

Variables of Economics:

Variable:

→ A quantity which can vary from one individual to another is called variable.

Example:

$$f(x) = 3x^2$$

In this function 'x' is a variable, as it can change its value.

Variables of Economics:

Variables of economics are follow:

1. Utility: (U)

→ Utility represents the satisfaction that consumers receive for choosing and consuming a product or service.

→ In economics, utility function measures the welfare or satisfaction of a consumer as a function of consumption of real goods such as food or clothing.

→ It is denoted by 'U'

2. Price: (P)

→ Price is the amount of money that has to be paid to acquire a given product.

→ The amount people are prepared to pay for a product represents its value, price is also a measure of value.

→ It is denoted by 'P'

→ Its relation is with consumer.

3. Quantity Demand: (Qd)

→ In economics, quantity demand is use to describe the total amount of a good or service that

consumer demand over a given interval of time.

→ It depends upon the price of a good or a service in a marketplace, regardless of whether that market is in equilibrium.

→ It is denoted by ' Q_d '.

→ Its relationship is with consumer.

4- Quantity Supply: (Q_s)

→ Quantity supplied is the quantity of commodity that producers are willing to sell at a particular price at a particular point of time.

→ Its relationship is with 'producers'.

→ It is denoted by ' Q_s '.

5. Income: (Y)

→ Income is money (or some equivalent value) that an individual or business receives, usually in exchange of providing a good or service or through investing capital.

→ Income is referred to as "earnings."

→ It is denoted by 'Y'

6. Consumption: (C)

→ Consumption is the use of goods or services by household.

→ Its relation is with 'consumers'

→ It is denoted by 'C'

7. Savings: (S)

→ Saving is the process of setting aside a portion of current income for future use, or of flow of resources in this way

over a given period of time.

→ It is related to consumer

→ It is denoted by 'S'

→ We can find savings using the formula:

$$\text{Saving} = \text{Income} - \text{Consumption}$$

$$S = Y - C$$

8. Investment: (I)

→ Investment is an asset with the goal of generating income.

→ In an economic sense, an Investment is the purchase of goods that are not consumed today but are used in future to create wealth.

→ It is related to 'producer'

→ It is denoted by 'I'.

9. Rate of Interest: (i or r)

→ The interest rate is the amount a lender charges for the use of assets expressed

as a percentage of the principal.

→ these assets may include cash, consumer goods, or large assets such as a vehicle.

or building.

→ It is denoted by i or r .

10. Cost: (TC)

→ Total cost is the total economic cost of production and is made up of variable cost, plus fixed cost.

The total opportunity cost of each factor of production as part of its fixed or variable costs.

→ It is denoted by 'TC'.

→ It is related to producer.

11. Total Revenue: (TR)

→ Total revenue is the earning that comes in for all units sold.

- It is related to producer
- It is denoted by TR

12- Profit: (π)

→ An economic profit is the difference between the revenue received from the sale of an output and the costs of all the inputs used.

$$\text{Profit} = \text{Revenue} - \text{Cost}$$

$$\pi = TR - TC$$

- It is denoted by ' π '.
- It is related to 'producer'

13- Government Expenditures: (G)

→ Government expenditures refers to money spent by the public sector on the acquisition of good and provision of services such as education, health care, social protection and defense etc.

→ It is denoted by 'G'

14- Taxes: (T)

→ A tax is a compulsory financial charge or some other type of levy imposed upon a taxpayer by governmental organization in order to fund various public expenditures.

→ Both producers and consumers pay taxes.

→ Taxes are the main source of earning for government.

→ It is denoted by 'T'.

15- Transfer Payments: (R)

→ Transfer payments are the payments or money government spends for the welfare of its masses.

→ It is denoted by 'R'.

16- Subsidy: (S)

→ Subsidy is the cash payment or tax reduction given to remove some type of

burden, to promote a social good or an economic policy.

→ It is denoted by 'S'

→ Subsidy is mostly given by government.

17- Exports: (X)

→ Exports are the goods and services produced in one country and purchased by residents of another country.

→ It is denoted by 'X'.

18- Imports: (M)

→ Imports are defined as purchases of goods or services by a domestic economy from a foreign economy.

→ It is denoted by 'M'

19. Labour: (L)

→ Labour is the amount of physical, mental and social effort used to produce goods and services in an economy.

→ It is denoted by 'L'

20. Capital: (K)

→ Capital generally refers to financial wealth, especially that used to start or maintain a business.

→ It is denoted by 'K'.

→ It also refers to 'savings.'

Relationships Between

Variables of Economics:

In economics variables are related to each other in various ways.

These relation is given as follow:

Utility Function:

→ Utility is related to quantity. The function is given below:

$$U = f(Q).$$

- Both quantities are inversely related to each other.
- With the increase in utility quantity decreases and vice versa.
- | | | |
|----|----|----|
| | Q↑ | U↓ |
| OR | Q↓ | U↑ |
- So, these relation is negative.

2- Law of Demand:

→ Demand is the function of price.

→ Demand and price are inversely related to each other.

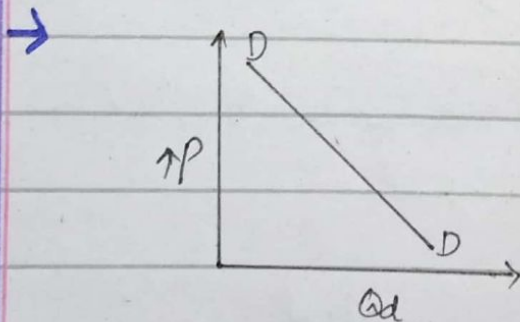
→ The function is given as:

$$Q_d = f(P)$$

→ With the increase in demand price decreases and vice versa.

→ $Q_d \uparrow \quad P \downarrow$
 $Q_d \downarrow \quad P \uparrow$

So, their relation is negative.



The curve is called demand curve.

3- Law of Supply:

→ Supply is a function of price and it

is given as:

$$Q_s = f(P)$$

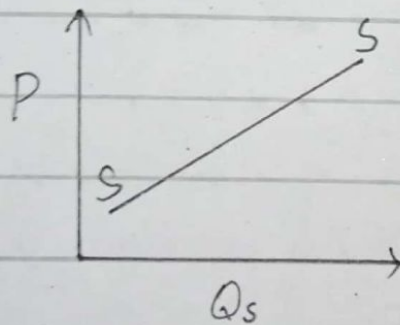
→ Both price and supply are directly proportional to each other.

→ With the increase in price, supply also increases and vice versa.

→ $Q_s \uparrow$ $P \uparrow$
 $Q_s \downarrow$ $P \downarrow$

∴, their relation is positive.

→ Graph:



The curve is called supply curve.

4- Consumption Function:

→ Consumption is a function of income.

The function is given as:

$$C = f(Y)$$

→ Both income and consumption are directly related to each other.

→ With the increase in income consumption also increases and vice versa.

→ $C \uparrow \quad Y \uparrow$
 $C \downarrow \quad Y \downarrow$

So, their relation is positive

→ It is also called "Law of consumption."

5. Saving Function:

→ Savings is also a function of income.

It is given as:

$$S = f(Y)$$

→ Saving depend on income. With the increase in income savings also increases and vice versa. So, both are directly related to each other.

→ $S \uparrow \quad Y \uparrow$
 $S \downarrow \quad Y \downarrow$

So, their relation is positive.

6- Revenue Function:

→ Revenue (R)
 is a function of quantity.
 It is given as:

$$R = f(Q)$$

→ Both quantity and revenue are directly related with each other.

→ With the increase in quantity revenue also increases and vice versa.

→ $Q \uparrow \quad R \uparrow$
 $Q \downarrow \quad R \downarrow$

So, their relation is positive.

7- Cost Function:

→ Cost is the function of quantity.
 It is given as:

$$C = f(Q)$$

→ Both Cost and quantity are directly related to each other.

→ With the increase in quantity, cost also increases and vice versa.

→ $Q \uparrow \quad C \uparrow$
 $Q \downarrow \quad C \downarrow$

So, their relation is positive.

8- Profit Function:

→ Profit is a function of quantity.

It is given as:

$$\pi = f(Q)$$

→ Both profit and quantity are directly related to each other.

→ With the increase in quantity profit also increases and vice versa.

→ $Q \uparrow \quad \pi \uparrow$
 $Q \downarrow \quad \pi \downarrow$

So, their relation is positive.

9-

Investment Function:

→ Investment is a function of income.

It is given as:

$$I = f(Y)$$

→ Both investment and income are directly related to each other.

→ With the increase in income investment also increases and vice versa.

→ $Y \uparrow \quad I \uparrow$
 $Y \downarrow \quad I \downarrow$

So, their relation is positive.

10-

Income Function:

→ Income is a function of investment.

It is given as:

$$Y = f(I)$$

→ Both income and investment are directly related to each other.

→ With the increase in investment income also

increases and vice versa.

→ $I \uparrow \quad Y \uparrow$
 $I \downarrow \quad Y \downarrow$

So, their relation is positive.

11. Function of Investment:

→ Investment is also a function of rate of interest and it is given as:

$$I = f(i)$$

→ Both rate of interest and investment are inversely related to each other.

→ With the increase in rate of interest investment decreases and vice versa.

→ $i \uparrow \quad I \downarrow$
 $\downarrow i \quad I \uparrow$

So, their relation is negative.

12- Import Function:

→ Import is a function of income.

It is given as:

$$M = f(Y)$$

→ Both income and import are directly related to each other.

→ With the increase in income import also increases and vice versa.

$$\begin{array}{cc} Y \uparrow & M \uparrow \\ Y \downarrow & M \downarrow \end{array}$$

So, their relation is positive.

13- Export Function:

→ Export is a function of income.

It is given as:

$$X = f(Y)$$

→ Both income and export are directly related to each other.

→ With the increase in income export also increases

and vice versa.

→ $Y \uparrow$ $X \uparrow$
 $Y \downarrow$ $X \downarrow$

So, their relation is positive.

14- Quantity Function:

→ Quantity is a function of labour.
 It is given as:

$$Q = f(L)$$

→ Both quantity and labour are directly related to each other.

→ With the increase in labour quantity also increases and vice versa.

→ $L \uparrow$ $Q \uparrow$
 $L \downarrow$ $Q \downarrow$

So, their relation is positive.