Economics

Year 1

SECTION

2

MARKET AND DEMAND

CONSUMERS' RATIONAL DECISION-MAKING

Demand for Goods and Services

INTRODUCTION

The market is an interesting place to visit in Ghana. Many people from various communities, status, religion and tribe meet at the market to exchange what they have with what they want. Have you wondered why sellers are confident that they could sell more of their products in the market? They have the assurance that buyers will also come to the market.

The ability of buyers to come to the market to buy their commodities is what we refer to as demand. The section focuses on the role of buyers in a market, the concept of demand, law and the types of demand. Get ready for this interesting lesson. Happy learning.

At the end of this section, you should be able to:

- Relate the concepts of demand to everyday life and societal challenges.
- Describe demand for goods and services.
- State the law of demand.
- Identify the types of demand

Key Ideas

- A market is made up of sellers and buyers who play different but important roles to ensure that the market continues to function.
- The concept of *'want'* differs from demand. Want is a mere desire to own something when the buyer does not have the ability to buy.
- Demand is said to be 'effective' when buyers demonstrate their ability to pay (the price) for the commodity.
- The four types of demand are joint, competitive, composite and derived.
- The law of demand shows that there is an inverse (negative) relationship between price and quantity demanded, hence the negative (-) symbol used in the demand function.

THE ROLE OF BUYERS AND SELLERS IN A MARKET

The image below shows a typical example of a market where 'Nhyira Enterprise', a food joint that is operated by two persons, offering fried eggs with toasted bread, pastries, and all kinds of soft drink products for sale. Four (4) customers are in a queue to exchange their money for their choice of assorted foodstuffs and drinks. The buyer's aim is to maximise satisfaction (getting the highest possible satisfaction) out of their limited income.

Fig 2.1 A market scene

Every market is made up of two major parties/groups of people who are buyers and sellers. The sellers are the people who produce goods and services and offer them for sale in the market. They aim to make profits from their investment. The buyers include people who spend their income/money to buy the commodity at the market.

ROLE OF SELLERS IN THE MARKET

A seller is a person who offers goods or services for sale in exchange for a reward or payment. A seller can be an individual, company, government and or any other organisation. Some of the roles sellers play in the market are:

1. Sellers make goods and services available in the market for sale. The sellers therefore transfer the goods or render services to the buyer in exchange for rewards.
2. They help in deciding on the prices of goods and services. Sellers agree on the price of a commodity with buyers.
3. Sellers are responsible for making a commodity known to the buyers through the use of social media, newspapers, television, billboards, etc.

ROLE OF BUYERS IN THE MARKET

Buyers are individuals or organisations who buy goods and services from sellers at the market. Some roles buyers play in the market include:

1. Buyers make sure the goods and services that they buy are of good quality. They do this by giving information to the sellers about their tastes and preferences.
2. Buyers negotiate with sellers to agree on the price of the commodity.
3. Buyers provide information to sellers on the amount of goods and services they can bring to the market.
4. Buying of goods and services in the market help sellers manage resources wisely.

Examples of buying and selling decisions

Buying Sneakers

Suppose Amina wants to buy a new pair of sneakers for school and sports. She has a budget of GH¢100. Amina needs new sneakers because her old ones are worn out and uncomfortable.

Amina looks up different brands and models of sneakers online or in a store. After her search, she had these three options to choose from.

Sneaker A: GH¢80, good for running, stylish design.

Sneaker B: GH¢90, great support for sports, available in your favourite colour.

Sneaker C: GH¢70, casual style, but less support for sports activities.

Buying Decision:

Amina considers her budget and the features of each sneaker. After comparing the options, she decided to buy the option B sneaker priced at GH¢90. This is because it offers great support for sports, fits well, and she can choose her favourite colour.

Amina's buying decision involves trade-offs. By choosing sneaker B, she gains the desired features and stays within her budget. However, she foregoes the potential cost savings of choosing sneaker C but gains the satisfaction of having a pair of sneakers with better features.

Selling Fresh Fruits in a local market

Kwame decides to sell fresh fruits at a local farmer's market. He grows a variety of fruits in his backyard, including pears, oranges and mangoes. Kwame wants to earn some extra money while selling his delicious fruits to the community.

Kwame chooses to sell his homegrown pears, oranges and mangoes because he knows they are popular among his neighbours' diet and they are healthy snacks for kids.

He visits the farmer's market to see what other vendors are selling and at what prices. He notices that fresh fruits are in high demand, especially organic options.

After researching prices, Kwame decides to set his prices as follows: Pears for GH¢5 each; Oranges and Mangoes for GH¢2 each.

He considers the cost of growing the fruits, including time and materials in pricing the fruits so as to ensure he makes a genuine profit.

Kwame prepares his fruits by diligently washing and packaging them nicely.

He sets up his stand at a busy spot in the farmer's market, where families and health-conscious shoppers are likely to pass by.

To attract customers, Kwame creates a bright, eye-catching signpost that says "Fresh & Local Fruit!" and offers a special deal: buy three fruits and get one free. He also smiles and greets people as they walk by, inviting them to try his fruits.

Activity 2.1

Have a fun role-play for about 10 minutes with your friends at school or home to showcase the behaviour of buyers and sellers in a shop. Talk to each other politely and respectfully. Appreciate each other's cultural background and be tolerant.

Materials Needed:

- Props for a shop (e.g., play money, items to sell like snacks, toys, or handmade crafts)
- Price tags (optional)
- Signposts for the shop (optional)

Roles:

- Sellers: 2-3 learners who will set up their stalls.
- Buyers: 3-5 learners who will interact with the sellers.

Preparation:

- Sellers: Offer items for sale and set prices. Prepare displays and signs for your stalls.
- Buyers: Bring play money and consider what items you want to buy and how much you will spend.

Role-Play Instructions:

- Set a timer for 10 minutes for the role-play.

- Sellers will take their places at their stalls and greet buyers whenever they come around.
- Buyers will walk around the "market," asking questions, comparing prices and making their demand.
- Sellers will thank buyers and encourage them to come again.

Questions

1. What did you enjoy most about being a buyer or a seller?
2. Were there any challenges you faced during the negotiation?
3. How did you feel when you successfully made a sale or bought a product?
4. Write at least two roles each of buyers and sellers as demonstrated in the role play.

Share your findings with your friends in class.

Activity 2.2

Observe the picture in **Fig 2.1** that shows a market made up of sellers and buyers. Follow the conversation below:

Student A: I am looking for bread and fried egg at low cost that will help me save some money.

Student B: I also need some bread and drink at an affordable price.

Nhyira (seller): Welcome my dear customers, how can I help you?

Student A: I need some bread and eggs.

Student B: I need a bottle of drink.

Nhyira (seller): That is Ghc10 for bread and egg, and Ghc 8 for bread and drink.

Nhyira (seller): Hands over bread and egg and the drink to the two customers.

Student A and B pays Gh¢10 and Gh¢8, respectively.

a) From the interaction between the seller and the buyers, discuss with your friend how goods and services are exchanged in the market.
b) Suggest ways in which buyers can wisely spend their money on goods and services.
c) What role do sellers and buyers play in the exchange of the goods and services?

Pay attention to each other, be polite with your language and respect the cultural background and views of your friends.

THE CONCEPT OF DEMAND

In a market, buyers and sellers agree on prices of goods or services. By this, the buyer exchanges money for the good or service.

If a buyer goes to the market to buy oranges, the quantity they will buy will depend on the price per orange. In the market, the buyer may buy 10 oranges at Gh¢1.00 per orange, 8 oranges at Gh¢2.00 per orange, 6 oranges at Gh¢3.00 per orange, 4 oranges at Gh¢4.00 per orange, and 2 oranges at Gh¢5.00 per orange.

This information has been presented in the table below.

Table 2.1

Prices (Gh¢)	Quantity (units)
1.00	10
2.00	8
3.00	6
4.00	4
5.00	2

From the table, it can be observed that as the price of orange increases, the buyer buys less of it. This implies that demand refers to the quantities of a commodity (a good or a service) that a consumer (buyer) is willing and able to buy at various price levels within a period of time.

Understanding demand is crucial for businesses, policymakers, and economists. It helps businesses determine how they will price their goods and services, their production levels, and marketing decisions.

Again, policymakers consider demand when implementing economic policies, and economists study demand to analyse market dynamics, consumer behaviour, and overall market efficiency.

Activity 2.3

1. Using paper, create 'school money' with your peers and organise a market or shop with items such as duster, sugar, gari, marker, etc. are up for sale. Role play the exchange of money for goods and services.
2. Explain how and why you bought that specific product.

Activity 2.4

1. A student walks into a dress shop and asks, "how much are your dresses?"

   Seller: They are of different prices.

   Student: What is the price of the yellow straight dress?

   Seller: It costs Gh¢200.

   Student: Wow it looks very expensive.

   Seller: This is of high quality however there is another beautiful dress which costs less. You can have a look at it.

   Student: No problem, how much is that one?

   Seller: Gh¢120 only.

   Student: Can I give you Gh¢100 for this one?

   Seller: Ok agreed. Bring the Gh¢100.

   Student: Thank you.

   Seller: You're always welcome.

   a. Explain the reason why the student bought the second dress instead of the first dress.
   b. How did the buyer and seller agree on the price the buyer paid?

The Law Of Demand

The law of demand explains how price influences the behaviour of buyers. Buyers usually buy more when the prices are low, and they buy less when prices are high in the market over a given period of time. This shows that there is a negative relationship between price and quantity demanded. The law however is based on the Latin phrase 'ceteris paribus' which is translated as "all other things being equal" In other words, when all other factors are held constant, consumers will purchase ***more quantities of a commodity when the price is low but they will purchase less quantities when price is high.*** Price and quantity demanded are therefore related.

The relationship between price and quantity demanded is presented by using demand function, demand schedule and demand curve.

Demand function: This is a mathematical expression that shows the relationship between quantity demanded and price of a particular commodity. A simple demand function is linear (straight line) given as $\mathbf{Qd = a\text{-}bP}$ where;

$\mathbf{Q_d}$ represents quantity demanded of a particular commodity, e.g., the number of loaves of bread.

a is a constant that represents the quantity that is demanded when price is zero

b is also a constant that represents gradient or slope of the demand curve.

P represents price levels of the commodity.

Quantity demanded or price, can calculated if the constant **"a"** and the slope **"b"** are known. If the **price**, **"a"** and **"b"** are given, then quantity demanded can be calculated. Also, If **Quantity demanded**, **"a"** and **"b"** are known then price can be calculated.

In the following example, the values of **price (P)**, **"a"** and **"b"** are all given.

For example, a consumer's demand function for oranges is given as Qd =30 - 5P

When price levels are P = Gh¢1, Gh¢2, Gh¢3, Gh¢ 4 and Gh¢ 5, Quantity demanded will be;

When P=Gh¢1	When P= Gh ¢2	When P= Gh¢3	When P= Gh¢ 4	When P= Gh¢ 5
Qd = 30-5(1)	Qd = 30- 5(2)	Qd = 30-5(3)	Qd = 30-5(4)	Qd = 30 – 5(5)
Qd = 30-5	Qd = 30-10	Qd = 30-15	Qd = 30-20	Qd = 30 -25
Qd = 25 units	Qd = 20 units	Qd = 15 units	Qd = 10 units	Qd = 5 units

Demand Schedule: The relationship between quantity demanded and price of a commodity can be put in a table form. Such a table is called a demand schedule. For instance, the consumer's data above can be presented as a demand schedule as shown below. When price was Gh¢1, quantities demanded was 25 units and at price Gh¢2, quantity demanded was 20 units. At price Gh¢3 quantity demanded was 15 units, at price Gh¢4, quantity demanded is 10 and at price Gh¢5, quantity demanded is 5.

Table 2.2: Demand schedule for oranges

Price of oranges (Gh¢)	Quantity demanded by Kojo
1.00	25
2.00	20
3.00	15
4.00	10
5.00	5

A demand schedule is therefore a table that shows various quantities of a commodity that are demanded at different price levels.

A schedule can represent an individual consumer's demand, for instance, Kojo's schedule above represents demand conditions for only one consumer. A schedule can also represent the demand in a particular market by all the consumers within a given period of time.

Demand curve: Also, the relationship between quantities demanded and price of a particular commodity can be represented in a form of a graph to show various quantities of a commodity that are demanded at different price levels. Such a graph is called a demand curve. A demand curve is drawn using price for the y-axis and quantity demanded for the x-axis.

A demand curve is therefore a graph that shows various quantities of a particular commodity that are demanded at different prices within a period of time.

A normal demand curve slopes downward as you move on it from left to right. This means that, as price increases, quantity demand decreases and as price decreases, quantity demand increases. This shows that there is a negative relationship between price and quantity demanded. A negative relationship is also known as an inverse relationship.

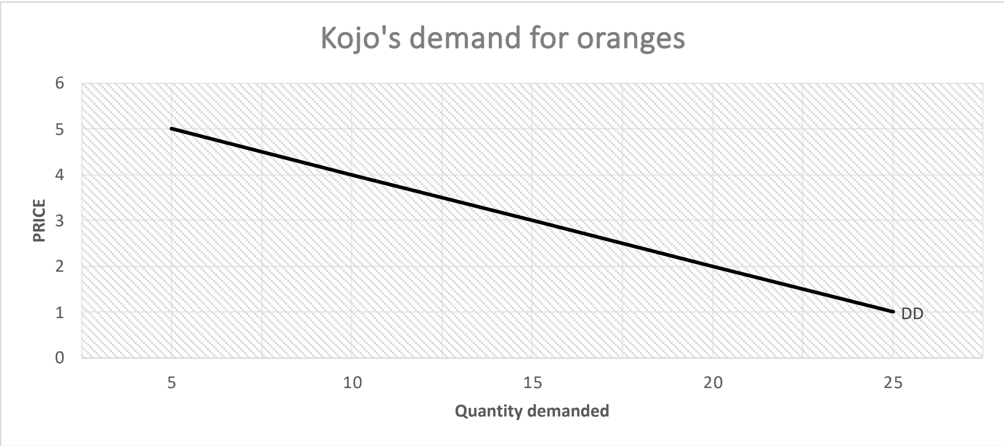


Fig. 2.2: demand curve

From the **figure 2.2** above, you can see that when price is Gh¢1.00, quantity demanded was 25 units. When price increases to Gh¢ 2.00, quantity demanded decreases to 20 units. When price increases further to Gh¢3.00, quantity demanded also decreases further to 15 units and so on.

The Law Of Demand Summary: From the demand function, demand schedule and the demand curve above, you can see that when price is high, quantity demanded is low and when price is low quantity demanded is high. This relationship between price and quantity demanded shows the law of demand.

The law of demand states that, ***"all other things being equal, at a higher price, quantity demanded is low and at a lower price, quantity demanded is high".***

This law enables producers to understand the buyer's behaviour in a market. It also helps them to know the quantity that will be bought when price increases or decreases so they can adjust production to satisfy buyers' needs.

Activity 2.5

1. Using a demand function Qd = 60-5P, draw a demand schedule showing various prices and quantities of a commodity. Start with the lowest price of Gh¢2 which gives a quantity demanded of 40. Increase the price by Gh¢2 at a time to work out the quantities demanded. Do this until you get to the fifth (5th) result.
   a. From your demand schedule, plot the demand curve on a graph-sheet
   b. Use your schedule and graph to explain the law of demand.

Activity 2.6

1. With a group of friends try this activity. It will help you understand the law of demand as well as showing how buyers react to price changes.
   a. You will need some materials: Price tags, play money, various small items (pens, pencils, rubbers, snacks, and drinks).
   (If you do not have play money, cut up some paper and pretend they are 1- and 2-Cedi notes, pencils cost about 2 Cedis)

Read these instructions before you start:

i. Decide which group members are going to play the role of buyers and sellers.
ii. Sellers will have items with price tags attached.
iii. Buyers will have a limited amount of play money to spend.
iv. Sellers start with high prices, and buyers decide whether to purchase or not.
v. After a few minutes, sellers lower their prices.
vi. Observe how buyers react to the price changes.

Discussion: After the activity, discuss how the change in prices affected the buyers' willingness to purchase items and relate this to the law of demand.

TYPES OF DEMAND

Complementary/Joint Demand (Complements):

There are some commodities that have to be consumed (used) together before the consumer could achieve the desired level of satisfaction. For example, when you buy mobile phone, you will also have to buy a sim card to enable you use the mobile phone. Such pairs of commodities are said to have joint demand or are said to be complements. In other words, ***commodities have joint / complementary demand if one cannot be used without the other.***

Fig. 2.3: Mobile Phone And Sim Card

For such commodities when price of one falls, demand for the other will rise and when price of one rises, demand for the other will also fall. For example, when price of mobile phone falls, people will buy more units of mobile phones. They will need additional units of sim card to use with the additional mobile phones that they have purchased. Demand for sim cards will therefore increase because price of mobile phones has decreased.

Competitive Demand (Substitutes):

Some commodities serve the same purpose and give the same level of satisfaction to the consumer. The consumer can therefore use one in place of the other and still derive the same level of satisfaction. Such commodities are said to have competitive demand or are substitutes. For example, if the local shop does not sell Pepsodent tooth paste you can buy Colgate toothpaste to brush your teeth since both do the same job. In other word, ***commodities have competitive demand if one of the commodities can be used or substituted in place of the other***. Example is shown below.

OR

PEPESODENT TOOTHPASTE

COLGATE TOOTHPASTE

Fig. 2.4: Competitive Demand (Pepsodent Toothpaste Against Colgate Toothpaste)

When two commodities are substitutes, then when price of one rises, demand for the other will also rise and when price of one fall demand for the other will also fall. For instance, when price of Pepsodent rises, consumers will shift towards Colgate. Demand for Colgate will also rise because price of Pepsodent has increased.

Derived Demand:

There are some commodities that are demanded only because producers use them as inputs to produce other required commodities. Such commodities are said to have derived demand. For example, cocoa has a derived demand since it is demanded because it is used in the production of chocolate.

A commodity has a derived demand if it is demanded not for its own direct use but rather to help to produce another commodities.

For such commodities such as **Fig.2.5** below, when price of chocolate rises, demand for cocoa will fall and when price chocolate falls, demand for cocoa will rise.

A Bar of Chocolate

Cocoa

Figure 2.5: Derived Demand (Demand For Cocoa Is Derived From Demand For a Bar of Chocolate)

Composite Demand:

Some commodities have more than one use. They are therefore demanded for several purposes. Such commodities are said to have composite demand. For example, Land is demanded to be used for farming, as site for buildings, for roads, and as a playing ground. Land therefore has a composite demand.

A commodity has a composite demand if it demanded for several uses.

A building

A Land

A playing field

A farm land

A road

FIG.2.6: COMPOSITE DEMAND (Land is used for different purposes)

Activity 2.7

1. List some goods that are sold in your local market which are examples of the following types of demand.
   a. Competitive demand
   b. Joint/complementary demand
   c. Derived demand
   d. Composite demand

Activity 2.8

1. Talk with a friend, take turns to explain the differences between the following:
   a. Competitive demand and joint demand.
   b. Composite demand and derived demand.

REVIEW QUESTIONS ON MARKET AND DEMAND

1. a. Distinguish between buyers and a sellers
   b. State any two roles that the buyer plays in a market
   c. State any two roles that a seller plays in the market.
2. a. Define demand
   b. Explain how price of a commodity will affect the quality demanded.
3. Given a demand function as Qd = 20-3P,
   a. Prepare a demand schedule when price is Gh¢1, Gh¢2, Gh¢3, Gh¢4, and Gh¢5
   b. On a sheet of graph paper, plot a demand curve for the commodity.
   c. Use the demand schedule to explain the law of demand
4. With an example for each, explain the following types of demand.
   a. Derived demand
   b. Composite demand
   c. Complementary (Joint) demand
   d. Competitive demand
5. State the law of demand and explain how it applies to your day to day life activities in school or at home

ANSWER TO REVIEW QUESTIONS ON MARKET AND DEMAND

Answer to review question 1

a. Sellers are persons who offer goods and services for sale at a market in exchange for a reward. Buyers are persons who spend their resources (money) to purchase goods and services at the market.

b. Sellers make goods and services available at the market, they help in determining prices and also advertise to make the commodity known to consumers

Buyers help to determine the quantity and quality of a commodity that will be sold in the market. They also help in determining the price at which a commodity is sold.

Answer to review question 2

a. Demand is the quantity of a good or a service that a consumer is willing and able to buy at various price levels with a period of time.

b. Price affect the quantity that a consumer will buy. This is because a rational consumer will want to buy more when price is low but they will buy less when price is high.

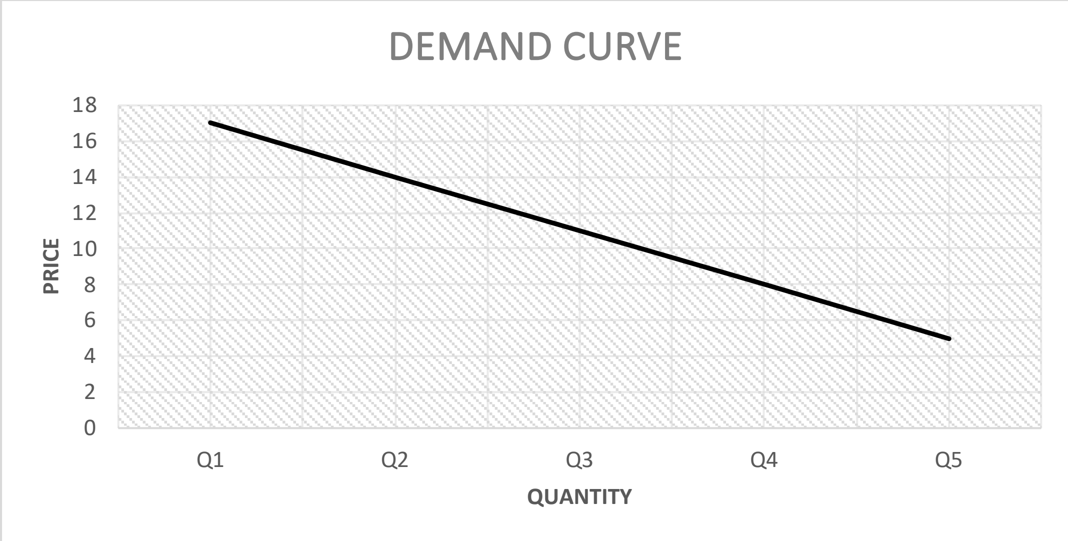
Answer to review question 3

a. When P = ¢1, when P= Gh¢2 when P=Gh¢3 when P =Gh¢4 when P=Gh¢5

Qd = 20-3(1)	Qd = 20-3(2)	Qd = 20-3(3)	Qd=20-3(4)	Qd = 20-3(5)
Qd = 20-3	Qd = 20-6	Qd = 20-9	Qd = 20 -12	Qd = 20- 15
Qd = 17	Qd= 14	Qd = 11	Qd = 8	Qd = 5

b.

Price Ghc	Quantity demanded
1	17
2	14
3	11
4	8
5	5



Answer to review question 4

i. The kind of commodity that is demanded because it is used to produce other goods and service has a Derived Demand. For example, worker/labour, has derived demand because labour is demanded for the production of bags.

ii. When a commodity can be used for more than one purpose, then such is to have a Composite Demand. For example, water has a composite demand since it can be used for different purposes such as bathing, drinking and cooking.

iii. When demand for two or more goods arises because they have to be consumed together for satisfying a particular want of the consumer, then such commodities is said to have Complementary or Joint Demand. For example, milk, coffee, and sugar have a joint demand since all these goods are demanded together to prepare a beverage of coffee.

iv. When two commodities serve the same purposes and that one can be used in place of the other, then one commodity has Competitive Demand. For example, ideal milk and peak milk.

Answer to review question 5

The law of demand states that all other things being equal, at a higher price, quantity demanded is low and at a lower price quantity demanded is high. The law of demand is important in everyday life because it influences how much of a particular commodity consumers are prepared to buy. For example, if tea is being sold at half price buyers may buy several packets, so quantity demanded will increase.

EXTENDED READING:

- https://www.investopedia.com/terms/d/demand.asp
- https://www.investopedia.com/terms/l/lawofdemand.asp
- https://youtu.be/PJTZqsThldA?si=kG_MKc1upFjeZBGp

REFERENCES:

- *Arrow, K.J (1962). The economic implications of learning by doing. Review of economic studies 29 (3)*
- *Baye, M.R. (2010). Microeconomics and business strategy. New York, NY: McGraw-Hill Irwin*
- *Robbins, Lionel. An Essay on the Nature and Significance of Economic Science. London: Macmillan*

GLOSSARY (Key Words)

Buyers	They are the people in the market who spend their resources (money) to acquire or purchase goods and services for use.
Complements	These are commodities (goods and services) that are demanded and used together to enable the consumer attain the desire levels of satisfaction (Eg.car and fuel).
Disposable income	This is the income left after personal income tax has been deducted from the gross income of the worker.
Economies	This is a social domain that shows how resources are allocated for the production, distribution and consumption of goods and services.
Inferior goods	These are goods whose demand increases as consumer's income levels decrease and demand decreases as income levels increase.
Inputs	These are the resources that are combined to produce goods and services.
Market	It refers to all the arrangements (formal and informal) that bring sellers and buyers together to exchange goods and services for a reward (money, other commodities, etc).
Normal goods	They are goods whose demand increases as income levels of consumers increase and demand decreases as consumers income levels decrease.
Output	These are the quantity of goods and services which are produced out of the process whereby a firm combines factors of product.
Producer	This is a person or a business unit that create and supply goods and services by combining factors of production.
Purchasing power	It the ability on the part of buyers (consumers) to pay for the prices (cost) of commodities they are willing to buy at a given period of time.
Real income	This is quantity (basket) of goods and services that consumers' nominal income can buy at a given period of time.
Sellers	These are people who bring or supply goods and services to the market for buyers (consumers) to buy at a profit.
Substitutes	These are commodities that are used in place of the other because they serve the purpose (eg. Pepsodent toothpaste and Colgate toothpaste).
Superior goods	They are examples of normal goods whose demand increases as income levels of consumers increase. Superior goods are relatively scarce.

Acknowledgements

Ghana Education Service (GES)

List of Contributors

Name	Institution
Charles Sarpong	Sunyani SHS, Sunyani
Danso-Abeam Frank	Presec, Legon
Eunice Bentil	St. Thomas Aquinas SHS, Accra
Isaac Ansah	Jinjini SHS, Jinjini