared (بالمقارنة مع) to a short-run supply curve for the same commodity, is generally:
 - A. More elastic
 - B. Less elastic
 - C. Of the same elasticity
 - D. None of the above
4. Supply is said to be inelastic when:
 - A. An increase in price results in a reduction in total revenue
 - B. An increase in price results in no change in total revenue
 - C. A reduction in price results in a decrease in total revenue
 - D. The elasticity coefficient is more than one

Income Elasticity of Demand مرونة الطلب المرتبط بالدخل

The income elasticity of demand equals the percentage change in the quantity demanded of a good in response to a 1 percent change in income.

هي نسبة التغير في الطلب على السلعة عندما يتغير دخل المستهلك بنسبة 1%

$$E_i = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in the income}}$$

$$E_i = \frac{\% \Delta Q}{\% \Delta I} = \frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{I_2 + I_1}{I_2 - I_1}$$

Example

Last year, Jaber bought 50 pounds of hamburger when the household income was \$40,000. This year, the household income was only \$30,000 and Jaber bought 60 pounds of hamburger. All else constant Jaber's income elasticity of demand for hamburger is

$$E_i = \frac{\% \Delta Q}{\% \Delta I} = \frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{I_2 + I_1}{I_2 - I_1} = \frac{(60 - 50)}{(60 + 50)} \times \frac{(30,000 + 40,000)}{(30,000 - 40,000)} = \frac{10}{110} \times \frac{70,000}{-10,000} = \frac{70}{-110} = -0.63$$

Example

If the income elasticity of demand for chocolate candies is 1.2, what percentage change in income is necessary to reduce the amount of chocolate candies demanded by 15%?

$$E_i = \frac{\% \Delta Q}{\% \Delta I} \rightarrow 1.2 = \frac{-15\%}{\% \Delta I} \rightarrow \% \Delta I = \frac{-15\%}{1.2} = -12.5\% \quad (\text{decrease income by 12.5\%})$$

Normal Goods

If the income elasticity coefficient E_i is positive ($E_i > 0$), meaning that more of them are demanded as income increase. Such goods are called normal or superior goods.

Inferior Goods

If the income elasticity coefficient E_i is negative ($E_i < 0$), meaning that less of them are demanded as income increase. Such goods are called inferior goods.

Example: Choose the correct answer

1. A 10 percent decrease in income decreases the quantity demanded of compact discs by 3 percent. The income elasticity of demand for compact discs is
 - A. 10
 - B. 3.3
 - C. -0.3
 - D. 0.3
2. If the income elasticity of demand for Cheer detergent is -3, then a
 - A. 12 percent fall in income leads to a 4 percent rise in the quantity demanded
 - B. \$1,000 fall in income leads to a 3,000-unit rise in the quantity demanded
 - C. 12 percent fall in income leads to a 36 percent rise in the quantity demanded
 - D. 12 percent rise in income leads to a 36 percent rise in the quantity demanded
3. Average income increases from £20,000 to £22,000. Quantity demanded per year increases from 5000 to 6000 units. Which of the following is correct?
 - A. Demand is price inelastic
 - B. The good is inferior
 - C. The good is normal
 - D. Income elasticity is -2
4. For an inferior good with a downward sloping demand curve:
 - A. The price elasticity of demand is negative; the income elasticity of demand is negative.
 - B. The price elasticity of demand is positive; the income elasticity of demand is negative
 - C. The price elasticity of demand is negative; the income elasticity of demand is positive.
 - D. The price elasticity of demand is positive; the income elasticity of demand is positive.

Cross Elasticity of demand مرونة الطلب التقاطعية

The cross-price elasticity of demand measures the percentage change in the quantity demanded of a good (say, X) in response to a 1 percent change in the price of another good (say, Y).

نسبة التغير في الطلب على السلعة X عندما يتغير سعر السلعة Y بنسبة 1%

$$E_{xy} = \frac{\text{Percentage change in quantity supplied of product X}}{\text{Percentage change in the price of product Y}} = \frac{\% \Delta Q_x}{\% \Delta P_y}$$

The coefficient of cross elasticity of demand may be either positive or negative.

Example

Suppose that the number of units of good X fall 6 percent when the price of good Y falls 4 percent. What is the cross elasticity of demand between goods X and Y?

$$E_{xy} = \frac{\% \Delta Q_x}{\% \Delta P_y} = \frac{-6\%}{-4\%} = 1.5$$

Substitute Goods

If cross elasticity of demand is positive, meaning that sales of good X move in the same direction as a change in the price of good Y, then goods X and Y are substitutes.

Complementary Goods

When cross elasticity is negative, we know that X and Y go together; an increase in the price of one decrease the demand for the other. So, the two are complementary goods.

Independent Goods

A zero or near zero cross elasticity suggests that the two products being considered are unrelated or independent goods.

Example: Choose the correct answer

1. When two goods are substitutes for each other, the cross elasticity of demand
 - A. Will be negative.
 - B. Will be zero
 - C. Will be positive**
 - D. May be either positive or negative.
2. If the price of orange juice rises the demand for grapefruit juice will increase, then the cross-price elasticity between orange juice and grapefruit juice will be
 - A. Positive**
 - B. Negative
 - C. Zero
 - D. Infinity
3. Suppose that when the price of good X changes, the quantity of good Y remains the same. We would expect the cross elasticity of demand to be
 - A. Negative
 - B. Zero**
 - C. Positive
 - D. Either positive or negative.
4. The cross-price elasticity of demand between i-phone and charger (الشاحن)
 - A. Will be negative**
 - B. Will be zero
 - C. Will be positive
 - D. May be either positive or negative (قد تكون إما إيجابية أو سلبية)

Chapter 10

Business and the of Production

الأعمال والإنتاج

Economic and Accounting Cost: التكاليف الاقتصادية والتكاليف المحاسبية

Costs exist because resources are scarce, productive, and have alternative uses. The economic cost of any resource used to produce a good is the value the resource would have in its best alternative use.

التكاليف هي المبالغ المدفوعة صراحة ثمناً للحصول على الأشياء التي تم استخدامها. المفهوم الحقيقي للتكاليف في الاقتصاد هو التضحية. فعندما نقوم بدفع مبلغ معين لشراء قميص مثلاً فقد كان بإمكانك استخدام ذلك المبلغ لشراء شيء آخر ولكنك لم تفعل، وبالتالي فقد ضحيت بالشئ الآخر من أجل شراء القميص فبالإضافة الى المبالغ التي يتم دفعها صراحة فإن التكاليف الاقتصادية تتضمن أيضاً المبالغ التي يتم التضحية بها حتى لو لم تدفع صراحة.

Explicit and Implicit Costs التكاليف الصريحة (الفعلية) والتكاليف الضمنية

Explicit costs are the monetary payment (or cash expenditures) the firm makes to those who supply resources.

التكاليف الصريحة: هي عبارة عن المبالغ التي تدفعها المؤسسة صراحة مقابل خدمات عناصر الانتاج مثل اجور العمال ومصروفات الصيانة وثمان المواد الخام ومصروفات الكهرباء والمياه واجور النقل ومصروفات أخرى مثل التأمين والضرائب وغيرها.

Explicit cost examples:

- Payment of wages of workers
- Payment for raw materials
- Transportation cost
- Maintenance expensive (مصروفات الصيانة)
- Taxes (الضرائب)

Firm's implicit costs are the opportunity costs of using its self-owned, self-employed resources. Money payment that self-employed resources could have earned in their best alternative use.

التكاليف الضمنية (تكلفة الفرصة البديلة): هي عبارة عن التكاليف التي لا تدفعها المؤسسة صراحة مقابل خدمات عناصر الانتاج ولكنها تضحي بها مقابل استخدام عناصر الانتاج المملوكة للمؤسسة.

مثال: منشأة تمتلك مستودع وتقوم بإستخدامه في تخزين البضاعة في هذه الحالة لن تدفع المؤسسة أي ايجار لهذا المستودع لانه ملك لها ولكنها تتحمل تكلفة تتمثل بالتضحية بإيجار الذي كان يمكن الحصول عليه لو لم تستخدمه وقامت بتأجيره وهذا ما يعرف بتكلفة الفرصة البديلة ولو عملت زوجة صاحب المؤسسة ولأولاد في هذه المؤسسة تتمثل تكلفة الفرصة البديلة بالنسبة لهم بمقدار الاجر الذي يمكن الحصول عليه لو عملوا في مؤسسة اخرى.

Implicit cost examples:

- Forgone rent from the building owned and used by a company (التضحية بإيجار من مبنى يمتلكه وتستخدمه الشركة)
- Forgone wage
- Forgone interest

Example: choose the correct answer

1. Implicit costs are:
 - A. Equal to total fixed costs
 - B. Comprised entirely of variable costs
 - C. "payments" for self-employed resources
 - D. Always greater in the short run than in the long run

2. Cash expenditures a firm makes to pay for resources are called:
 - A. Implicit costs
 - B. Explicit costs**
 - C. Normal profit
 - D. Opportunity costs

3. Which would be an implicit cost for a firm? The cost:
 - A. Of worker wages and salaries for the firm
 - B. Paid for leasing a building for the firm
 - C. Paid for production supplies for the firm
 - D. Of wages foregone by the owner of the firm**

Accounting cost = Explicit cost

Economic cost = Explicit cost + Implicit cost

Normal Profit as a cost:

The firm's normal profit is the opportunity cost of the resources supplied by the owners of the firm, or their implicit cost.

Normal profit is the payment made by the firm to obtain and retain entrepreneurial ability.

الربح العادي للشركة هو تكلفة الفرصة البديلة للموارد التي يمتلكها أصحاب الشركة ، أو التكلفة الضمنية. أو هو المبلغ الذي تدفعه الشركة للحصول على القدرة على تنظيم المشاريع والاحتفاظ بها.

Accounting and Economic Profits:

Accounting profit = Total Revenues – Explicit Costs

Economic profit = Total Revenues – Economic cost

Economic profit = Total Revenues – (Explicit Costs + implicit Cost)

If Total Revenues (TR) > Economic cost (TC) the firm make profit (تحقق ارباح)

If Total Revenues (TR) < Economic cost (TC) the firm incur losses (تحقق خسارة)

If Total Revenues (TR) = Economic cost (TC) the firm make zero profit (in this case the firm earns normal profit).

Example:

If explicit costs equal \$40,000, implicit costs equal \$95,000, and accounting profit equals \$23,000.

1. Calculate total revenue

$$\text{Accounting profit} = \text{Total Revenues} - \text{Explicit Costs}$$

$$23,000 = \text{total revenue} - 40,000$$

$$\text{Total Revenues} = 23,000 + 40,000 = \$63,000$$

2. Calculate the economic profit.

$$\text{Economic profit} = \text{Total Revenues} - (\text{Explicit Costs} + \text{implicit Cost})$$

$$\text{Economic profit} = 63,000 - (40,000 + 95,000) = \$-72,000 \text{ (losses)}$$

Example:

Suppose that a firm produces 200,000 units a year and sells them all for \$10 each. The explicit costs of production are \$1,500,000 and the implicit costs of production are \$300,000.

1. What is the firm accounting profit?

$$\text{Accounting profit} = \text{Total Revenues} - \text{Explicit Costs}$$

$$\text{Total Revenues} = P * Q = 200,000 * 10 = \$2,000,000$$

$$\text{Accounting profit} = 2,000,000 - 1,500,000 = \$500,000$$

2. What is the firm Economic profit?

$$\text{Economic profit} = \text{Total Revenues} - (\text{Explicit Costs} + \text{implicit Cost})$$

$$\text{Economic profit} = 2,000,000 - (1,500,000 + 300,000) = \$200,000$$

Example: Choose the correct answer

1. Economic profits are equal to:
 - A. Total revenues minus fixed costs
 - B. Total revenues minus the costs of raw materials
 - C. Total revenues minus the opportunity costs of all inputs**
 - D. Gross profit minus selling and operating expenses
2. If a firm's revenues just cover all its opportunity costs, then:
 - A. Normal profit is zero
 - B. Economic profit is zero**
 - C. Total revenues equal its explicit costs
 - D. Total revenues equal its implicit costs

3. Normal profits are:
 - A. The profits reported by accountants on a firm's annual financial statement
 - B. Identical to economic profits
 - C. Determined by subtracting total costs from total revenues
 - D. **Considered an implicit cost by economists**
4. Economic profits are:
 - A. Always larger than accounting profits
 - B. The sum of accounting profits and implicit costs
 - C. Equal to the difference between total revenues and implicit costs
 - D. **Equal to the difference between accounting profits and implicit costs**

Short run and Long run المدى القصير والمدى الطويل

- Short Run (SR): is the time period where some of the resources are fixed (plant) and others are variable (labor, materials...).

إن مفهوم المدى القصير في الاقتصاد لا يرتبط بفترة زمنية محددة، وإنما يرتبط بإمكانية تغيير جميع العناصر الانتاجية أو عدم إمكانية ذلك. فالمدى القصير يمثل فترة زمنية ليست كافية لتغيير كمية جميع العناصر الانتاجية، وبالتالي فإن كمية بعض هذه العناصر الانتاجية تظل ثابتة خلال تلك الفترة.

فصاحب المنجرة على سبيل المثال يستطيع طان يزيد عدد الكراسي الخشبية التي ينتجها عن طريق زيادة كمية الخشب التي يستخدمها وعدد العمال الذين يوظفهم، وكمية الزيوت والدهان التي يستعملها. ولكنه لا يستطيع ان يزيد كمية جميع هذه العناصر خلال فترة زمنية قصيرة. فإذا كان بإستطاعته على سبيل المثال أن يزيد عدد العمال وكمية الخشب خلال ساعات أو ايام قليلة فإنه سيحتاج الى فترة زمنية طويلة لزيادة الطاقة الانتاجية للمصنع (لتجهيز المباني والقيام بالتوسعة اللازمة للمصنع واستيراد الماكائن).

- Long Run (LR): is the time period where all resources are variable.

المدى الطويل يمثل فترة زمنية طويلة بما يكفي لتغيير كمية جميع العناصر الانتاجية بالزيادة أو النقصان.

- When all resources are fixed: very short run.

تسمى الفترة التي يكون فيها كمية جميع العناصر الانتاجية ثابتة بالمدى القصير جداً .

Example: Choose the correct answer

1. The main difference between the short run and the long run is that:
 - A. Firms earn zero profits in the long run
 - B. The long run always refers to a time period of one year or longer
 - C. **In the short run, some inputs are fixed**
 - D. In the long run, all inputs are fixed
2. The long run is a period of time, or a time-frame, in which:
 - A. All resources are fixed
 - B. The level of output is fixed
 - C. **The amount of all resources can be varied**
 - D. The capacity of the production plant is fixed

Short Run Production Relationship

Total Product (TP), Average Product (AP), and Marginal Product (MP)

Total product (TP): is the total quantity (output) of a particular good or services produced.

الناتج الكلي: هي الكمية التي يتم إنتاجها باستخدام كميات معينة من العناصر الانتاجية.

Average Product (AP)(Labor productivity): is output per unit of labor input.

الناتج المتوسط (انتاجية العامل): هو معدل انتاج العامل الواحد عند توظيف عدد من العمال.

$$AP = \frac{TP}{L}$$

Marginal Product (MP): is the extra output associated with adding unit of labor to production process.

الناتج الحدي: مقدار الزيادة في كمية الانتاج الناتجة عن زيادة عدد العمال بعامل اضافي.

$$MP = \frac{\Delta TP}{\Delta L}$$

Example:

Labor	TP	MP	AP
0	0	---	---
1	10	10	10.00
2	25	15	12.50
3	45	20	15.00
4	60	15	15.00
5	70	10	14.00
6	75	5	12.50
7	75	0	10.71
8	70	-5	8.75

Example:

Complete the following table:

Unit of labor (L)	Total product (TP)	Average product (AP)	Marginal Product (MP)
1	60		
2		55	
3			34
4	152		

Solution:

Unit of labor (L)	Total product (TP)	Average product (AP)	Marginal Product (MP)
1	60	$60/1 = 60$	--
2	$55 \times 2 = 110$	55	$(110 - 60)/(2 - 1) = 50$
3	144	$144/3 = 48$	34
4	152	$152/4 = 38$	$(152 - 144)/(4 - 3) = 8$

Example:

Use the following table to answer questions below it

Unit of labor (L)	Total product (TP)
1	20
2	70
3	120
4	150

1. What is the average product of two workers?

$$AP = \frac{TP}{L} = \frac{70}{2} = 35$$

2. What is the marginal product of numbers of labor increase from 3 to 4?

$$MP = \frac{\Delta TP}{\Delta L} = \frac{(150 - 120)}{(4 - 3)} = \frac{30}{1} = 30$$

3. What is the marginal product of the 3rd worker?

$$MP = \frac{\Delta TP}{\Delta L} = \frac{(120 - 70)}{(3 - 2)} = \frac{50}{1} = 50$$

Total Product, Average Product and Marginal Product Curves:

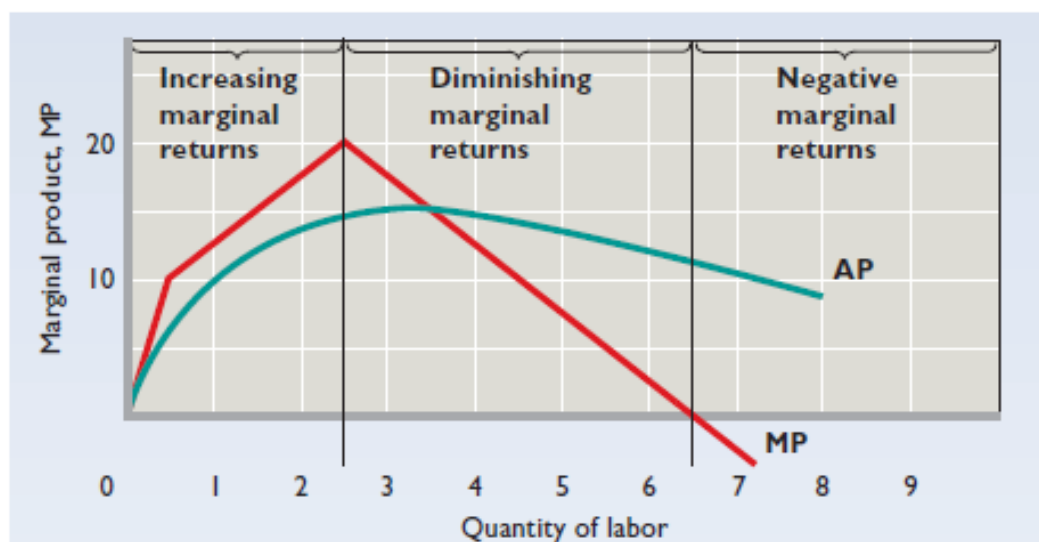
Total product curve (TP), goes through three phases: it rises initially at an increasing rate; then it increases, but at a diminishing rate; finally, after reaching a maximum, it declines.

Marginal product (MP) is the slope of total product curve. The three phases of total product are also reflected in marginal product.

When total product is increasing at an increasing rate, marginal product is rising (extra unit of labor are adding larger and larger amount to total product).

Where total product is increasing but at a decreasing rate, marginal product is positive but falling.

When total product is at a maximum, marginal product is zero. When total product declines, marginal product becomes negative.

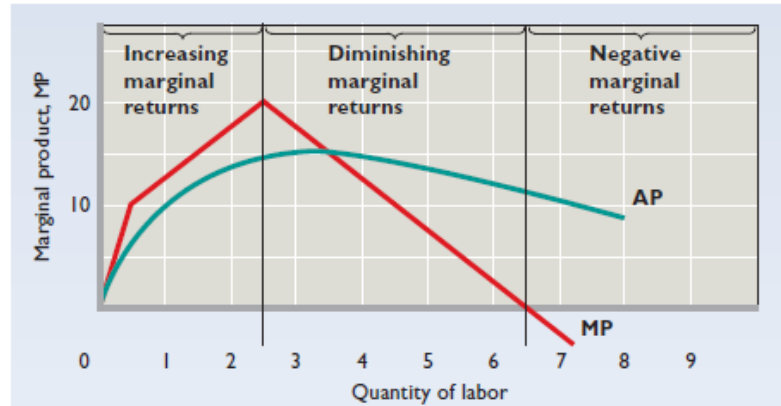


Law of Diminishing Returns قانون تناقص الغلة

It states that as successive units of a variable resource (say, labor) are added to a fixed resource (say, capital or land), beyond some point the extra, or marginal, product that can be attributed to each additional unit of the variable resource will decline.

قانون تناقص الغلة ينص على انه إذا تم إضافة وحدات متتالية من عنصر إنتاجي متغير (كالمعمل مثلاً) الى كمية ثابتة من عنصر إنتاجي آخر (المكانن) فغن الناتج الحدي للعنصر المتغير قد يزيد أولاً ولكنه لا بد أن يأخذ في التناقص بعد نقطة معينة.

For example, if additional workers are hired to work with a constant amount of capital equipment, output will eventually rise by smaller and smaller amounts as more workers are hired.



نلاحظ من الرسم في الاعلى أن زيادة عنصر الانتاج المتغير يؤدي في البداية الى زيادة الناتج الحدي الى ان يصل الى اعلى نقطة ممكنة ثم يبدأ بالتناقص تدريجياً وقد يصبح سالباً. ويطلق على المرحلة الاولى التي يزداد فيها الناتج الحدي مرحلة "تزايد الغلة - Increasing return" بينما يطلق على المرحلة الثانية التي يبدأ فيها الناتج الحدي بالتناقص دون ان يصبح سالباً مرحلة "تناقص الغلة - Diminishing returns". أما المرحلة الاخيرة التي يصبح فيها الناتج الحدي سالباً فيطلق عليها مرحلة "الغلة السالبة - Negative return". (الانه إذا استمر توظيف المزيد من العمال فسيصبح المصنع مزدحماً جداً وتصبح الحركة والتنقل فيه صعبة مما يؤدي الى تناقص الانتاج بدلاً من زيادته). ويمكن ملاحظة ذلك من منحنى الناتج الحدي.

Example:

1. What is the average product of 4th worker?

$$AP = \frac{TP}{L} = \frac{68}{4} = 17$$

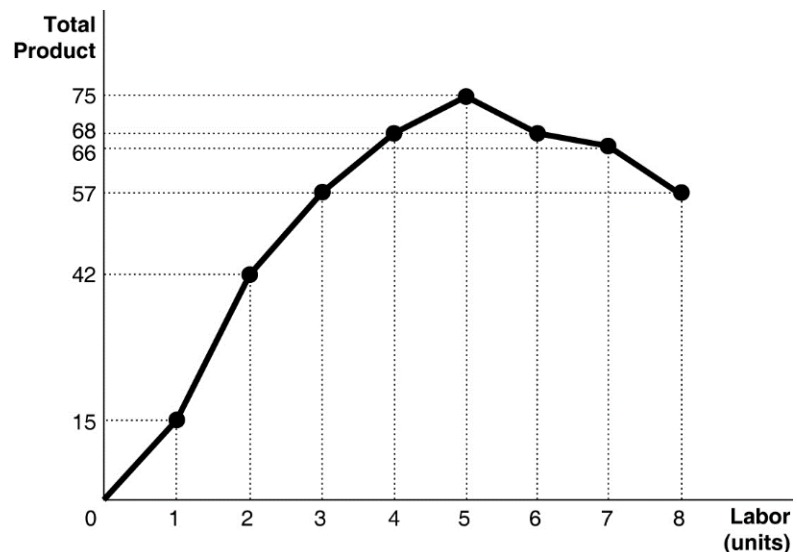
2. What is the marginal product of the 3rd worker?

$$MP = \frac{\Delta TP}{\Delta L} = \frac{(57 - 42)}{(3 - 2)} = \frac{15}{1} = 15$$

3. What is the marginal product of the 7th worker?

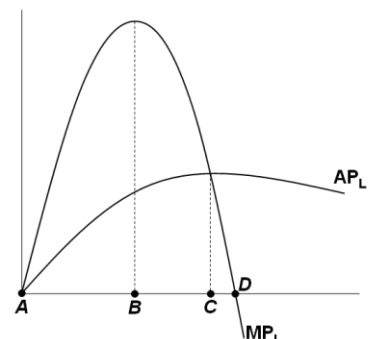
$$MP = \frac{\Delta TP}{\Delta L} = \frac{(66 - 68)}{(7 - 6)} = \frac{-2}{1} = -2$$

4. At what level of worker does MP equal zero? When TP at maximum; at L= 5



Example: Choose the correct answer:

1. According to the law of diminishing marginal returns:
A) Output will fall and then rise as additional units of input are employed
B) Employing additional inputs will diminish total output
C) The additional output generated by additional units of an input will diminish
D) The additional inputs necessary to produce an additional unit of output will diminish
2. Which of the following statements is true?
A) Diminishing marginal returns sets in after marginal product intersects average product
B) Diminishing marginal returns means that in order to increase output at a constant rate, the firm must add larger and larger quantities of the variable inputs
C) Diminishing marginal returns implies that there will never be increasing returns to scale
D) Diminishing marginal returns implies that the firm's profits will be shrinking
3. Diminishing marginal returns occurs as a firm adds more variable inputs to at least one fixed input because:
A) The ability or quality of the variable inputs hired decreases as more are hired
B) The firm must lower the price of its product when it produces more units of output
C) The per unit cost it must pay for variable inputs increases as more inputs are hired
D) As more variable inputs are hired, the amount of the fixed input per variable input decreases
4. The total product curve graphically shows the:
A) Minimum level of output that can be produced by a quantity of a variable resource holding constant the quantity of other resources
B) Minimum level of output that can be produced by a quantity of a fixed resource letting other resources vary
C) Maximum level of output that can be produced by a quantity of a fixed resource letting other resources vary
D) Maximum level of output that can be produced by a quantity of a variable resource holding constant the quantity of other resources
5. When the total product curve is falling, the:
A) Marginal product of labor is zero
B) Marginal product of labor is negative
C) Average product of labor is increasing
D) Average product of labor must be negative
6. The range of diminishing marginal productivity begins when:
A) Total product begins to fall
B) Average product reaches its maximum
C) Marginal product reaches its maximum
D) Marginal product begins to fall at an increasing rate
7. Refer to the above graph showing the marginal product (MP_L) and the average product of labor (AP_L). At what range of labor employed does diminishing marginal returns set in?
A) A - B
B) B - C
C) B - D
D) A - D



Example:

The table below shows the total production of a firm as the quantity of labor employed increases. The quantities of all other resources employed are constant.

Inputs of labor	Total product	Marginal product of labor	Average product of labor
0	0	—	—
1	40	_____	_____
2	100	_____	_____
3	165	_____	_____
4	200	_____	_____
5	225	_____	_____
6	240	_____	_____
7	245	_____	_____
8	240	_____	_____

1. Compute the marginal and average products and enter them in the table.

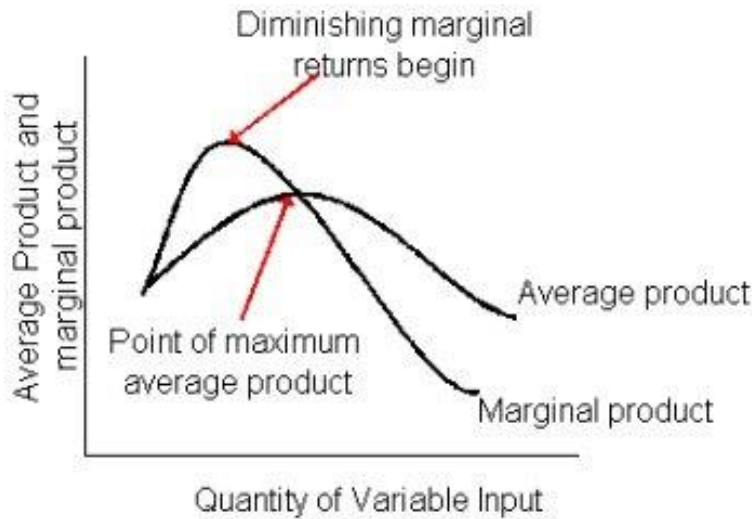
Inputs of labor	Total product	Marginal product of labor	Average product of labor
0	0		
1	40	40	40
2	100	60	50
3	165	65	55
4	200	35	50
5	225	25	45
6	240	15	40
7	245	5	35
8	240	- 5	30

2. At what levels are there increasing returns to labor and at what levels are there decreasing returns to labor?

There are increasing returns to labor through the third worker hired. Decreasing returns to labor set in with the fourth worker.

The relationship between marginal product and average product:

- Where marginal product exceeds (أكبر من) average product, average product rises.
- Where marginal product is less than average product, average product declines.
- Marginal product intersects (يتقاطع مع) average product where average product is a maximum.



Short Run Production Costs:

Fixed, variable, and Total costs التكاليف الثابتة والمتغيرة والتكاليف الكلية

Fixed costs التكاليف الثابتة :

are those costs that do not vary with changes in output. Fixed costs are associated with the very existence of a firm's plant and therefore must be paid even if its output is zero.

التكاليف الثابتة هي المبالغ المدفوعة لعناصر الانتاج الثابتة والتي لا تتغير قيمتها مع تغير كمية الانتاج.

Examples of fixed cost:

- rental payments إيجار المحل
- interest on a firm's debts الفائدة على القرض
- a portion of depreciation on equipment and buildings قيمة اهتلاك المكنائن
- insurance premiums are generally fixed costs دفعات التأمين

Variable Costs التكاليف المتغيرة

Variable costs are those costs that change with the level of output. They include payments for materials, fuel, power, transportation services, most labor, and similar variable resources.

التكاليف المتغيرة هي المبالغ المدفوعة لعناصر الانتاج المتغيرة والتي تزيد مع زيادة الكمية المنتجة وتنقص مع نقص الكمية المنتجة.

Examples of variable cost:

- payments for materials تكاليف المواد الخام
- fuel, power مصروفات الطاقة
- transportation services تكاليف النقل
- labor cost أجور العمال

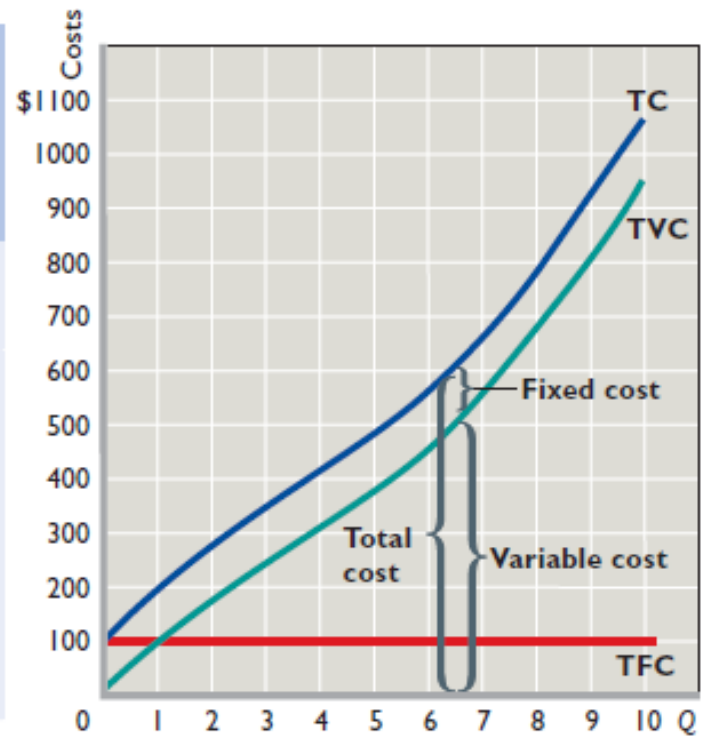
Total Cost التكاليف الكلية

Total cost is the sum of fixed cost and variable cost at each level of output:

$$TC = TFC + TVC$$

➤ At zero units of output, total cost is equal to the firm's fixed cost.

Total-Cost Data			
(1) Total Product (Q)	(2) Total Fixed Cost (TFC)	(3) Total Variable Cost (TVC)	(4) Total Cost (TC) TC = TFC + TVC
0	\$100	\$ 0	\$ 100
1	100	90	190
2	100	170	270
3	100	240	340
4	100	300	400
5	100	370	470
6	100	450	550
7	100	540	640
8	100	650	750
9	100	780	880
10	100	930	1030



Example

Use the following to answer questions

Output	Total Cost
0	\$10
1	20
2	28
3	38
4	53
5	73
6	98

1. What is the firm fixed cost?

$$TFC = TC \text{ when } Q=0$$

$$TFC = \$10$$

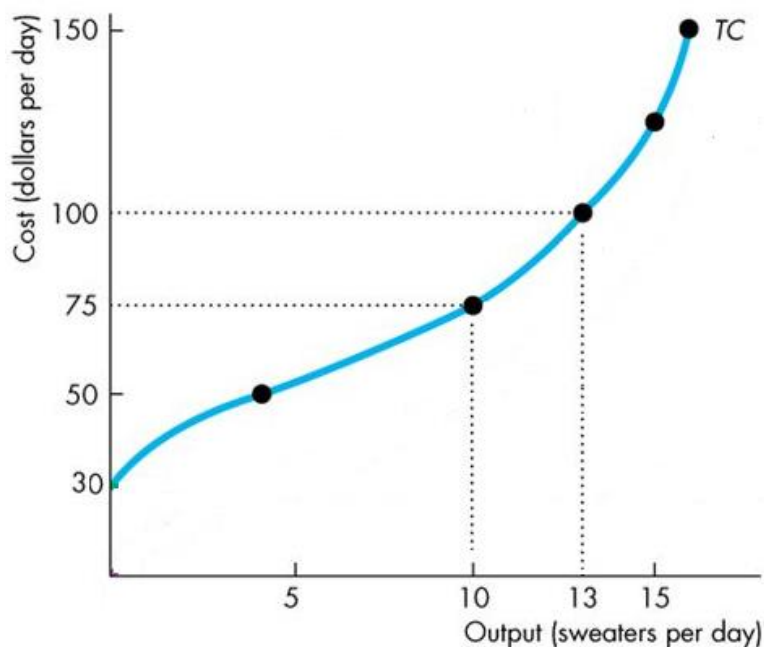
2. What is the total variable cost of producing 5 units?

$$TC = TFC + TVC$$

$$TVC = TC - TFC = 73 - 10 = \$63$$

Example

Use the following to answer questions below it



1. What is the firm total fixed cost?

$$TFC = \text{Intercept of TC curve}$$

$$TFC = \$30$$

2. What is the total variable cost of producing 13 units?

$$TC = TFC + TVC$$

$$TVC = TC - TFC = 100 - 30 = \$70$$

Per-unit, or Average Costs:

Average fixed cost (AFC): متوسطة التكاليف الثابتة

Is found by dividing total fixed cost by that output

$$AFC = \frac{TFC}{Q}$$

Because the total fixed cost the same regardless of output, *AFC must decline as output increases.*

Average Variable cost (AVC): متوسط التكاليف المتغيرة

Is calculated by dividing total variable cost by that output

$$AVC = \frac{TVC}{Q}$$

Due to increasing and then diminishing returns, AVC declines initially, reaches a minimum, and then increases again. *A graph of AVC is a U-shaped or saucer-shaped curve.*

Average total cost (ATC) متوسط التكاليف الكلية

for any output level is found by dividing total cost (TC) by that output (Q) or by adding AFC and AVC at that output:

$$ATC = \frac{TC}{Q} = \frac{TFC}{Q} + \frac{TVC}{Q} = AFC + AVC$$

Marginal Cost (MC):

is the extra, or additional, cost of producing one more unit of output.

التكلفة الحدية: هي الزيادة في التكاليف الكلية الناتجة عن زيادة الكمية المنتجة بوحدة واحدة.

MC can be determined for each added unit of output by noting the change in total cost that unit's production entails:

$$MC = \frac{\Delta TC}{\Delta Q}$$

Example:

At 100 units of output, total cost is \$40,000 and total variable cost is \$34,000. Calculate AFC, AVC, and ATC, at Q=100

$$TFC = TC - TVC = 40,000 - 34,000 = \$6,000$$

$$AFC = \frac{TFC}{Q} = \frac{6,000}{100} = \$60$$

$$AVC = \frac{TVC}{Q} = \frac{34,000}{100} = \$340$$

$$ATC = AFC + AVC = 60 + 340 = \$400$$

Example:

A firm average total cost is \$80, its average variable cost is \$75, and its output (Q) is 50 units. What is the total fixed cost (TFC)?

$$ATC = AFC + AVC$$

$$AFC = ATC - AVC = 80 - 75 = \$5$$

$$AFC = \frac{TFC}{Q} \rightarrow 5 = \frac{TFC}{50} \rightarrow TFC = 50 * 5 = \$250$$

Example:

A firm marginal cost is \$100, its average total cost is \$50, and its output is 600 units. What is the total cost of producing 650 units?

$$ATC = \frac{TC}{Q} \rightarrow 50 = \frac{TC}{600} \rightarrow TC = 50 * 600 = \$30,000$$

$$MC = \frac{\Delta TC}{\Delta Q} \rightarrow 100 = \frac{TC - 30,000}{650 - 600} \rightarrow 100 = \frac{TC - 30,000}{50}$$

$$TC - 30,000 = 5,000 \rightarrow TC = 30,000 + 5,000 = \$35,000$$

Example:

Using the data in the table to answer the following questions:

Output (Q)	Total cost (TC)
0	40
2	80
4	160
6	260
8	380
10	490

1. What is the average fixed cost (AFC) of producing 2 units of output?

$$TFC = TC \text{ when } Q=0$$

$$TFC = \$40$$

$$AFC = \frac{TFC}{Q} = \frac{40}{2} = \$20$$

2. What is the average variable cost (AVC) of producing 6 units of output?

$$TVC = TC - TFC = 260 - 40 = \$220$$

$$AVC = \frac{TVC}{Q} = \frac{220}{6} = \$36.67$$

3. What is the average total cost (ATC) of producing 8 units of output?

$$ATC = \frac{TC}{Q} = \frac{380}{8} = 47.5$$

4. What is the marginal cost (MC) of increase production from 8 units to 10 units of output?

$$MC = \frac{\Delta TC}{\Delta Q} = \frac{(490-380)}{(10-8)} = \frac{110}{2} = \$55$$

Example:

Complete the following table

Output(Q)	TVC	TC	AVC	ATC	MC
0		100			
1			30		
2				75	
3	59				
4					13

Solution:

اول خطوة يتم تحديد قيمة التكاليف الثابتة:

$$TFC = TC \text{ when } Q = 0 \rightarrow TFC = 100$$

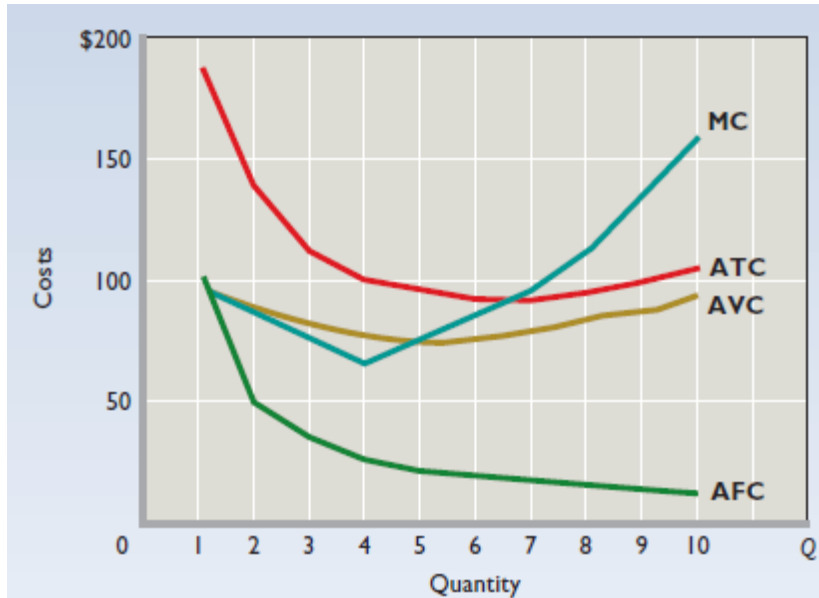
$$TVC = TC - TFC$$

$$AVC = \frac{TVC}{Q} \quad TVC = AVC * Q$$

$$ATC = \frac{TC}{Q} \quad TC = ATC * Q$$

Output(Q)	TVC	TC	AVC	ATC	MC
0	0	100	--	--	--
1	$30 * 1 = 30$	$100 + 30 = 130$	30	$130 / 1 = 130$	$(130 - 100) / (1 - 0) = 30$
2	$150 - 100 = 50$	$75 * 2 = 150$	$50 / 2 = 25$	75	$(150 - 130) / (2 - 1) = 20$
3	59	$59 + 100 = 159$	$59 / 3 = 19.6$	$159 / 3 = 53$	$(159 - 150) / (3 - 2) = 9$
4	$172 - 100 = 72$	172	$72 / 4 = 18$	$172 / 4 = 43$	13

The relationship of the MC curve to AVC and ATC curves:



- The marginal-cost curve MC intersects both the AVC and the ATC curves at their respective minimum points.
- When MC is below average total cost, ATC falls; when MC is above average total cost, ATC rises.
- When MC is below average variable cost, AVC falls; when MC is above average variable cost, AVC rises.

Shifts of the Cost Curves

Changes in either resource prices or technology will cause costs to change and cost curves to shift.

Resource prices $\uparrow \rightarrow$ Cost curves upward

Resource prices $\downarrow \rightarrow$ Cost curves downward

- If fixed costs double, the AFC curve would be shifted upward. At each level of output, fixed costs are higher. The ATC curve would also move upward because AFC is a component of ATC . But the positions of the AVC and MC curves would be unaltered because their locations are based on the prices of variable rather than fixed resources.
- if the price (wage) of labor or some other variable input rose, AVC , ATC , and MC would rise and those cost curves would all shift upward. The AFC curve would remain in place because fixed costs have not changed.

The discovery of a more efficient technology would increase the productivity of all inputs and decrease the cost of production.

- A technological improvement means a downward shift in the cost curves

Long Run Production costs التكاليف في المدى الطويل

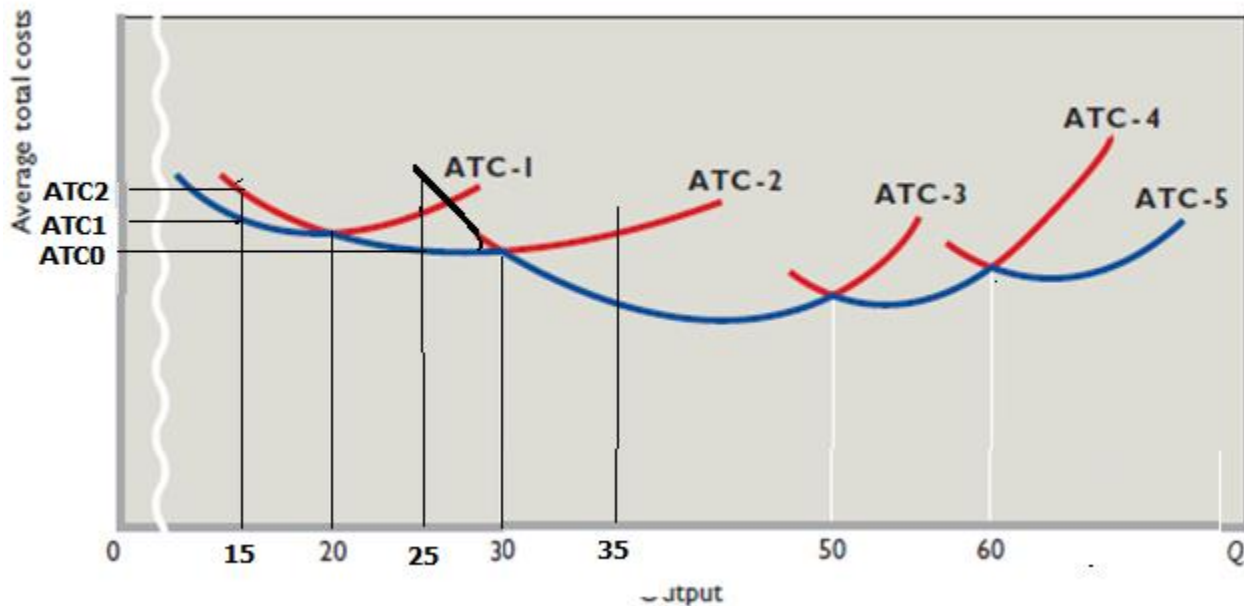
In the long run an industry and its individual firms can undertake all desired resource adjustments. That is, they can change the amount of all inputs used. The firm can alter its plant capacity; it can build a larger plant or revert to a smaller plant than that assumed. The industry also can change its overall capacity; *the long run allows sufficient time for new firms to enter or for existing firms to leave an industry.*

Firm Size and Costs

Suppose a manufacturer with a single plant begins on a small scale and, as the result of successful operations, expands to successively larger plant sizes with larger output capacities. What happens to average total cost as this occurs? For a time, successively larger plants will reduce average total cost. However, eventually the building of a still larger plant will cause ATC to rise.

تكاليف الإنتاج في المدى الطويل تزداد كلما زادت كمية الإنتاج نظراً لأن المؤسسة تحتاج إلى كميات أكبر من عناصر الإنتاج للتوسع في إنتاج المزيد من السلعة. ولكن ماذا يحدث لتكلفة الوحدة الواحدة (متوسط التكاليف) من الكمية المنتجة؟ هل يؤدي التوسع في حجم المشروع إلى تخفيض متوسط التكاليف أم زيادتها.

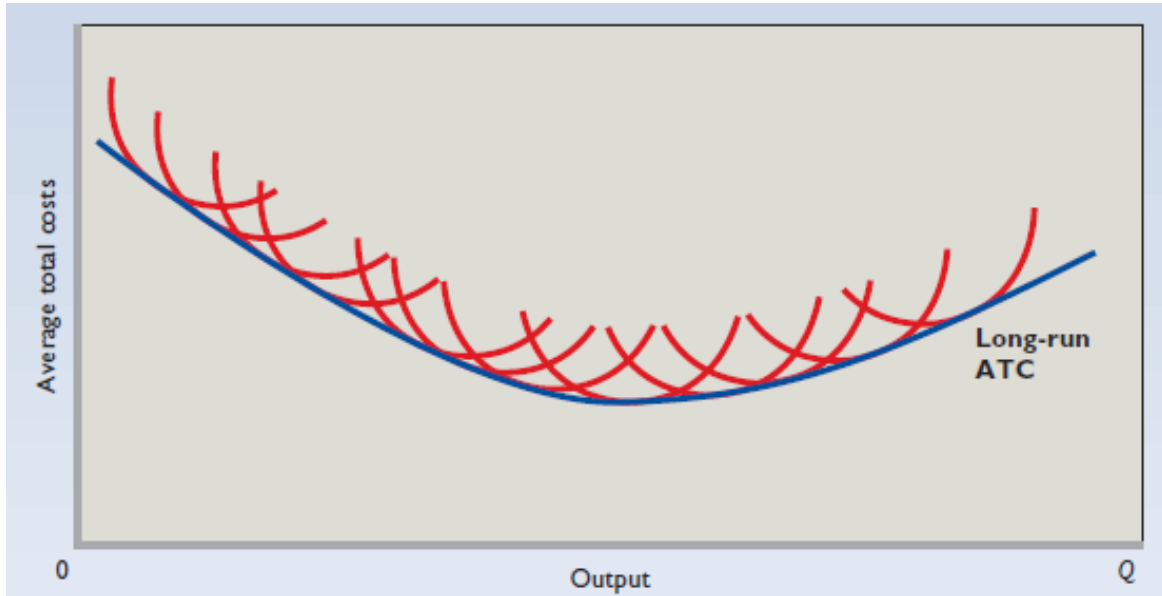
هناك عادة مجموعة من أحجام المصانع المختلفة التي تستطيع المؤسسة أن تختار من بينها في المدى الطويل، ولكننا سنفترض في البداية أن هناك ثلاثة أحجام مختلفة: الحجم الأول لمصنع صغير الحجم والحجم الثاني لمصنع متوسط الحجم والثالث لمصنع كبير ويمكننا أن نرسم منحنى متوسط التكاليف في المدى القصير لكل مصنع على نفس الشكل. وقد رمزنا لمنحنى متوسط التكاليف في المدى القصير لمصنع صغير الحجم (ATC-1) والمتوسط (ATC-2) والمصنع الكبير (ATC-3).



لنفترض أولاً أن المؤسسة ترغب في إنتاج كمية مقدارها 15 وحدة. من الواضح أن إنتاج هذه الكمية سيكون أكثر كفاءة إذا تم باستخدام المصنع الصغير، لأن متوسط التكلفة في هذا المصنع هو ATC1 مقارنة بالمصنع المتوسط حيث متوسط التكلفة هو ATC2. ولكن إذا كانت المؤسسة ترغب في إنتاج الكمية 25 وحدة فإن المصنع المتوسط سيكون أقل كفاءة لأن متوسط التكلفة في هذا المصنع هو ATC0

مقارنة المصنع الصغير هو ATC_1 . وبعبارة أخرى فإن المؤسسة ستقوم بإستخدام المصنع الصغير إذا كانت الكمية المنتجة أقل من 20 وحدة. أما إذا كانت الكمية المنتجة هي أكبر من 20 وحدة ولكن أقل من 30 وحدة فإن على المؤسسة ان تستخدم المصنع المتوسط. أما إذا كانت المؤسسة ترغب في انتاج كمية أكبر من 30 وحدة فإن عليها ان تستخدم المصنع الكبير.

متوسط التكلفة الإنتاج أي كمية في المدى الطويل هو عبارة عن المنحنى السميكة غامق اللون كما هو واضح في الشكل في الاسفل. وبالتالي نطلق على هذا المنحنى Long run average total cost. اما الاجزاء المتبقية من منحنيات متوسط التكاليف في المدى القصير فهي لا تعتبر جزءاً من منحنى متوسط التكاليف الكلية في المدى الطويل لانها تمثل تكلفة اعلى الانتاج الكميات المختلفة.

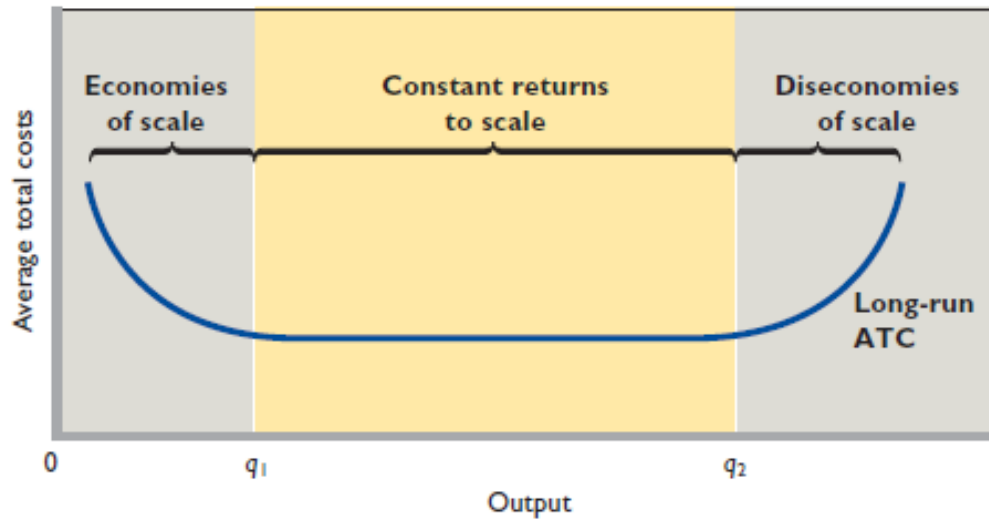


The long-run average-total-cost curve is made up of segments of the short-run cost curves (ATC_1 , ATC_2 , etc.) of the various-size plants from which the firm might choose. Each point on the bumpy planning curve shows the lowest unit cost attainable for any output when the firm has had time to make all desired changes in its plant size.

The long-run ATC curve shows the lowest average total cost at which any output level can be produced after the firm has had time to make all appropriate adjustments in its plant size. In Figure above the blue, bumpy curve is the firm's long-run ATC curve or, as it is often called, the firm's planning curve.

Economies and Diseconomies of Scale

We have assumed that, for a time, larger and larger plant sizes will lead to lower unit costs but that, beyond some point, successively larger plants will mean higher average total costs. That is, we have assumed the long-run ATC curve is U-shaped. But why should this be? It turns out that the U shape is caused by economies and diseconomies of large-scale production, as we explain in a moment. But before we do, please understand that the U shape of the long-run average-total-cost curve *cannot* be the result of rising resource prices or the law of diminishing returns.



لو نظرنا الى الشكل اعلاه لرأينا ان منحنى متوسط التكاليف يتناقص في البداية الى ان يصل الى ادنى عند الكمية q_1 ثم يبدأ بالارتفاع بعد ذلك. أي أن زيادة الحجم في البداية تؤدي الى تخفيض متوسط التكاليف الانتاج وهذا يطلق عليه وفورات الحجم economies of scale. ويستمر تحقيق هذه الوفورات الى أن يصل حجم المصنع الى أقل نقطة حيث يكون متوسط التكاليف أقل ما يمكن، ويطلق على هذا الحجم minimum efficient scale. أما إذا استمرت زيادة الحجم بهد هذه النقطة فإن متوسط تكاليف الانتاج في المدى الطويل يبدأ بالارتفاع، وهو ما يطلق عليه تبذيرات الحجم diseconomies of scale.

Economies of Scale

Economies of scale, or economies of mass production, explain the down-sloping part of long-run ATC curve. As plant size increases, a number of factors will for a time lead to lower average costs of production.

وفورات الحجم (Economies of Scale) تمثل الحالة التي يكون فيها متوسط التكاليف الكلية في المدد الطويل متناقصاً مع زيادة حجم المصنع.

Where economies of scale are possible, an increase in all resources of, say, 10 percent will cause a more-than proportionate increase in output of, say, 20 percent. The result will be a decline in ATC.

Diseconomies of Scale

In time the expansion of a firm may lead to *diseconomies and therefore higher average total costs*. The main factor causing diseconomies of scale is the difficulty of efficiently controlling and coordinating a firm's operations as it becomes a large-scale producer.

تبذيرات الحجم (Diseconomies of scale) تمثل الحالة التي يكون فيها متوسط التكاليف في المدى الطويل متزايداً مع زيادة حجم المصنع.

Where diseconomies of scale are operative, an increase in all inputs of, say, 10 percent will cause a less than- proportionate increase in output of, say, 5 percent. As a consequence, ATC will increase. The rising portion of the long-run cost curves illustrates diseconomies of scale.

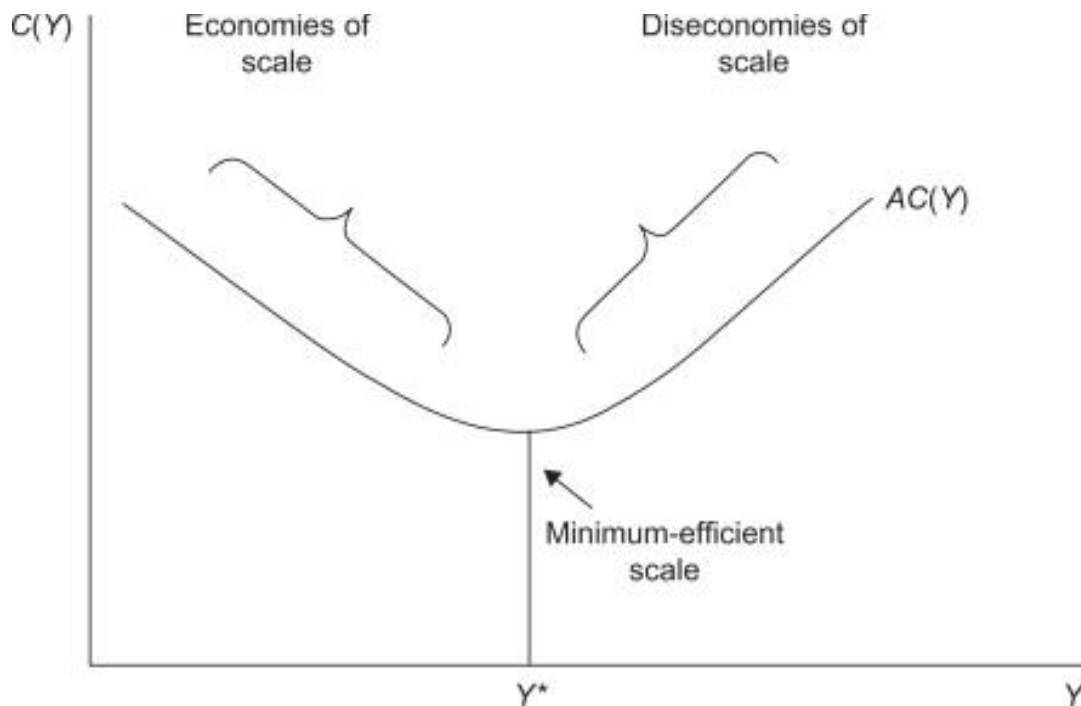
Constant Returns to Scale

In some industries a rather wide range of output may exist between the output at which economies of scale end and the output at which diseconomies of scale begin. That is, there may be a range of constant returns to scale over which long-run average cost does not change. The q_1 to q_2 output range of Figure.

Here a given percentage increase in all inputs of, say, 10 percent will cause a proportionate 10 percent increase in output. Thus, in this range ATC is constant.

Minimum Efficient Scale and Industry Structure

Minimum efficient scale (MES), which is the lowest level of output at which a firm can minimize long-run average costs. In Figure a that level occurs at q_1 units of output. Because of the extended range of constant returns to scale, firms producing substantially greater outputs could also realize the minimum attainable long-run average costs. Specifically, firms within the q_1 to q_2 range would be equally efficient. So we would not be surprised to find an industry with such cost conditions to be populated by firms of quite different sizes.



Chapter 11

Pure Competition in the short run

سوق المنافسة التامة على
المدى القصير

Four Market Models اشكال السوق الأربعة

Economists group industries into four distinct market structures: pure competition, pure monopoly, monopolistic competition, and oligopoly. These four market models differ in several respects: the number of firms in the industry, whether those firms produce a standardized product or try to differentiate their products from those of other firms, and how easy or how difficult it is for firms to enter the industry.

هناك اشكالاً مختلفة للسوق، نستطيع التمييز بين اربعة أشكال للسوق وهي: سوق المنافسة التامة، سوق الاحتكار التام، سوق المنافسة الاحتكارية و سوق احتكار الفلة. أن المقصود بشكل السوق هو مجموعة الخصائص التي تميز ظروف الطلب والعرض لسلعة معينة. وبعبارة أخرى، فإن شكل السوق يتحدد بالخصائص الرئيسية التي تميز ذلك السوق عن غيره. واهم هذه الخصائص: عدد البائعين والمشتريين في السوق، تجانس السلعة المنتجة او اختلافها و وجود عوائق دخول وخروج من والى الصناعة.

Pure Competition: Characteristics and Occurrence سوق المنافسة التامة

- وجود عدد كبير من البائعين والمشتريين في السوق Very large numbers

A basic feature of a purely competitive market is the presence of a large number of independently acting sellers, often offering their products in large national or international markets. Examples: markets for farm commodities, the stock market, and the foreign exchange market.

وحدود عدد كبير من البائعين والمشتريين في السوق. فإذا نظرنا الى سلعة القمح مثلاً فإننا نلاحظ أن هناك الآلاف من المنتجين الذين ينتجون هذه السلعة ويبيعونها للمستهلكين من أجل تعظيم أرباحهم.

- تجانس منتجات جميع المؤسسات العاملة في السوق Standardized product

Purely competitive firms produce a standardized (identical or homogeneous) product. As long as the price is the same, consumers will be indifferent about which seller to buy the product from. Buyers view the products of firms B, C, D, and E as perfect substitutes for the product of firm A. Because purely competitive firms sell standardized products, they make no attempt to differentiate their products and do not engage in other forms of non-price competition.

المقصود بتجانس المنتجات هو ان هذه المنتجات متماثلة تماماً بصورة لا يمكن معها تمييز منتجات أي مؤسسة عن منتجات المؤسسات الأخرى. فعلى سبيل المثال، لا يمكن في ظل المنافسة الكاملة التمييز بين القمح الذي ينتجه المزارع (A) والقمح الذي ينتجه المزارع (B). وبالتالي فإن القمح الذي ينتجه أي مزارع يعتبر بديلاً للقمح الذي ينتجه مزارع آخر. فإذا حاول هذا المزارع أن يرفع السعر الذي يبيع به سلعته ولو بنسبة بسيطة فإن جميع المستهلكين سيتوجهون الى المزارعين الآخرين.

- هناك سعراً واحداً موجوداً في السوق "Price takers"

In a purely competitive market, individual firms do not exert control over product price. Each firm produces such a small fraction of total output that increasing or decreasing its output will not perceptibly influence total supply or, therefore, product price. In short, the competitive firm is a **price taker**: It cannot change market price; it can only adjust to it. That means that the individual competitive producer is at the mercy of the market. Asking a price higher than the market price would be futile.

هذا يعني أن أي منتج لا يستطيع أن يضع سعراً لمنتجاته أعلى من سعر المنتجين المنافسين حتى لا يخسر جميع زبائنه، أي أن هناك سعراً واحداً سيكون موجوداً في سوق لتلك السلعة.

▪ **Free entry and exit:** عدم وجود عوائق دخول إلى الصناعة أو الخروج منها

New firms can freely enter and existing firms can freely leave purely competitive industries. No significant legal, technological, financial, or other obstacles prohibit new firms from selling their output in any competitive market.

إذا رغب أي منتج آخر أن ينتج نفس السلعة فإنه يستطيع ذلك. فعلى سبيل المثال إذا رغب أحد المزارعين أن ينتج قمحاً بدلاً من إنتاج الذرة فلا شيء يمنعه من ذلك. وإذا لم يعجبه ذلك بعد فترة ورغب في إنتاج سلعة أخرى غير القمح فلا شيء يمنعه من ذلك أيضاً.

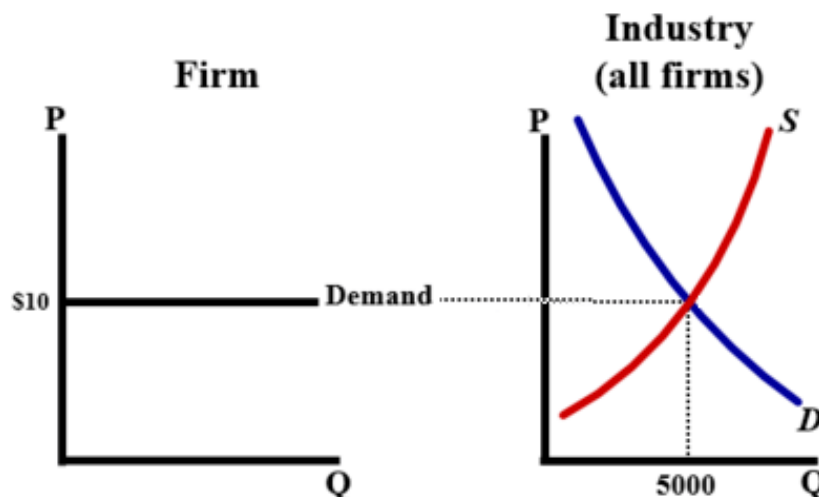
Demand as Seen by a Purely Competitive Seller

We begin by examining demand from a purely competitive seller's viewpoint to see how it affects revenue. This seller might be a wheat farmer, a strawberry grower, a sheep rancher, a foreign-currency broker, or some other pure competitor. *Because each purely competitive firm offers only a negligible fraction of total market supply, it must accept the price determined by the market; it is a price taker, not a price maker.*

Perfectly Elastic Demand:

The demand schedule faced by the individual firm in a purely competitive industry is perfectly elastic at the market price. The firm represented cannot obtain a higher price by restricting its output, nor does it need to lower its price to increase its sales volume.

We are not saying that market demand is perfectly elastic in a competitive market. Rather, market demand graphs as a down-sloping curve. An entire industry (all firms producing a particular product) can affect price by changing industry output. Graphically, this implies that the individual competitive firm's demand curve will plot as a straight, horizontal line such as D



Average, Total, and Marginal Revenue

The **total revenue** for each sales level is found by multiplying price by the corresponding quantity the firm can sell.

$$TR = P * Q$$

The firm's demand schedule is also its average-revenue schedule. Price per unit to the purchaser is also revenue per unit, or average revenue, to the seller. To say that all buyers must pay \$131 per unit is to say that the revenue per unit, or **average revenue** received by the seller, is \$131. Price and average revenue are the same thing.

$$\text{Average revenue (AR)} = \frac{\text{Total Revenue (TR)}}{\text{Quantity (Q)}} = \frac{P * Q}{Q} = P$$

Marginal revenue is the change in total revenue (or the extra revenue) that results from selling one more unit of output.

الإيراد الحدي هو مقدار التغير في الإيراد الكلي الناجم عن زيادة كمية الإنتاج بوحدة واحدة.

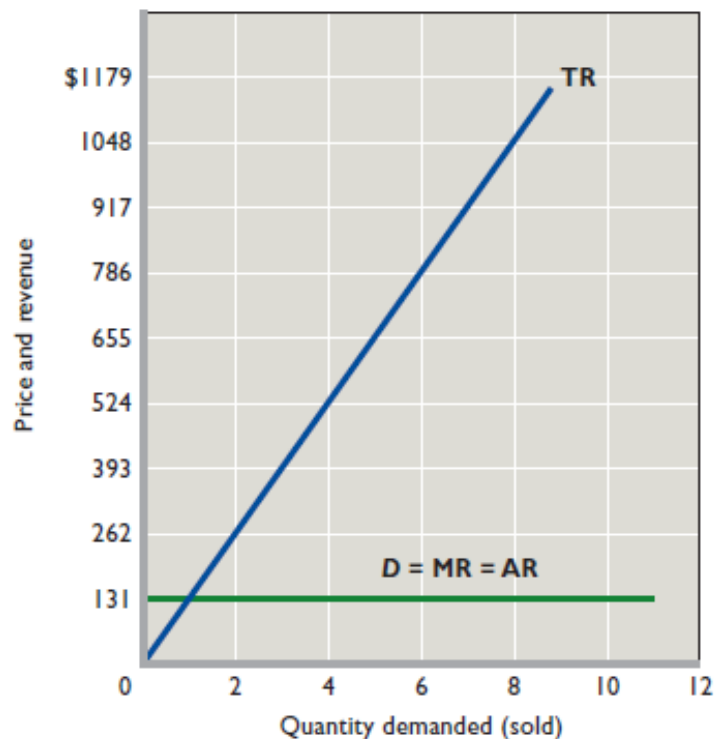
$$MR = \frac{\Delta TR}{\Delta Q} = \frac{\Delta P * Q}{\Delta Q} = \frac{P \Delta Q}{\Delta Q} = P$$

- *In pure competition, marginal revenue, average revenue and price are equal. ($AR = MR = P$)*

Purely competitive firm's demand and revenue curves.

The demand curve (D) of a purely competitive firm is a horizontal line (perfectly elastic) because the firm can sell as much output as it wants at the market price.

Because each additional unit sold increases total revenue by the amount of the price, the firm's total-revenue (TR) curve is a straight up-sloping line and its marginal-revenue (MR) curve coincides with the firm's demand curve. *The average-revenue (AR) curve also coincides with the demand curve.*



Profit Maximization in the Short Run: Total-Revenue-Total-Cost Approach

There are two ways to determine the level of output at which a competitive firm will realize maximum profit or minimum loss. *One method is to compare total revenue and total cost; the other is to compare marginal revenue and marginal cost.* Both approaches apply to all firms, whether they are pure competitors, pure monopolists, monopolistic competitors, or oligopolists.

We begin by examining profit maximization using the total-revenue-total-cost approach. Confronted with the market price of its product, the competitive producer will ask three questions: (1) Should we produce this product? (2) If so, in what amount? (3) What economic profit (or loss) will we realize?

$$\text{Profit} = TR - TC$$

Example:

Suppose that the total cost is given in the table below. If market price is \$5.

Output (Q)	Total cost (TC)	Total revenue (TR)	Profit
0	20		
5	35		
10	45		
15	59		
20	78		
25	102		
30	132		
35	168		

1. Complete the table

Output (Q)	Total cost (TC)	Total revenue (TR) TR = P * Q	Profit Profit = TR - TC
0	20	5 * 0 = 0	0 - 20 = -20
5	35	5 * 5 = 25	25 - 35 = -10
10	45	5 * 10 = 50	50 - 45 = 5
15	59	5 * 15 = 75	75 - 59 = 16
20	78	5 * 20 = 100	100 - 78 = 22
25	102	5 * 25 = 125	125 - 102 = 23 (max profit)
30	132	5 * 30 = 150	150 - 132 = 18
35	168	5 * 35 = 175	175 - 168 = 7

2. What is the profit maximization output?

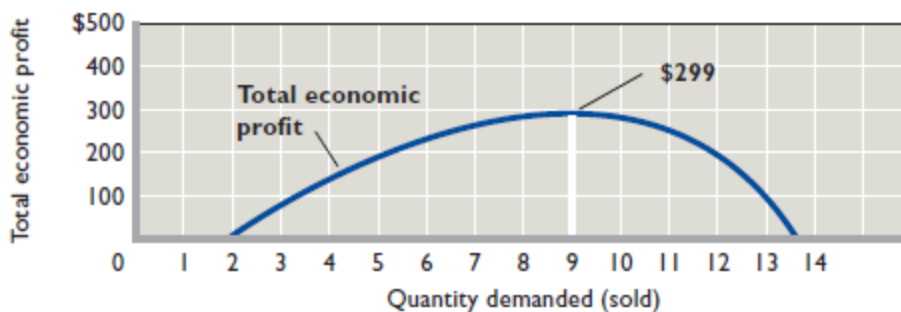
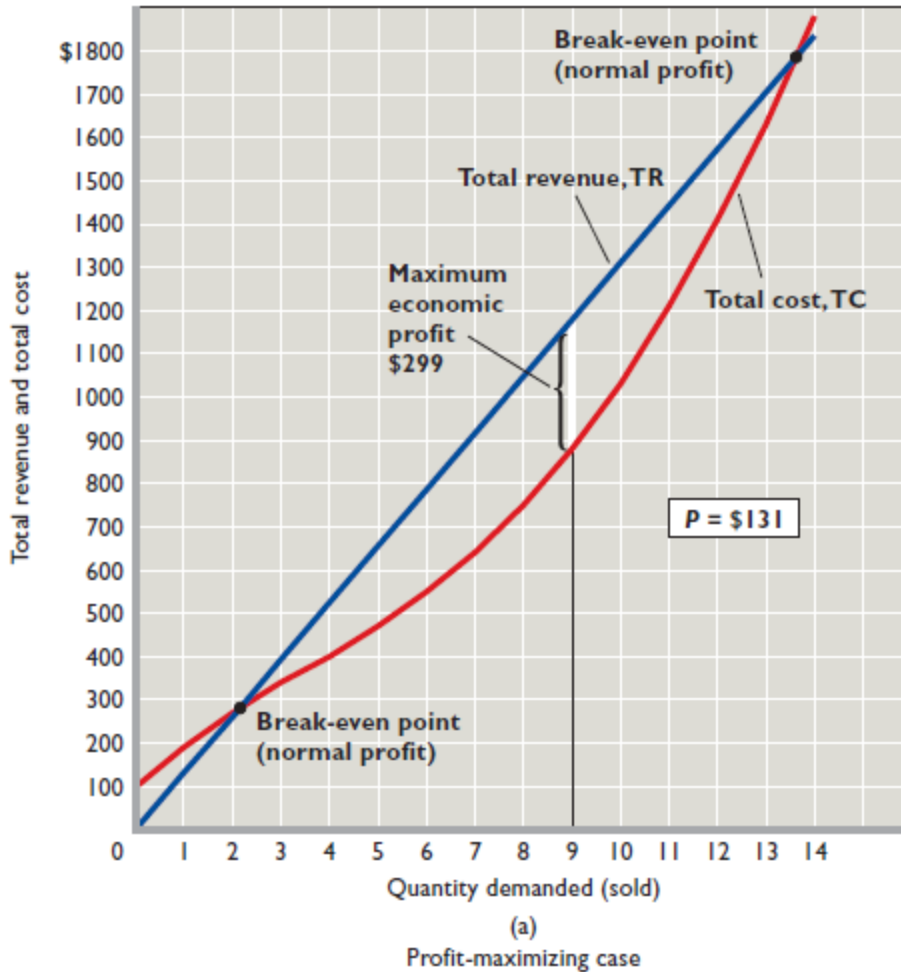
$$Q = 25$$

3. What is the firm maximum profit?

$$\text{Profit} = \$23$$

Total-revenue-total-cost graphically for this profit-maximizing case:

Observe again that the total-revenue curve for a purely competitive firm is a straight line (Figure below). Total cost increases with output because more production requires more resources. But the *rate* of increase in total cost varies with the efficiency of the firm, which in turn varies with the amount of variable inputs that are being combined with the firm's current amount of capital (which is fixed in the short run).



Break-even point: an output at which a firm makes a *normal profit* but not an economic profit. At break-even point, economic profit = 0 or $(TR = TC)$.

Graphically: at break-even; total revenue curve intersects (يتقاطع مع) total cost curve).

Example:

Suppose that the total cost is given in the table below. If market price is \$40.

Output (Q)	Total cost (TC)	Total revenue (TR)	Profit
0	50		
1	74		
2	94		
3	120		
4	142		
5	172		
6	222		

1. Complete the table

Output (Q)	Total cost (TC)	Total revenue (TR) TR = P * Q	Profit Profit = TR - TC
0	50	0*40 = 0	0 - 50 = -50
1	74	1*40 = 40	40 - 74 = -34
2	94	2*40 = 80	80 - 94 = -14
3	120	3*40 = 120	120 - 120 = 0
4	142	4*40 = 160	160 - 142 = 18
5	172	5*40 = 200	200 - 172 = 28
6	222	6*40 = 240	240 - 222 = 18

2. What is the break- even output?

At break- even income: profit = 0 at Q = 3

3. What output level should the firm produce to maximize profit?

Output (Q)	Total cost (TC)	Total revenue (TR) TR = P * Q	Profit Profit = TR - TC
0	50	0*40 = 0	0 - 50 = -50
1	74	1*40 = 40	40 - 74 = -34
2	94	2*40 = 80	80 - 94 = -14
3	120	3*40 = 120	120 - 120 = 0
4	142	4*40 = 160	160 - 142 = 18
5	172	5*40 = 200	200 - 172 = 28 <i>max profit</i>
6	222	6*40 = 240	240 - 222 = 18

To maximize profit, the firm should produce: Q = 5 units

4. What is the firm maximum profit?

Max profit = \$28

Profit Maximization in the Short Run: Marginal-Revenue– Marginal-Cost Approach

In the second approach, the firm compares the amounts that each *additional* unit of output would add to total revenue and to total cost. In other words, the firm compares the *marginal revenue* (MR) and the *marginal cost* (MC) of each successive unit of output.

Assuming that producing is preferable to shutting down, *the firm should produce any unit of output whose marginal revenue exceeds its marginal cost ($MR > MC$)* because the firm would gain more in revenue from selling that unit than it would add to its costs by producing it. Conversely, *if the marginal cost of a unit of output exceeds its marginal revenue, the firm should not produce that unit ($MR < MC$)*. Producing it would add more to costs than to revenue, and profit would decline.

In the short run, the firm will maximize profit or minimize loss by producing the output at which marginal revenue equals marginal cost ($MR = MC$). This profit-maximizing guide is known as the MR - MC rule.

If at output level where $MR > MC$, the firm can increase its profit by increasing production.
If at output level where $MR < MC$, the firm can increase its profit by decreasing production.

Because the demand schedule faced by a competitive seller is perfectly elastic at the going market price, product price and marginal revenue are equal. So under pure competition (and only under pure competition) we may substitute P for MR in the rule:

In perfect competition: $MR = P$

To maximize profit $MR = MC = P \rightarrow MC = P$

Example:

Assume the following cost data are for a purely competitive producer.

Output	AFC	AVC	ATC	MC
1	\$600	\$200	\$800	\$200
2	300	150	450	100
3	200	140	340	120
4	150	145	295	160
5	120	160	280	220
6	100	180	280	280
7	86	205	291	360
8	76	232	314	460
9	66	276	342	580
10	60	320	380	720

1. Assume that market price is \$360, what will be the profit maximization output? What economic profit or losses will the firm realize?

To maximize profit: $MC = P = 360$

At $Q = 7$ units

Economic profit = TR - TC or profit = $Q(P - ATC)$

Economic profit = $Q(P - ATC) = 7(360 - 291) = \483

2. Suppose that market price decrease to 220, what will be the profit maximization output? What economic profit or losses will the firm realize?

To maximize profit: $MC = P = 220$

At $Q = 5$ units

Economic profit = $Q(P - ATC) = 5(220 - 280) = \-300 (losses)

3. What is the break-even output?

At break-even: profit = 0

From profit = $Q(P - ATC)$ at $P = ATC$ profit = 0 → at break -even $P = ATC = MC$

Output	AFC	AVC	ATC	MC
1	\$600	\$200	\$800	\$200
2	300	150	450	100
3	200	140	340	120
4	150	145	295	160
5	120	160	280	220
6	100	180	280	280
7	86	205	291	360
8	76	232	314	460
9	66	276	342	580
10	60	320	380	720

Break -even output: $Q = 6$ units

If $P > ATC$ → the firm make a profit

If $P < ATC$ → the firm make a losses

If $P = ATC$ → the firm make zero profit (break-even)

When should the firm shut down?

In the short run, the firm will maximize profit or minimize loss by producing the output at which: $MC = P$

$$\text{Profit} = Q (P - ATC)$$

When $P > ATC \rightarrow$ The firm make an economic profit

When $P < ATC$ but $P > AVC \rightarrow$ The firm make an economic losses but still produce

When $P < ATC$ and $P < AVC \rightarrow$ The firm minimize losses by shutting down (shut down case)

In the shutdown case, when the firm shutdown the firm losses only the total fixed cost (TFC).

Shut down price = minimum AVC

When $P < \min AVC \rightarrow$ The firm should shut down

Example:

Assume the following cost data are for a purely competitive producer.

Output	AFC	AVC	ATC	MC
1	\$60	\$45	\$105	\$44
2	30	42.5	72.5	40
3	20	14	60	34
4	15	37.5	52.5	30
5	12	37	49	35
6	10	37.5	47.5	40
7	8.6	38.5	47.1	45
8	7.6	40.6	48.1	55
9	6.6	43.3	50	65
10	6	46.5	42.5	75

1. Assume that market price is \$65, what will be the profit maximization output? What economic profit or losses will the firm realize?

To maximize profit: $MC = P = 65$

At $Q = 9$ units

$$\text{Economic profit} = Q (P - ATC) = 9 (65 - 50) = \$135$$

2. Suppose that market price decrease to \$45, should the firm still produce? If so, how much? What economic profit or losses will the firm realize?

To maximize profit: $MC = P = 45$

At P = 45 :

$ATC = 47.1, AVC = 38.5 \rightarrow P < ATC$ but $P > AVC \rightarrow$ The firm should still produce

At $Q = 7$ units

Economic profit = $Q(P - ATC) = 7(45 - 47.1) = \$ - 14.7$ (*losses*)

3. Suppose that market price decrease to \$35, should the firm still produce or shutdown? What economic profit or losses will the firm realize?

To maximize profit: $MC = P = 35$

At P = 35 :

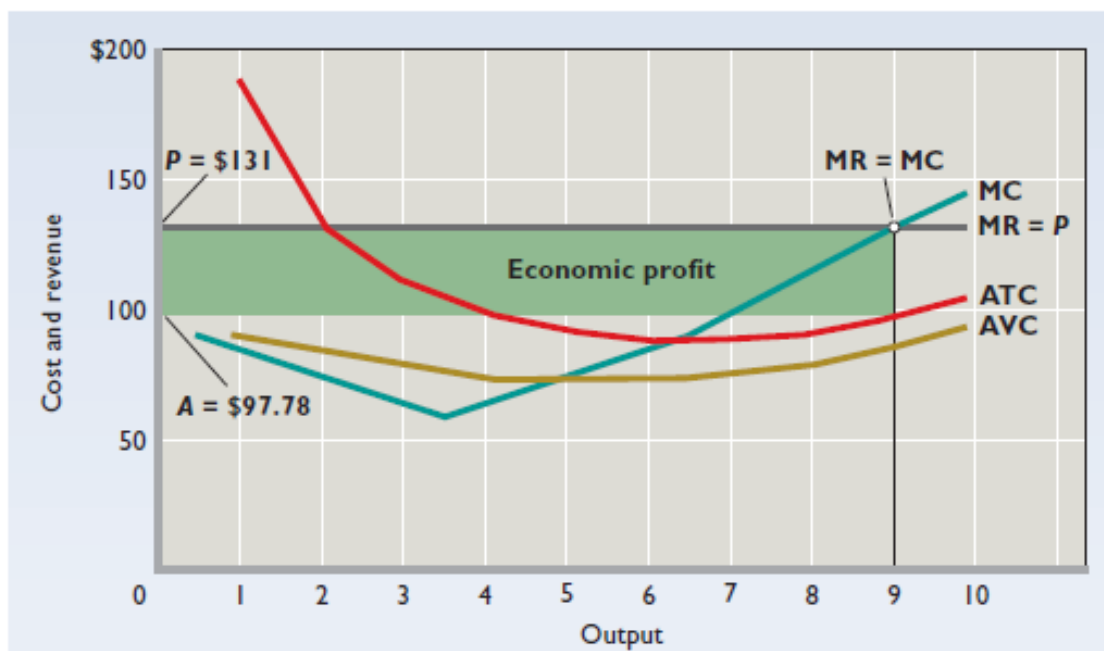
$$ATC = 49, AVC = 37 \rightarrow P < ATC \ (35 < 49)$$

$$P > AVC \quad (35 < 37$$

→ The firm should still produce shutdown

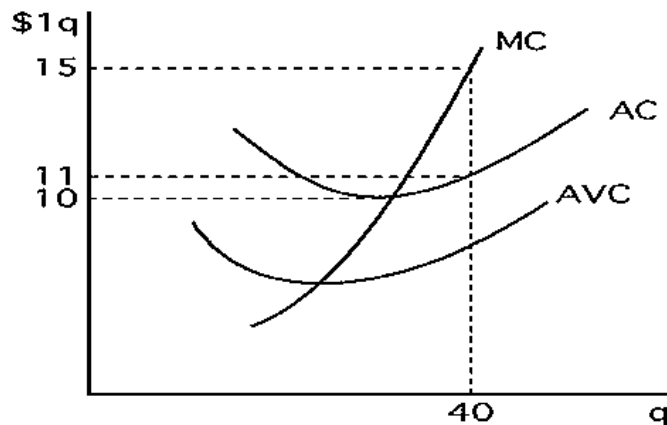
When the firm shutdown makes a loss = $TFC = AFC * Q = 12 * 5 = \60

Short run profit maximization for a purely competitive firm: Graphical Analysis:



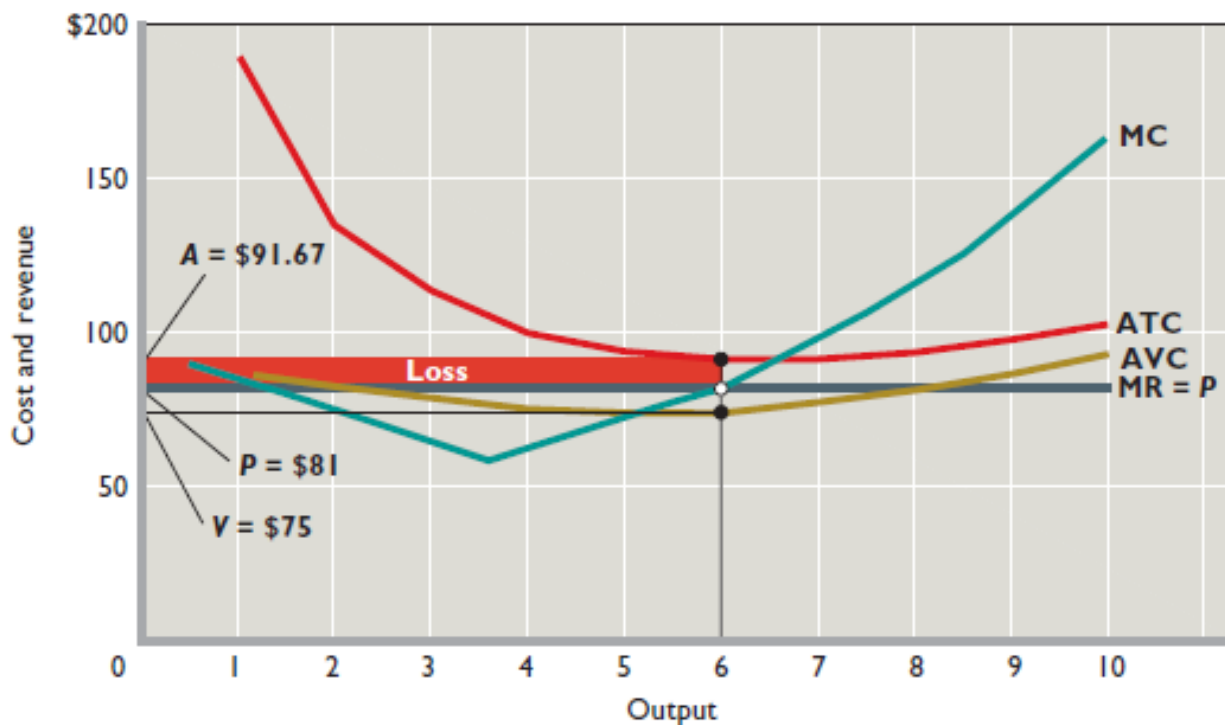
Example:

Figure show the cost structure of a firm in a purely competitive market. If the market price is \$15 and the firm is currently producing the profit maximization output level, what is the maximum economic profit the firm realize?



$$\text{Profit} = Q (P - ATC) = 40 (15 - 11) = 40 \times 4 = \$160$$

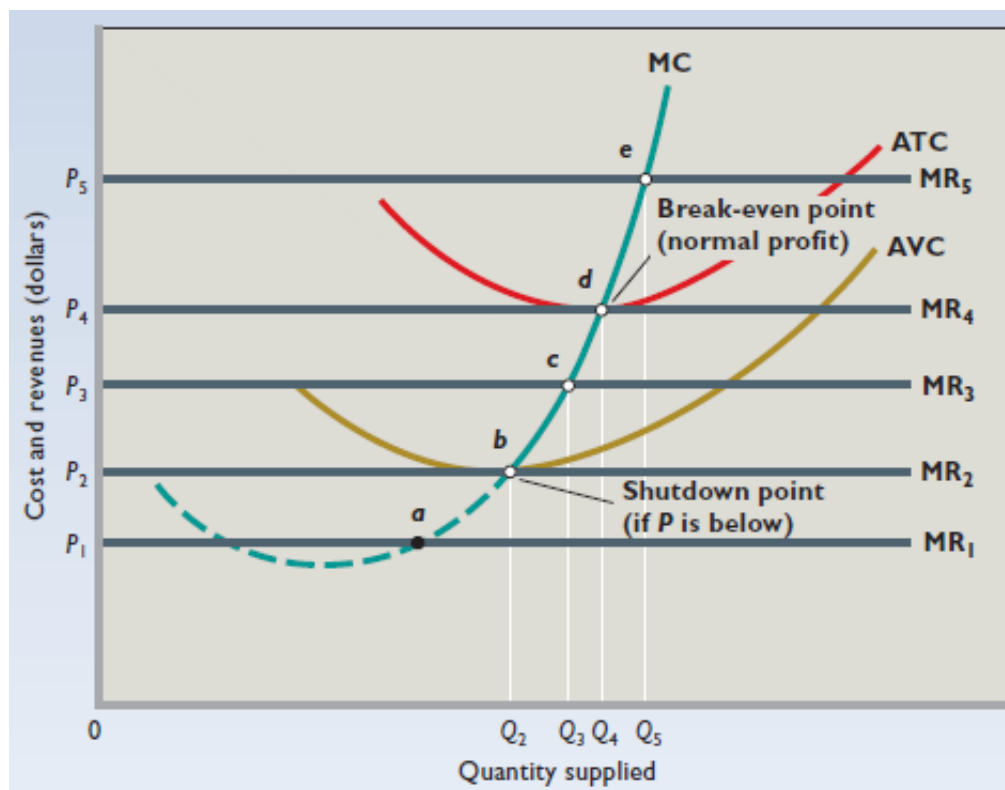
Short run profit loss minimization for a purely competitive firm: Graphical Analysis:



Marginal Cost and Short-Run Supply

The portion of the firm's marginal cost curve lying above its average variable cost curve is its short run supply curve.

Application of the $P = MC$ rule, as modified by the shutdown case, reveals that the (solid) segment of the firm's MC curve that lies above AVC is the firm's short-run supply curve. More specifically, at price P_1 , $P = MC$ at point a, but the firm will produce no output because P_1 is less than minimum AVC. At price P_2 the firm will operate at point b, where it produces Q_2 units and incurs a loss equal to its total fixed cost. At P_3 it operates at point c, where output is Q_3 and the loss is less than total fixed cost. With the price of P_4 , the firm operates at point d; in this case the firm earns a normal profit because at output Q_4 price equals ATC. At price P_5 the firm operates at point e and maximizes its economic profit by producing Q_5 units.



Example:

Assume the following cost data are for a purely competitive producer.

Total Product	Average Fixed Cost	Average Variable Cost	Average Total Cost	Marginal Cost
0				
1	\$60.00	\$45.00	\$105.00	\$45
2	30.00	42.50	72.50	40
3	20.00	40.00	60.00	35
4	15.00	37.50	52.50	30
5	12.00	37.00	49.00	35
6	10.00	37.50	47.50	40
7	8.57	38.57	47.14	45
8	7.50	40.63	48.13	55
9	6.67	43.33	50.00	65
10	6.00	46.50	52.50	75

In the table below, complete the short run supply schedule for the firm and indicate the profit or loss incurred at each output.

Price	Quantity supplied (Qs)	Profit (+) or loss (-)
65		
55		
45		
40		
35		
30		

If price fall below the minimum AVC (= 37), the competitive firm will minimize its losses in the short run by shutting down. There is no level of output at which the firm can produce and the firm will losses total fixed cost.

Price	Quantity supplied (Qs)	Profit (+) or loss (-) Profit = Q(P - ATC)
65	9	9 (65 - 50) = 135
55	8	8 (55 - 48.13) = 54.96
45	7	7 (45 - 47.14) = -14.98
40	6	6 (40 - 47.5) = -45
35	0	Loss = TFC = AFC * Q = 5 * 12 = 60
30	0	Loss = TFC = AFC * Q = 4 * 15 = 60

Chapter 13+14

Pure Monopoly

Monopolistic Competition and Oligopoly

سوق الاحتكار

سوق المنافسة الاحتكارية

واحتكار القلة

Chapter 13: Pure Monopoly

An Introduction to Pure Monopoly

Pure monopoly exists when a single firm is the producer of a product for which there are no close substitutes.

يطلق الاقتصاديون على السوق الذي ينتج ويبيع فيه بائع واحد فقط سوق الاحتكار التام. فالمحتكر هو البائع الوحيد للسلعة في السوق. وتتميز السلعة التي ينتجها المحتكر بعدم وجود بدائل لها.

Main Characteristics of Pure Monopoly السمات الأساسية لسوق الاحتكار

- Single Seller: وجود بائع واحد في السوق

A pure monopoly is an industry in which a single firm is the sole producer of a specific good or services; the firm and the industry are synonymous.

- No Close Substitutes عدم وجود بدائل للسلعة المنتجة

Pure monopoly's product is unique in that there are no close substitutes.

كثيراً من السلع التي يستهلكها البعض لا يوجد بديل آخر لها مثل الكهرباء والهاتف والمياه بسبب عدم وجود منتجين آخرين في السوق.

- Price Maker القدرة على التحكم في سعر السلعة

The pure monopolist controls the total quantities supplied and has considerable control over price; it is a price maker. *The pure monopoly has a downward sloping demand curve*; it can change its product price by changing the quantity of the product it produces.

- Blocked Entry: وجود عوائق تمنع المنتجين الآخرين من الدخول إلى السوق

Entry is totally blocked in pure monopoly, those barriers may be economic, technological, legal, or of some other type.

أي أن هناك أسباب قد تمنع المجال أمام المنتج الحالي للسلعة للبقاء في السوق منفرداً. وتعمل هذه الأسباب بطبيعة الحال على منع منتجين آخرين من الدخول إلى السوق لإنتاج السلعة ذاتها.

Examples of Monopoly

Examples of *pure* monopoly are relatively rare, but there are many examples of less pure forms. *In most cities, government-owned or government-regulated public utilities—natural gas and electric companies, the water company, the cable TV company, and the local telephone company—are all monopolies or virtually so.*

أسباب وجود المحتكر (عوائق الدخول) Barriers to Entry

- Economic barriers to entry: (Ownership or Control of Essential Resources) السيطرة على الموارد الإنتاجية الأساسية اللازمة لإنتاج السلعة

ينجم ذلك عن كون المنتج الوحيد الذي يمتلك تلك الموارد الإنتاجية أو يرتبط بعقود طويلة الأجل مع مالكي تلك الموارد. ومن أمثلة ذلك شركة الفوسفات التي تعتبر المنتج الوحيد للفوسفات الخام أو مشتقاته، ذلك أنها هي المالك الوحيد لمناجم الفوسفات في المنطقة أو دولة ما.

- Legal barriers to entry: الاحتكار القانوني

ينتج هذا النوع من الاحتكار عن طريق إعطاء الحكومة امتيازات لشركات معينة الإنتاج سلع ذات طبيعة خاصة مثل شركات الكهرباء والمياه والهاتف. وقد تعطي الحكومة امتياز لأحد المنتجين لإنتاج سلعة ليتمكن بحق الاختراع ولو لفترة زمنية محدودة.

- Technological barriers to entry الاحتكار التكنولوجي

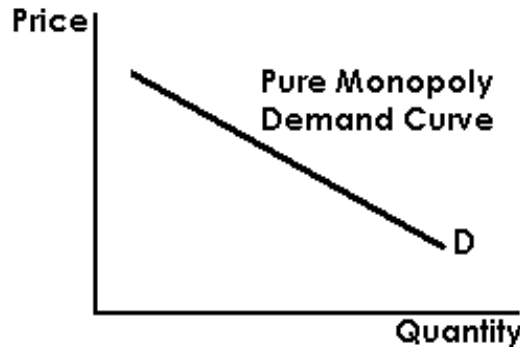
حيث تتمتع بعض الشركات أو المؤسسات بالقوة الاحتكارية بسبب امتلاكها لرأس المال (الآلات والأجهزة والمعدات) اللازم لإنتاج سلعة من السلع.

- Natural barriers to entry (Natural Monopoly) الاحتكار الطبيعي

يعزى هذا النوع من الاحتكار إلى وجود وفورات كبيرة (economies of scale) جداً مما لا يسمح بوجود أكثر من مؤسسة واحدة في سوق تلك السلعة. وهذا يتيح لتلك المؤسسة إنتاج السلعة بمعدلات تكلفة متدنية لدرجة أن أي منتج جديد يحاول الدخول لإنتاج نفس السلعة تكون معدل تكلفته إنتاجه أعلى من معدل تكلفة المنتج الحالي، مما يقلل من قدرة هذا المنتج الجديد على منافسة المنتج القديم في مجال السعر مما يضطره للخروج من السوق ويبقى المنتج الأصيل وحيداً في السوق.

منحنى الطلب الذي يواجهه المحتكر Monopoly Demand

The demand curve for the monopolist is quite different from that of the pure competitive. Because the pure monopolist is the industry, its demand curve is the market demand curve. And because market demand is not perfectly elastic, the monopolist's demand curve is down-sloping (the quantity demanded increases as price decreases).



Chapter 14: Monopolistic Competition and Oligopoly

سوق المنافسة الاحتكارية Monopolistic Competition

يعتبر سوق المنافسة الاحتكارية مزيجاً من سوق المنافسة الكاملة وسوق الاحتكار التام. ويأخذ هذا السوق معظم خصائص سوق المنافسة التامة، إلا أن المنتج يحتفظ ببعض القوة الاحتكارية عن طريق تمييز سلعته. وبالتالي فإن أهم خاصية من خصائص سوق المنافسة التي يتصف بها هذا السوق هو افتراض وجود عدد كبير من المنتجين ينتجون سلعاً متشابهة وليس سلع متجانسة.

The Characteristics of Monopolistic Competition خصائص سوق المنافسة الاحتكارية

- Relatively Larger Number of Sellers

Monopolistic competition is characterized by a fairly large number of firms, say, 25, 35, 60, or 70, not by the hundreds or thousands of firms in pure competition.

وجود عدد كبير من المنتجين الذين ينتجون السلعة: ونذكر هنا بأننا نتحدث عن عدد معين من المنتجين وإنما كل ما نعيه بالعدد الكبير من المنتجين أن كل واحد منهم ينتج حصة صغيرة بالنسبة للإنتاج الكلي من هذه السلعة. ومما يجدر ذكره أيضاً أن عدد المنتجين في سوق المنافسة الاحتكارية أقل في العادة من عددهم في سوق المنافسة الكاملة. إن هذه الخاصية لا تعطي المنتج فرصة كبيرة للتأثير في السوق، وبالتالي فإن قدرته الاحتكارية محدودة.

- Differentiated Products: السلعة المنتجة في السوق متشابهة ولكنها ليست متجانسة

Monopolistically competitive firms turn out variations of a particular product. They produce products with slightly different physical characteristics. Monopolistic competition firms differentiate product in product attributes, services, location, and the brand names or packaging.

السلعة المنتجة في السوق متشابهة ولكنها ليست متجانسة تماماً. فإن المنتج يحاول أن يميز سلعته عن تلك السلع المنتجة من قبل المنتجين الآخرين. فالسلع المنتجة إذن بدائل جيدة وقريبة من بعضها ولكنها ليست بدائل تامة. ويميز المنتجون عادة سلعتهم عن السلع الأخرى إما باللون أو الرائحة أو التغليف أو الماركة التجارية أو حتى أحياناً في الدعاية والإعلان.

- Monopolistic competitors do have some control over their product prices because of product differentiation.

- Easy Entry and Exit: سهولة الدخول والخروج من السوق

Entry into monopolistically competitive industries is relatively easy compared to oligopoly or pure monopoly. Because monopolistic competitors are typically small firms, both absolutely and relatively, economies of scale are few and capital requirements are low.

Exit from monopolistically competitive industries is relatively easy. Nothing prevents an unprofitable monopolistic competitor from holding a going-out-of-business sale and shutting down.

من خصائص سوق المنافسة الاحتكارية سهولة الدخول والخروج من السوق. فلا يوجد عوائق لدخول أي مستثمر جديد لإنتاج السلعة إذا رأى أن إنتاجها يمكن أن يحقق له أرباحاً. وبطبيعة الحال فإنه لا يوجد أي مانع لخروج أحد المنتجين الحاليين من السوق إذا كان يتحمل خسارة من إنتاج هذه السلعة.

سوق احتكار القلة Oligopoly

Oligopoly, a market dominated by a few large producers of a homogeneous or differentiated product. Because of their "fewness," oligopolists have considerable control over their prices, but each must consider the possible reaction of rivals to its own pricing, output, and advertising decisions.

يتميز سوق احتكار القلة بوجود عدد محدود من المنتجين يبيعون سلعة متجانسة أو متشابهة ويحاول كل منتج تمييز سلعته عن قليل سلع المنتجين الآخرين.

خصائص سوق احتكار القلة The Characteristics of Oligopoly

- A few large Producers. وجود عدد قليل من المنتجين

من خصائص سوق احتكار القلة وجود عدد قليل من المنتجين. فلا يمكننا أن نعطي عدداً معيناً لهذا العدد القليل (ثلاثة, خمسة, أو غيرها) حيث لا يوجد اتفاق بين الاقتصاديين على هذا العدد. ولكن معظم هؤلاء الاقتصاديين متفقون على أنه إذا كانت حصة أكبر أربعة منتجين في الصناعة تزيد عن 50% من الإنتاج الكلي للصناعة فإنه بإمكان وصف هذه الصناعة أنها تقع ضمن احتكار القلة. وتسمى نسبة إنتاج أكبر أربع مؤسسات من إنتاج الكلي في السوق " نسبة التركيز " "Concentration Ratio".

- Homogeneous or Differentiated Products السلعة المنتجة في السوق قد تكون متجانسة وقد تكون متشابهة

An oligopoly may be either a homogeneous oligopoly or a differentiated oligopoly, depending on whether the firms in the oligopoly produce standardized (homogeneous) or differentiated products. Many industrial products (steel, zinc, copper, aluminum, lead, cement, industrial alcohol) are virtually standardized products that are produced in oligopolies. Alternatively, many consumer goods industries (automobiles, tires, household appliances, electronics equipment, breakfast cereals, cigarettes, and many sporting goods) are differentiated oligopolies. These differentiated oligopolies typically engage in considerable non-price competition supported by heavy advertising.

السلعة المنتجة في سوق احتكار القلة قد تكون متجانسة وقد تكون متشابهة. وحتى إذا كانت السلعة متجانسة, فإن كل واحد من المنتجين يحاول أن يميز سلعته عن السلع المنتجة من قبل منتجين الآخرين. فقد يميز المنتج سلعته عن طريق اللون أو الطعم أو الرائحة أو التغليف أو تقديم خدمات للمستهلكين إضافة للدعاية والإعلان. وهذا ما يسمى بالمنافسة غير السعرية (Non-price competition).

- Control over Price, but Mutual Interdependence.

Because firms are few in oligopolistic industries, each firm is a "price maker"; like the monopolist, it can set its price and output levels to maximize its profit. But unlike the monopolist, which has no rivals, the oligopolist must consider how its rivals (منافسين) will react to any change in its price, output, product characteristics, or advertising.

Oligopoly is thus characterized by *mutual interdependence*. By mutual interdependence, we simply mean self-interested behavior that takes into account the reactions of others (كل منتج يحسب حساب المنتجين). Firms develop and implement price, quality, location, service, and advertising strategies to "grow their business" and expand their profits. But because rivals are few, there is *mutual interdependence: a situation in which each firm's profit depends not entirely on its own price and sales strategies but also on those of the other firms*. So oligopolistic firms base their decisions on how they think rivals will react.

- Entry Barriers وجود عوائق لدخول السوق

The same barriers to entry that create pure monopoly also contribute to the creation of oligopoly. Economies of scale are important entry barriers in a number of oligopolistic industries, such as the aircraft, rubber, and copper industries. In those industries, three or four firms might each have sufficient sales to achieve economies of scale, but new firms would have such a small market share that they could not do so. They would then be high-cost producers, and as such they could not survive.

يعزى قلة عدد المنتجين في سوق احتكار القلة إلى وجود عوائق لدخول منتجين إلى الصناعة, ولكن هذه العوائق أقل بالتأكيد من تلك العوائق الموجودة في سوق الاحتكار التام. ولعل أهم تلك العوائق هي العوائق الطبيعية (وفورات الحجم) والتي تتمثل في وصول المنتجين الحاليين إلى الإنتاج بمستويات متدنية من متوسطات التكلفة الأمر الذي يجعل منافسة منتجين جدد في مجال السعر أمراً ضعيفاً نظراً الارتفاع تكلفة إنتاجهم النسبية.

End Of Principles of Microeconomics SUMMARY

ECON131

نهاية تلخيص ايكونوميك 1