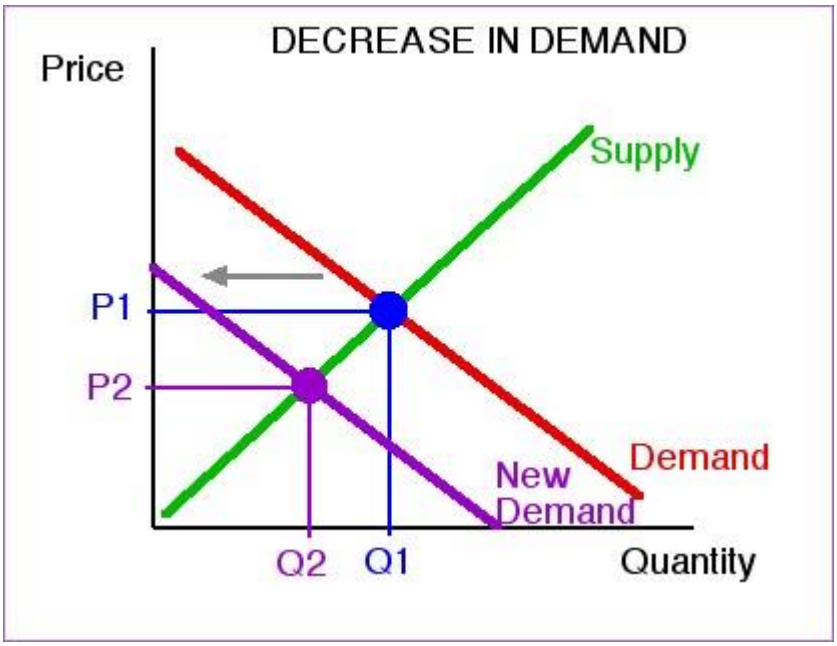
- If a firm under in a perfectly competitive market raises its price above the market price sales will drop to zero
- Demand curve under PC – the demand curve is indicated by a horizontal line at the given market price
- A firm can expand production in the short run by employing more units of the variable factor of production.
- Price elasticity measure the responsiveness or sensitivity of consumers to price changes
- Producers are interested in the price elasticity of demand for their product because it indicates what will happen to their total revenue when the price of the product changes
- The price elasticity of demand is different at each point along a linear demand curve
- Marginal utility is the extra or additional utility that a consumer derives from the consumption of one additional unit of good
- Marginal utility will decline if identical units of a good are consumed one after the other
- Nominal wage is the amount of money actually received by a worker per hour, week, day, month, or year
- A real wage is the quantity of goods n services that can be purchased with the nominal wage
- Equilibrium condition for the individual firms demand for labour - MRP=W or MPP x P=W
- Labour is a derived demand because labour is not demanded for its own sake, but rather for the value of the goods n services that can be produced when labour is combined with other factors of production.
- Excess supply – when the quantity supplied is greater than the quantity demanded
- When there is a market shortage the quantity produced will increase
- The price of a product will decrease when there is a market surplus
- Equilibrium in the market – Qd=Qs
- Consumer to be in equilibrium – the weighted marginal utilities of the condition of goods are equal of equal utility from the last rand spent on each product
- Primary sector – raw materials are produced
- Secondary sector – manufacturing part of the economy
- When all firms earn normal profit = industry in equilibrium in the long run
- The economic problem arises from the coexistence of unlimited wants and limited resources
- Normative statement – factual unemployment is the most important economic problem worldwide
- Factor of production – a national road, labour of households, arable land used for sowing
- Economic systems are based on any or a combination of 3 coordinating systems, tradition, command and market
- Market capitalism most of the factors of production are privately owned with limited government intervention.
- The demand for labour is a flow variable
- Capital is s stock variable
- A decrease in demand together with an increase in supply = fall in equilibrium price
- Fixing a minimum price above the equilibrium price will result in an excess supply
- If producers are faced with a unit elastic demand curve , they cannot raise their total revenue by increasing or decreasing the price of product
- When the percentage change in quantity demanded is relatively small compared to the percentage change in price it can it can be said that the demand is relatively inelastic
- If the income elasticity of demand is negative the product is an inferior good
- The larger the number of substitutes and the closer the substitutes are and in the case of luxury goods and services the more elastic the price elasticity is
- In the analysis of consumer behaviour the aim of the consumer is to obtain the highest attainable level of total utility
- Perfect competition exists if all the buyers and sellers have perfect knowledge of market conditions and all the factors of production must be perfectly mobile
- Monopoly – have the ability to control market output and the firm is a price taker
- Demand refers to quantity of a product that potential buyers are willing and able to buy

- Entrepreneur is the driving force in the production process
- Capital is tangible things – goods – services intangible
- Interest = income earned from capital
- Wages and salaries = income earned from labour
- Profit = income earned from entrepreneurship
- Capital intensive production – dominated by machines
- Labour intensive production – dominated by labour
- Primary FOP – natural and labour
- Secondary FOP – capital and entrepreneurship
- Human resources – labour n entrepreneurship
- Non human resources – natural and capital
- Labour defined as the exercise of human and mental and physical effort in the production of goods n services
- Public sector – government sector
- Private sector – the rest of the economy
- Traditional system – prescribed by custom n tradition. slow to adapt to changing conditions , stubbornly resists innovation
- Command system – central authority instructs what, how n for whom
- Market - is any contact of communication between potential buyers and sellers of a gods or service, not a specific place. Communication by means of phone, fax, computer etc.
- Requirements for a market to exist – must be 1 potential buyer, 1 potential seller, buyer must have means to buy, seller must have something to sell, market price, and agreement must be guaranteed by law or tradition.
- Market prices – are signals or indices of scarcity which indicate to consumers what they have to sacrifice to obtain the goods or service concerned
- Socialist system – FOP owned by state
- Capitalist system – FOP owned privately
- Privatisation – assets sold to private sector
- Nationalisation – privately owned assets by the state
- 3 centre questions – what , how and for whom
- Stock variable – measured at a particular point in time
- Flow variable – measured over a period of time
- Goods market – markets for goods n services
- Factor market – markets for various FOP
- Stock – wealth , assets, liabilities, capital , population
- Flow – income , profit, loss, investment, savings
- C = total consumption
- Firms – defined as the unit that employs FOP to produce goods n services that are sold in the goods market
- Profit = difference between revenue n cost
- Capital formation = I
- Government expenditure = G
- Taxes = T
- Exports = X
- Imports = Z
- 2 markets in the economy – goods and factor markets
- Determinants of quantity demand – price of product , price of related products, income of consumer, size of household, taste or preference of consumer (Qd = Px, Pg,Y, T, N, ……)
- Law of demand states the higher the price of a good the lower the quantity demanded
- Substitute – is a good that can be used in place of another.
- Market demand curve – shows the relationship between the quantity demanded and price in the market. Shows the inverse relationship between the price and quantity demanded
- Complements – are goods that tend to be used jointly to satisfy a want– fish n chips

- Rent control – introduced to protect tenants from being exploited by the owners of rented accommodation
- Ep = price elasticity of demand – is the percentage change in the Qd if the price of the product changes by 1%
- Formula for Ep = % change in the Qd of a product ÷ % change in the price of the product = (change Q ÷ Q x 100) ÷ (change P ÷ P x 100) = (change Q ÷ Q) ÷ (change P ÷ P
- Utility – is simply a term of consumer satisfaction
- Scale of preferences – is a list of the tastes of the consumer in order of preference
- Demand curve – has a negative slope – as the price of a product falls Qd increases, and as the price increases , Qd decreases
- Possible exception to law of demand is the snob effect (example is the prices of expensive Rolex watches increases demand for these products will not necessarily decrease but rather increase.
- Indifference approach – does not require the measurement of marginal utility and allows us to distinguish between the income effect and the substitution effect of a price change
- The assumption of completeness or law of comparison – it is assumed that a consumer is able to rank all possible combinations/bundles of goods n services in order of preference.
- The assumption of consistency/transivity – consumers are assumed to act rationally
- The assumption of non-satiation/non-saiety – consumers are not yet fully satisfied and prefer more to less
- Indifference curve – is a curve which shows all the combinations of 2 products that will provide the consumer with equal satisfaction or utility. Properties are usually slope downwards from left to right, shows various combinations of 2 goods n services which yield the same level of consumer satisfaction level. cannot intersect. Used to analyse the choice between FOP in the production process, choice between work and leisure , choice between consumption and saving.
- Law of substitution / law of diminishing marginal rate of substitution – the scarcer a good becomes the greater its substitution value will be
- Slope = vertical difference ÷ horizontal difference
- Profit = P – surplus of revenue over cost
- Total revenue = TR – total value of sales = P x Q
- Average revenue = AR = TR/PQ divided by Q sold
- Marginal revenue = MR = addit(onal revenue earned by selling additional units
- Short run – as the period during which at least 1 of the inputs are fixed
- Long run – all the inputs are variable
- Explicit costs – the monetary payments for the FOP and other inputs bought or hired by the firm
- Implicit costs – opportunity costs which re not reflected in monetary payments
- Economic cost of production = explicit cost + implicit cost = opportunity costs
- Normal profit = the minimum return required by the firm to engage in a particular operation, forms part of firms cost of production.
- Total profit = TR – TEC (total explicit costs)
- Economic profit = TR – TC (explicit costs + implicit + normal profit)
- Average product – simply the average number of units of output produced per unit of the variable input – AP = TP (total product) ÷ N (number of variable input)
- Marginal product – is the number of additional units of output produced by adding 1 additional unit of the variable input
- Law of diminishing returns – as more of a variable input is combined with one or more fixed inputs in a production process , points will eventually be reached where first the marginal product , then the average product and finally the total product start to decline
- Average fixed cost = AVC = TFC ÷ TP
- AVC = TF C ÷ TP
- AC = TC ÷ TP or TC ÷ Q
- AFC = TFC ÷ TP or TFC ÷ Q
- AVC = TVC ÷ TP or TVC ÷ Q
- MC = d(TC) ÷ d(TP) ÷ d(TC) ÷ Dq
- dTP = small change in TC & Dtp= small change in TP

Decrease in Demand – Move to the Left

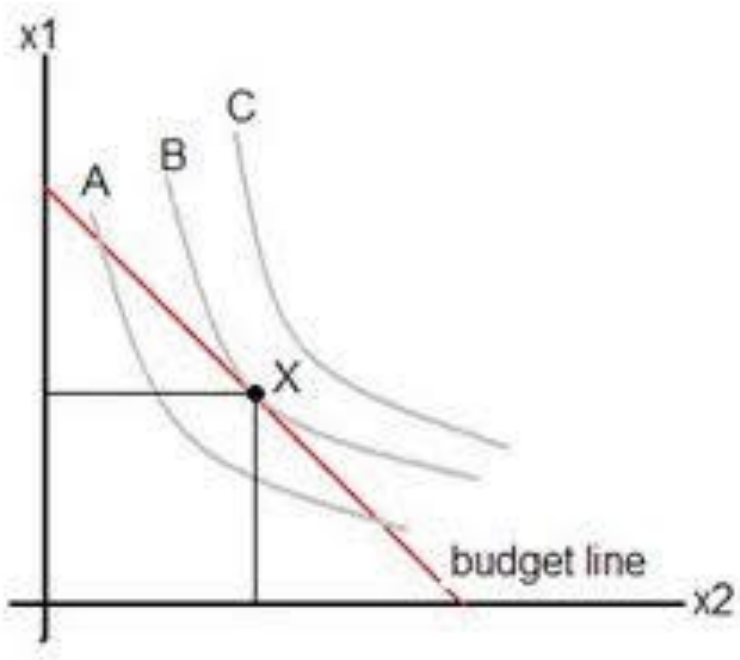


Demand can decrease (moving the demand curve to the left) if

- incomes of buyers are decreased (normally, although this is not true for "inferior goods")
- substitutes become less expensive or more available
- complements become more expensive or less available
- number of consumers decreases (due to population, demographics)
- fads, fashions, tastes and attitudes (emotion) make the good less popular
- information about the good (including advertising) decreases desire for the good
- changes in the buyer's environment (weather, time of year, laws) makes the good less desirable to buyers
- buyers have an expectation of lower FUTURE price for the good

Table 7-3 The Market Demand Curve – Summary

Consumer equilibrium



The consumer is in equilibrium (ie obtains highest affordable level of satisfaction) where the highest indifference curve just touches the budget line

SU 8

Costs, profit and revenue

Total Revenue (TR) = Price (P) x Quantity (Q) or simply PQ
Average Revenue (AR) = PQ/Q
Marginal Revenue (MR) = Additional Revenue / Additional unit of product

Total (Accounting) Profit = Total Revenue – Total Explicit Costs

Economic Profit = Total Revenue – Total Costs (explicit and implicit), including normal profit

Production in the Short Run

Short run = A period in which at least one of the inputs is fixed. A fixed input is an input whose quantity cannot be altered in the short run.

In the short run, a firm can expand output only by increasing the quantity of its variable inputs.

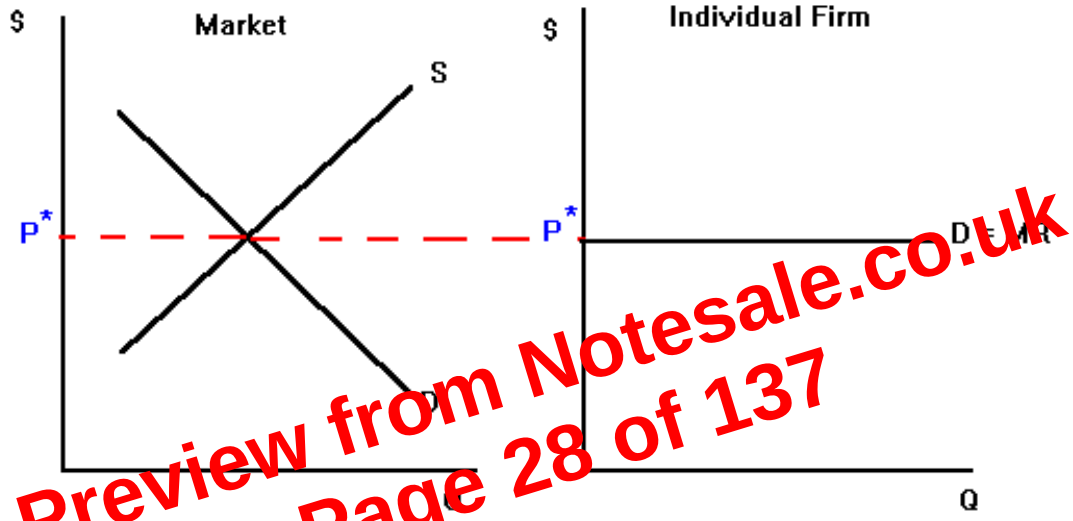
There is a relationship between the quantity of the inputs and the maximum output that can be obtained from these inputs.

Perfect Competition

Perfect competition occurs when none of the individual market participants (buyers or sellers) can influence the price of the product.

Requirements for perfect competition:

- Large number of buyers and sellers of the product
- No collusion between sellers – each must act independently
- All goods sold must be identical
- Buyers and sellers must be completely free to enter or leave the market
- All buyers and sellers must have perfect knowledge of market conditions
- There must be no government intervention
- All factors of production must be perfectly mobile

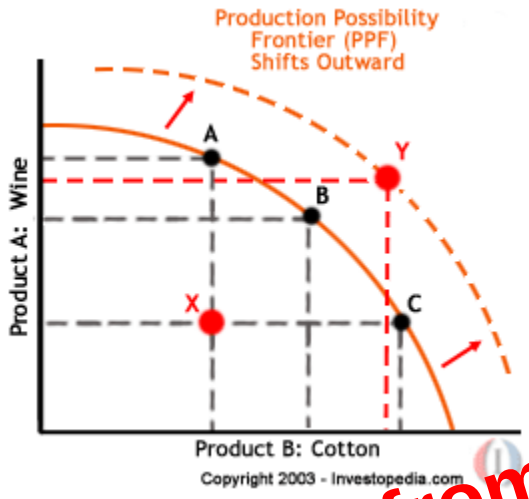


Graph on left shows that price of product is determined by demand and supply. The firm can sell its whole output at that price.

Graph on the right is the demand curve (which is perfectly elastic) for the product. Demand = Average Revenue = Marginal Revenue

more wine is in demand, the **opportunity cost** of producing those extra units of wine will be proportional to the decrease in cotton production

Shifts and Swivels of the PPC (Production Possibility Curve)



Supposed there in an increase in technology in the economy, and the time taken to pick up the grapes and cotton has been significantly reduced. This means more grapes and cotton can be produced (with a given level of land, labour and capital). This will cause the PPC to shift outward as shown by the new dotted PPC. When this happens, we know there is growth in the economy, as point Y (which earlier had been impossible) will now be attainable and represent efficient use of resources. More output, reduced unemployment (increased employment), better living standards. A movement of the PPC inwards would represent a dwindling economy and this will result in a fall in output.

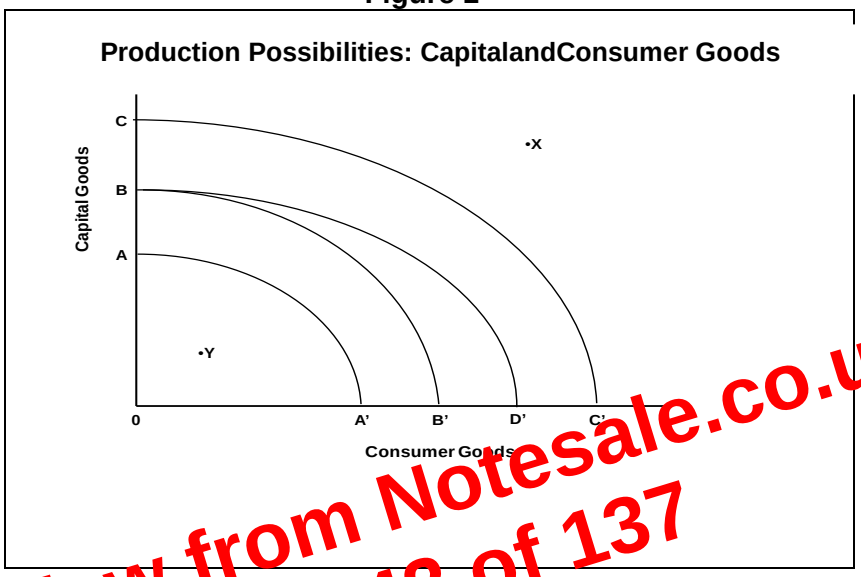
The Production Possibility Curve will **shift outwards** under the following scenarios:

- Improvements in Productivity and Efficiency from the available factor resources
- Increases in the productive potential following improvements in technology. This may emanate from a specific industry, but the effects may be felt in several related industries (positive spill-over effect).
- Exploitation of more factors of production (Capital and Labour) available for the production process

The PPC will **swivel** outwards if the society learns to get better at producing (increase productivity) only one of the two goods. This would swivel the curve out along the axis of that good.

Use the production possibilities curve below to answer questions 9 and 10. Each question starts with BB' as the country's production possibilities curve.

Figure 1



9 Assume that there is a natural technological breakthrough in the consumer goods industry, and the new technology is widely adopted. Which curve in the diagram would represent the new production possibilities curve?

[1] BD'
[2] AA'
[3] CC'
[4] BB'

10 Assume that the government bans the use of technology and modern production techniques in all industries. Which curve in the diagram would represent the new production possibilities curve?

[1] BD'
[2] AA'
[3] CC'
[4] BB'

2. On production possibility frontier AC

[1] output combinations D and E represent full and efficient use of resources, but A, C and F represent inefficient resource use.
[2] output combinations A, D, E and C all represent full and efficient resource use.
[3] output combination A and C represents less efficient resource use than either D or E.
[4] the production of goods X and Y require similar factor inputs in similar proportions.

3. The outward shift of the production possibility frontier from AC to BC could arise from

[1] technological progress that affects good X production and good Y production equally.
[2] an improvement in labour productivity only in the industry producing good X.
[3] an improvement in labour productivity only in the industry producing good Y.
[4] a reallocation of resources from product X production to product Y production.

4. Which of the following statements is/are **correct**?

a. Production is a stock and income is a flow.
b. The total number of motor vehicles manufactured in South Africa in 2011 is a stock variable.
c. The monthly expenditure of a household is a flow variable.

[1] All the statements are correct.
[2] Only c.
[3] Only b and c.
[4] Only a.

Study Unit 3: The interdependence between the major sectors, markets and flows in the mixed economy

The 3 major flows in an economy are:

- Income
- Spending
- Production

The Circular of Income and Spending

A model is a simplified way of explaining a complicated concept. In the circular flow model, the basic decision makers/consumers (households) and producers (firms) are demonstrated in an interlinked fashion.

Households buy goods and services in the **goods market** (Households spend on the goods market)**,** while firms buy factors of production in the **factor market** (Firms spend on the factor market)**.** Households then offer their factors of production (land, labour, capital and entrepreneurship) on the factor market and in turn get income in the form of (profits, rent, wages etc.)Remember a market does not necessarily need to be a physical place like Tshwane Market, it can just be a set-up which allows for the interaction of buyers and sellers (Kalahari.com, online stock trading)

Households

These consist of individual people, a group of friends sharing a dwelling, or a family living under the same roof. The key element is that households make decisions that are mutually agreed upon. They are considered as single decision makers.

Firms

These are economic units formed by profit seeking entrepreneurs who employ factors of production (land, labour and capital) to produce goods and services for sale and consumption by households. They are the basic producing units in an economy.

Injections

Injections in the circular flow model represent **additions** to the current flow of income. Major injections are household borrowings, investment by firms, government expenditure, exports (represent income to the exporter)

Leakages

Leakages represent **withdrawals** reductions in the current flow of income. Major leakages are taxes, savings (part of the income which is not consumed) and imports (spending on foreign products)

Study Unit 4 & 5: Demand, Supply and Prices & Demand and Supply in action

Demand

Demand represents a set of quantities of goods and services that would be purchased per each given price level. It is the amount of goods and services consumers are **willing** and **able** to buy per given period of time.For demand to be effective, willingness and ability (financial means to purchase) have to be present.

An Economics student must be able to distinguish between Demand and Quantity demanded. While *demand* illustrates a set of alternative quantities demanded at each and every price level, *quantity demanded* refers to the quantity that is demanded at a specific price.

The following is an example of a demand schedule for Albany Bread:

Price (Rand per loaf)	Quantity Demanded (Loaves of Bread)
20	2
16	6
12	10
8	14
6	18

The Law of Demand

The law of Demand states that **the higher the price** of a good/service, the **lower the quantity demanded,** *ceteris paribus (*all else equal, holding other things constant)**.** The opposite is true. This implies an inverse relationship between the price of a good and the quantity demanded of that good. The **downward sloping** demand curve illustrates this relationship

Two reasons why the relationship between price and quantity demanded is inverse:

- Substitution effect (If the price of a piece of KFC chicken increases relative to that of Chicken Licken (ceteris paribus), consumers would shift to buying more Chicken Licken, causing the demand for KFC chicken to drop)
- Income effect (If the price of a piece of KFC chicken increases, this reduces the buying power/purchasing power of KFC lovers, consequently reducing the amount of chicken pieces they will afford to buy.

14 The supply of potatoes will decrease if there is

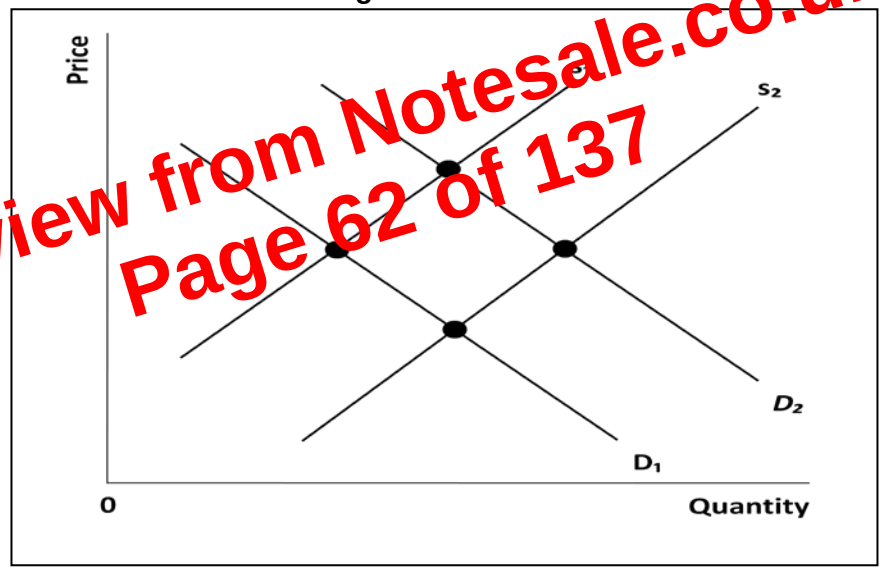
[1] an improvement in farming technology.
[2] a decrease in the wages of farm workers.
[3] a removal of a subsidy paid by the government to farmers.
[4] a decrease in the price of potatoes.

15 If the price of coffee, a substitute for tea **in consumption**, increases, we would expect the equilibrium quantity of tea to

[1] decrease.
[2] increase.
[3] stay the same.
[4] be indeterminate.

Use the figure below to answer questions 16 and 17.

Figure 3



21. Suppose there is an increase in both supply and demand for personal computers. Furthermore, suppose the supply of personal computers increases more than demand for personal computers. In the market for personal computers, we would expect the

[1] equilibrium quantity to rise and the equilibrium price to rise.
[2] equilibrium quantity to rise and the equilibrium price to fall.
[3] equilibrium quantity to rise and the equilibrium price to remain constant.
[4] equilibrium quantity to rise and the change in the equilibrium price to be ambiguous.

22. When government imposes a price floor below the market price, the result will be that

[1] shortagesoccur.
[2] surpluses occur.
[3] supply and demand will shift up to the new equilibrium.
[4] a price floor set below the equilibrium price will have no effect on the market equilibrium.

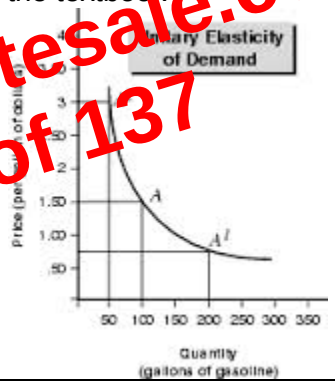
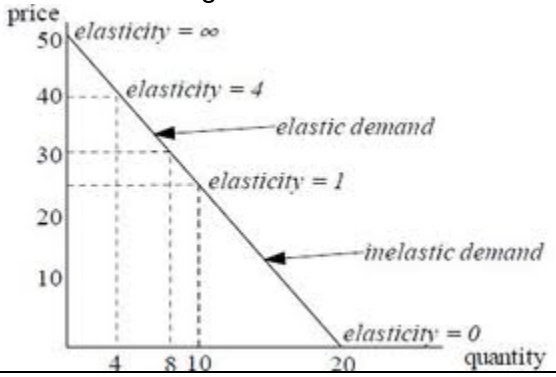
23. Which of the following options is **correct**?

[1] If the demand for a product is inelastic, a change in price will cause total revenue to change in the opposite direction.
[2] If the demand of a product is inelastic, a change in price may cause total revenue to change in either the opposite or the same direction.
[3] If the demand for a product is inelastic, a change in price will cause total revenue to change in the same direction.
[4] The price elasticity coefficient applies to demand, but not to supply.

24. The price of burgers increases by 20% and the quantity of burgers demanded falls by 23%. This indicates that demand for burgers is

[1] unitary elastic.
[2] inelastic.
[3] perfectly elastic.
[4] elastic.

Suggested solutions May/June 2011

23	Option 4	5*10=50 %
24	Option 3	10/x = 0.4 10/0.4 =x X=25
25	Option 3	Check the diagram for unitary elasticity in the textbook 
26	Option 1	Refer to the graph showing different elasticities along the demand schedule 
27	Option 3	At a price of R6 revenue is R6*20 = R120 At a price of R4 revenue is R4*30 = R120 Revenue is unchanged

May/June 2013

Paper provided at the end of the booklet

Suggested solutions May/June 2013

32	Option 3	
33	Option 3	
34	Option 1	
35	Option 3	
36	Option 2	
37	Option 4	
38	Option 3	

May/June 2012

Paper and solutions provided at the end of the booklet

November 2012

40. The main difference between the short run and long run is that

    [1] all factors of production are variable in the short run but at least one factor of production is fixed in the long run.
    [2] in the short run we have some factors of production fixed whilst in the long run all factors of production are variable.
    [3] in the short run, capital is the variable factor of production whilst labour is mostly fixed.
    [4] total costs are equal to total variable cost in the short run.

41. Thomas started his vegetable business with an amount of R10 000. At the end of the 1st month, his total revenue was equal to R15 000. If he had invested his R10 000 with a financial institution, Thomas could have earned R3 000. What is Thomas's economic profit or loss?

    [1] Economic profit of R5 000.
    [2] Economic profit of R3 000.
    [3] Economic loss of R2 000.
    [4] Economic profit of R2 000.

42. Which of the following statements is/ are **correct**

    a At the maximum point of the total product curve, average product is equal to zero.
    b Total product start by increasing at an increasing rate and then increase at a decreasing rate as the amount of the variable factor is changed in the short run.
    c When marginal product is at its maximum point, marginal cost is at its minimum value.

    [1] Only b and c.
    [2] Only b.
    [3] Only a and c.
    [4] All the statements are correct

Table 1 below shows the number of shirts produced by a firm in the short run using three machines and labour. Use this table to answer Question 43 and Question 44.

Table 1

Capital	Labour	Total Product	Marginal Product	Average Product
3	0			
3	1	10		
3	2		15	
3	3			16
3	4			10

43. What is the maximum value of total product for this firm?

[1] 48
[2] 25
[3] 10
[4] 40

44. What is the level of marginal product associated with 3 units of labour?

[1] 23
[2] 15
[3] 10
[4] 16

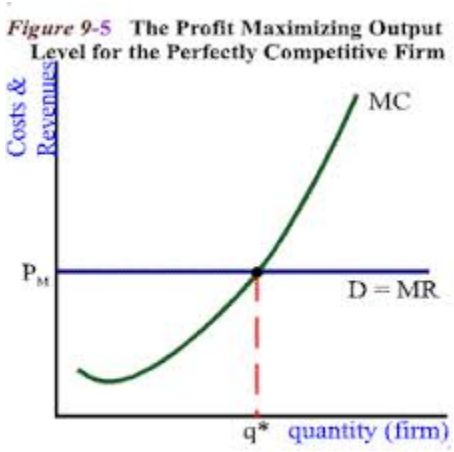


Figure 9-5 **The Profit Maximizing Output Level for the Perfectly Competitive Firm**

To produce or not to produce

The mere fact that the firm is unprofitable does not mean the firm should close/shut down. This is because the firm might incur more losses in shutting down than it would if it stays in business. If the firm shuts down, it might, in **the short run** avoid its variable costs (cost that vary/change with the level of production)

But what about the Fixed Costs? Those costs that do not depend with the level of production/output. So the firm should only consider if, by producing, it can cover its **Total Variable Costs** (TVC) and ignore its **Fixed Costs**.

The Shut Down Rule

The shutdown decision depends on how **Total Revenue (TR**) compares to **Total Variable Cost (TVC)** at the optimum output level.

The firm should:

- continue production if **TR>TVC,**
- be indifferent if **TR=TVC**
- shutdown if **TR<TVC**

Critical shutdown price occurs where **MC=P=AVC**

[1] Sarah will maximise her profit by producing fewer than 100 toys.
[2] Sarah will maximise her profit if she reduces the price of each toy to R9.
[3] Sarah is maximising her profits.
[4] Sarah will maximise her profits by producing more than 100 toys.

49 Which of the following statement/s is/are **correct**?

In a perfectly competitive market, each firm
(a) produces as much as it can.
(b) is a price taker.
(c) faces a perfectly inelastic demand for its product.
(d) can influence the price of its product.

[1] All of the above statements are correct
[2] Only b
[3] Only a and c
[4] Only c

50 For a perfectly competitive firm, at short term equilibrium its marginal revenue

[1] is less than the market price.
[2] exceeds the price it charges for its goods.
[3] equals its normal profit.
[4] equals the market price.

[1] sales will drop to zero (0) and nothing will be sold.
[2] sales will remain unchanged.
[3] sales will decrease only slightly because of the shape or slope of the market demand curve.
[4] all the other firms will do the same.

55. Which of the following criteria is the same for **both** the perfect competitor and the monopolist?

[1] Information about market conditions.
[2] The possibility of earning economic profit in the long run.
[3] The number of firms in the industry.
[4] The nature of the product.

Suggested solutions November 2012 provided at the back

Imperfect Competition and the Labour Market

Imperfect competition is a market where some rules of Perfect Competition are not followed. Virtually all real world markets follow this model.

In imperfect competition, the Price of the good can rise above its **Marginal Cost (MC), P>MC**

Thus have consumers will decrease their level of purchase and there will be inefficient levels of production.

Most common forms of imperfect markets include **monopolies (**one dominant seller**), oligopolies (**few sellers**), duopolies, monopsonies and monopolistic competition (**many sellers producing highly differentiated products).

The Labor Market

The market for labour is just like the market of any other good or service, determined by the interaction of demand and supply for labor, with the equilibrium price equal to the **wage rate.** Individuals supply their labour in return for a wage, with firms demanding the labour to produce goods and services and pay a wage to the workers in the form of compensation.

Marginal Revenue Product for Labour

Suggested solutions May/June 2011

56	Option 4	Check monopoly characteristics
57	Option 1	
58	Option 3	
59	Option 4	Profit = Q [P- AC] = 250 [280-180] = 25 000
60	Option 1	Profit per unit = P – AC = 280-180 = 100
61	Option 2	TC = Q*AC = 250*180 = 45 000
62	Option 4	
63	Option 3	
64	Option 2	Real Wage = Nominal Wage/Price

May/June 2010 solutions

QUESTION 1

1.2.1 If consumers expect P beef to ↓, the Demand for beef will ↓ from D1 to D0

1.2.2 Supply increase, the supply curve shifts from S0 to S1

1.2.3 Supply increases from S0 to S1

1.2.4 Increase in demand from D0 to D1

1.2.5 Supply of beef increases from S0 to S1

1.3.1 Price level increases, causing quantity demanded to fall, causing divergence towards the equilibrium price and quantity

1.3.2 Quantity supplied exceeds quantity demanded (excess supply) and there is a surplus in the market

1.3.3 A shortage will exist

1.3.4 Quantity demanded will exceed quantity supplied, creating a shortage

QUESTION 2

2.1.1 Total revenue ↑
Quantity demanded stays the same

2.1.2 Total revenue would be zero
Quantity demanded zero

2.2Offer specials on goods with elastic demand, coefficient >1, quantity demanded responds more to price changes. This would increase total revenue.

2.3 Raise revenue by increasing the price. Total revenue would increase because larger percentages in price hikes would experience lower drops in quantity demanded

QUESTION 3

3.1Economic loss

3.2 Shut down rule: P/MR<TVC. The firm should not produce if it fails to cover its total variable costs. It should not worry about fixed costs as they are sunk costs

3.3.1 It is the upward sloping part of the MC curve above the AVC

3.3.2 Vertical distance between AC and AVC represent the Average Fixed Costs (AFC)

3.3.3 At point c there is productive efficiency

3.3.4 Two things that could change for a perfectly competitive firm in the long run