SCEPTRE
COLLEGE FOR ADVANCED STUDIES

Elasticity of Demand.

Date 16-09-2024

Elasticity refers to the modified response of the coastumer due to the price change or any other factor of demand.

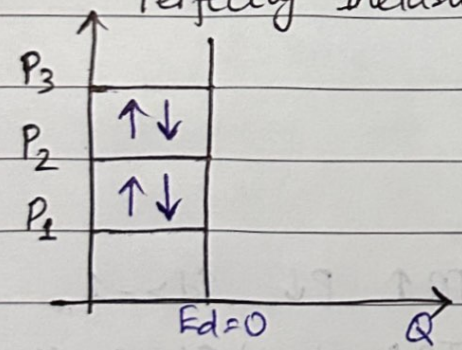
$$Ed = \frac{\% \Delta Qd}{\% \Delta P \rightarrow \text{Price}}$$

Elasticity is a measured response to the price change.

$$Edy = \frac{\% \Delta Qd}{\% \Delta Y \rightarrow \text{Income}}$$

(1) Perfectly inelastic demand
(2) Relatively inelastic demand
(3) Perfectly elastic demand
(4) Relatively elastic demand.

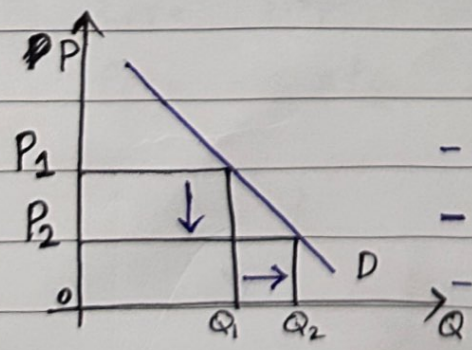
Perfectly Inelastic Demand.



$\bar{Q}$

Cancer Treatment
Chemotherapy session
Radiotherapy sessions.

Relatively Inelastic demand



→ elasticity coefficient

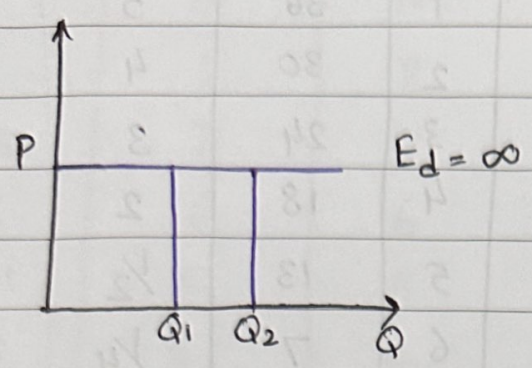
$\Delta P > \Delta Q$

$Ed < 1$

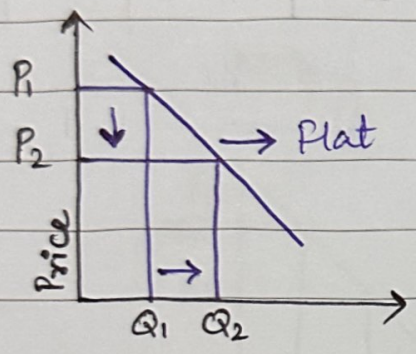
- Necessities
- Medicines
- Fuels
- Apparels
- Cellphones
- Degree

* more on after 27-09-2024 notes

Perfectly Elastic Demand (salt)



Relatively Elastic Demand



$\Delta Q > \Delta P$ $Ed > 1$

- luxuries
- pencils
- many alternatives
- hobbies
- wrist watch

Types of Elasticity of Demand

(1) Arc Price Elasticity
(2) Income Elasticity
(3) Point Elasticity
(4) Cross Price Elasticity
(5) Advertising Elasticity

Arc Elasticity

$$E_p^{arc} = \frac{Q_2 - Q_1}{\frac{Q_2+Q_1}{2}} \div \frac{P_2 - P_1}{\frac{P_2+P_1}{2}}$$

Income Elasticity

$$E_y = \frac{Q_2 - Q_1}{\frac{Q_2+Q_1}{2}} \div \frac{Y_2 - Y_1}{\frac{Y_2+Y_1}{2}}$$

Point Elasticity

- Point Price Elasticity $Q = 20 - 2P + 0.5Y$
- Point Income Elasticity

$$E_{PT_P} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} \qquad E_{PT_Y} = \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$$

$$= -2 \times \frac{P}{Q} \qquad = 0.5 \times \frac{Y}{Q}$$

$$E_{cross\,AB} = \frac{\frac{Q_{2A} - Q_{1A}}{2}}{\frac{Q_{2A} + Q_{1A}}{2}} \div \frac{\frac{P_{2B} - P_{1B}}{2}}{\frac{P_{2B} + P_{1B}}{2}}$$

A & B can be substitutes
A & B can be complements

$$E_{ad} = \frac{\%\ \Delta Qd}{\%\ \Delta Ad \text{ expense}}$$

$E_d = -1$ Unitary
$\Delta Q = \Delta P$

$E_d > -1$ Relatively Elastic Demand
$(\Delta Q > \Delta P)$
$E_d < -1$ $(\Delta Q < \Delta P)$ Relatively Inelastic Demand
$E_d = 0$ Perfectly Inelastic Demand.
$E_d = \infty$ Perfectly Elastic Demand

Page # 98

Q4- (a) $Q = 30 - 2(7) = 16$

$E_{PT} = -2 \times 7/16 = -0.87$ Relatively Inelastic

(b) $Q_1 = 30 - 2(5) = 20$

$Q_2 = 30 - 2(6) = 18$

$$E_{arc} = \frac{18-20}{\frac{20+18}{2}} \div \frac{6-5}{\frac{6+5}{2}} = -0.289$$

(c) Same demand curve = Same elasticity

Q3. (a) Impact of income is smaller, and impact of price is greater.

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Date 25-09-2024

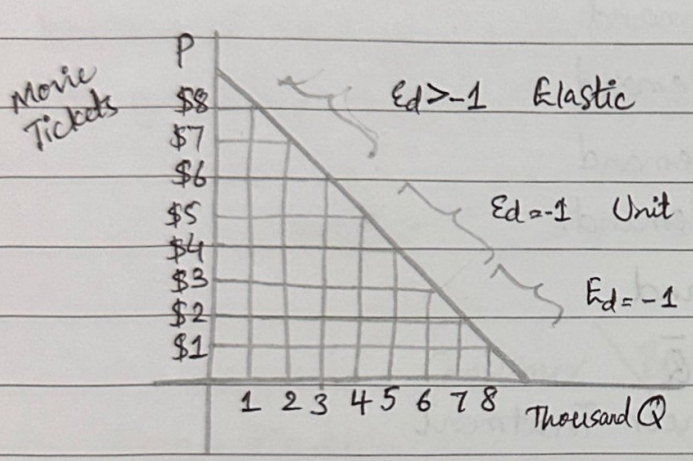
Demand Elasticity

Total Revenue & Elasticity test

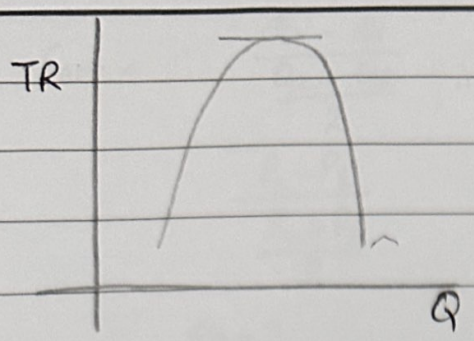
Total Revenue = Price x Quantity

Elasticity = $\frac{\% \Delta Qd}{\% \Delta P}$

→ Modified response of the individual to the price change.



P x Q		TR	
8x1	=	8000	TR↑ P↓ Ed>-1
7x2	=	14000	TR(constant) P↓ Ed=-1
6x3	=	18000	TR↓ P↑ Ed<-1
5x4	=	20000	
4x5	=	20000	
3x6	=	18000	
2x7	=	14000	
1x8	=	8000	



$E_d > -1$	$E_d = -1$	$E_d < -1$
$T_R \uparrow P \downarrow$	$\bar{T}_R$ $P \uparrow$	$TR \downarrow P \downarrow$
$TR \downarrow P \uparrow$	$\bar{T}_R$ $P \downarrow$	$TR \uparrow P \uparrow$
$\Delta P < \Delta Q$	$\Delta P = \Delta Q$	$\Delta P > \Delta Q$

Problem 17, pg # 100

$Q = 2000 - 20p$

(a) $p = 10$

$Q = 2000 - 20(10)$

$= 1800$

(b) $Q = 2000 - 20P$

$Q = 2000 - 20(0)$

$Q = 2000$

(c) $Q = 2000 - 20P$

$PQ = 2000P - 20p^2$

$(PQ) = 2000(1) - (20 \times 2)\, p(1)$

$MR = 2000 - 40P$

↳ Marginal Revenue

(g) $\varepsilon_{PT} =$ Slope $\times P/Q$

$\varepsilon_{PT} = -20 \times P/Q$

$\varepsilon_{PT} = -1$

$-1 = -20 \times \dfrac{P}{2000 - 2P}$

$2000 - 2P = 20P$

$40P = 2000$

$P = 50$

Q3. (b) $Q = 100 - 10P + 0.5Y$

$P = 7 \quad \varepsilon_{PT} = ? \quad Y = 50$

$\varepsilon_{PT} = \text{slope} \times \frac{P}{Q}$

$= -10 \times \frac{7}{(100 - 10(7) + 0.5(50))}$

$= -10 \times \frac{7}{55}$

$= -70/55 \quad \therefore = -1.27 \quad \varepsilon d > -1$

(c) $Y = 50 \quad P = 7$

$\varepsilon_{PTY} = 0.5 \times \frac{Y}{Q}$

$= 0.5 \times \frac{50}{(100 - 10(7) + 0.5(50))}$

$= 0.5 \times 50/55$

$= 0.45$

(d) $P = 8, \; Y = 70$

$\varepsilon_{PT} = -10 \times \frac{8}{(100 - 10(8) + 0.5(70))}$

$= -10 \times \frac{8}{55}$

$= -2 \times \frac{8}{11}$

Q5. $E_{arc} = \dfrac{\frac{Q_2 - Q_1}{\frac{Q_2 + Q_1}{2}}}{\frac{P_2 - P_1}{\frac{P_2 + P_1}{2}}}$

$Q_2 = ?$

27-09-2024.

Utility Maximisation Rule

In order to maximise (R) utility, the consumer should allocate (PR) his money/income (B) in a manner that the last dollar spent on each good yields equal utility per dollar.

Assumptions of Consumer Behaviour

(1) Rationality
(2) Prices
(3) Preferences
(4) Budget Constraint

In order to maximise utility, the consumer should allocate his money/income in such a way that the last dollar spent on each good yields equal utility per dollar.

Utility per dollar = MU/P

$M = P_a \cdot A + P_b \cdot B$ (M → income) ∴ A & B are the goods.

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$M = \$10$ $P_a = \$1$, $P_b = \$2$

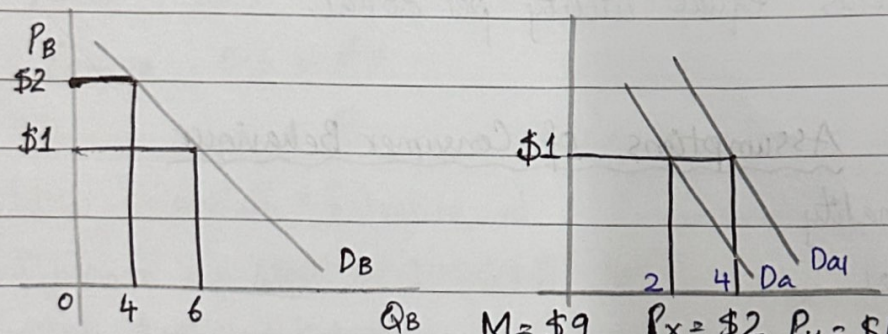
Date

Unit of product	MU_a	MU_a/P_a	MU_b	MU_b/P_b
1	10	10	24	12
2	8	8	20	10
3	7	7	18	9
4	6	6	16	8
5	5	5	12	6
6	4	4	6	3
7	3	3	4	2

$MU_a/P_a = 8/1$

$MU_b/P_b = 16/2$

$$MU_a/P_a = MU_b/P_b$$



$M = \$9$ $P_x = \$2$ $P_y = \$1$ P_x falls to $1

Units of x	MU_x	MU_x/P_x	Units of Y	MU_Y	MU_Y/P_Y
1	10	5	1	8	8
2	8	4	2	7	7
3	6	3	3	6	6
4	4	2	4	5	5
5	3	15	5	4	4
6	2	1	6	3	3

$$\frac{MU_X}{P_X} = \frac{MU_Y}{P_Y} \rightarrow 8/2 = 4/1$$

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Date _____

U_A	MU_A	U_B	MU_B	U_C	MU_C	U_d	MU_d	MU_{saving}	MU_a/P_a	MU_b/P_b
1	72	1	24	1	15	1	36	5	4	4
2	54	2	15	2	12	2	30	4	3	2.5
3	45	3	12	3	8	3	24	3	2.5	2
4	36	4	9	4	7	4	18	2	2	1.5
5	27	5	7	5	5	5	13	1/2	1.5	1.16
6	18	6	5	6	4	6	7	1/4	1	
7	15	7	2	7	3.5	7	4	1/8	0.83	
8	12	8	1	8	3	8	2			

Utility Maximization Rule

$10 in the total budget.

marginal utility per dollar ← $MU_a = z = 10 - x \rightarrow (1)$

$MU_b = z = 21 - 2y \rightarrow (2)$

$x + y = 10 \rightarrow (B)$ Compare 1 and 2

x is amount spent on A

y is amount spent on B

$10 - x = 21 - 2y$

$-x + 2y = 21 - 10$

$\boxed{-x + 2y = 11} \rightarrow 3$

$x + y = 10$

$-x + 2y = 11$

$3y = 21$

$\boxed{y = 7}$

$\boxed{x = 3}$

$MU_a = MU_b = z$

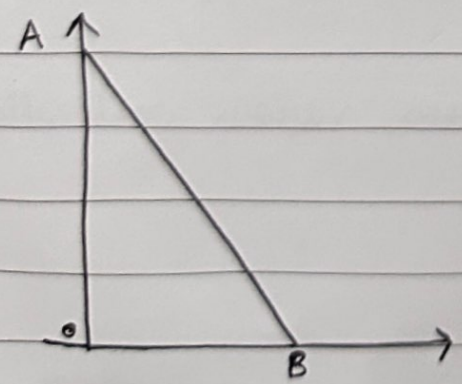
$MU_a = MU_b = 7$

$MU_a = z = 10 - 3$

$\boxed{z = 7}$

Budget line

Objective/ Cardinal approach to utility



$M = P_a \cdot A + P_b \cdot B$

$M = \$12$

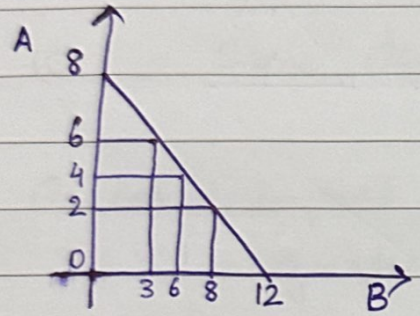
$P_a = \$1.5 \quad P_b = \$1$

Max of $A = \frac{M}{P_a}$, Max of $B = \frac{M}{P_b}$

Budget line is a curve which shows objectively various combinations of two goods which the individual can consume in limited income.

$M = \$12$ $P_a = \$1.5$ $P_b = \$1$ $M/P_a = 12/1.5 = 8$

$M/P_b = 12/1 = 12$ (A, B) (8, 0) (A, B) (0, 12)



$M = P_a \cdot A + P_b \cdot B$

$= 8(1.5) + (1)(0)$

$= 12$

$M = (0)(1.5) + (12)(1)$

$\text{Slope} = -\frac{P_b}{P_a}$

$= -1/1.5 = -2/3$

A	B	$M = P_a \cdot A + P_b \cdot B$	
8	0	$12 = 8(1.5) + (1)(0)$	
6	3	$12 = 6(1.5) + 3(1)$	
4	6	$12 = 4(1.5) + 6(1)$	optimal combination
2	9	$12 = 2(1.5) + 9(1)$	
0	12	$12 = 0(1.5) + 12(1)$	

Budget line is a curve which shows objectively various combinations of two goods which the individual can consume in limited income.

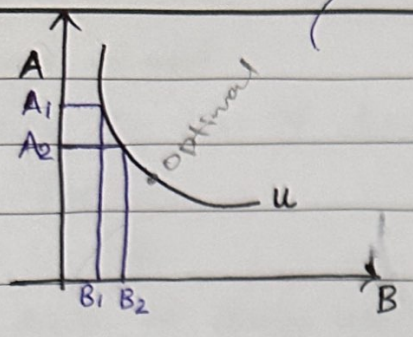
Indifference Curve

It is the locus of points which shows various combinations of two goods subjectively.

It is locus of points which shows various combinations of two goods subjectively.

Can apply law of diminishing marginal utility

Date



Properties

(1) Convex to origin

(2) Indifference map.

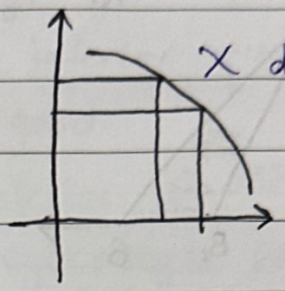
(3) Consumers Equilibrium

Q1. Why convex why not concave?

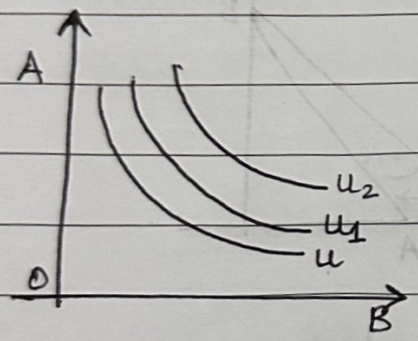
A↑ TU↑ MU↓

B↓ TU↓ MU↑

MRS – Marginal Rate of Substitution



X doesn't defines anything



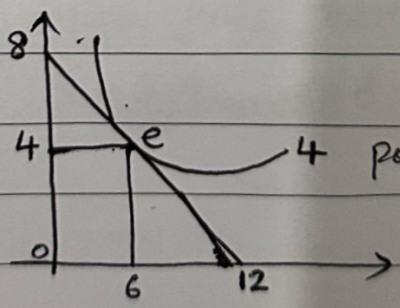
Total utility at $u < u_1 < u_2$ (total utility)

Slope of Budget line = Marginal rate of Substitution

Consumer's Equilibrium

Slope of Budget Line = Marginal rate of Substitution

$-\frac{P_b}{P_a} = MRS$

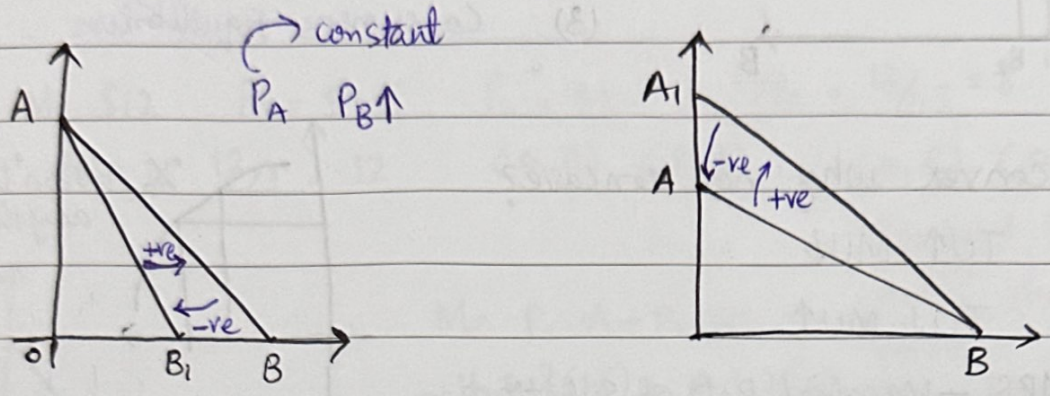


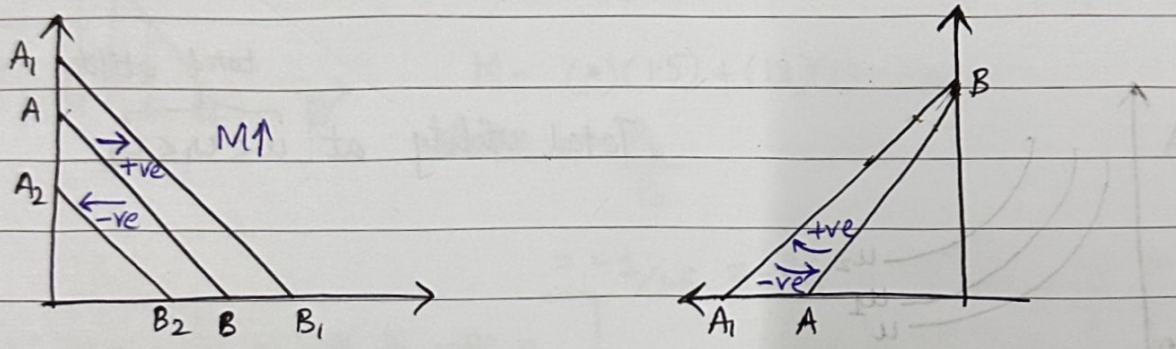
Point of tangency optimal combination

Properties of Budget line

(1) It can rotate on either axis.

(2) It can shift parallely



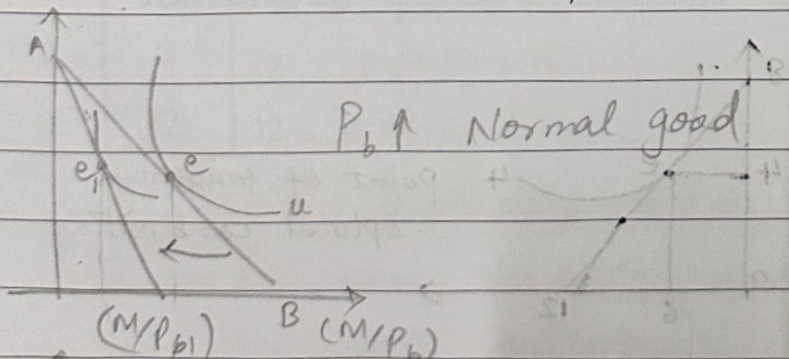


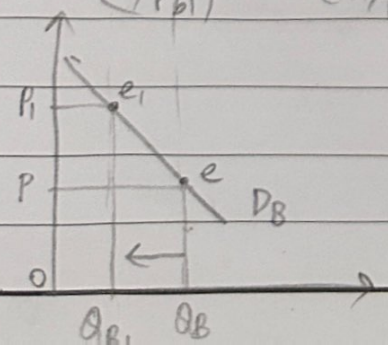
Normal Good

$P \propto \frac{1}{Qd}$

Giffen Good

$P \propto Qd$





Normal Good

- Follows the law of demand

$P \propto \frac{1}{Qd}$

Eg: goods of daily use
- competitor's pricing
- psychological pricing
- Cost Plus Pricing

Giffen Good

- violates the law of demand.

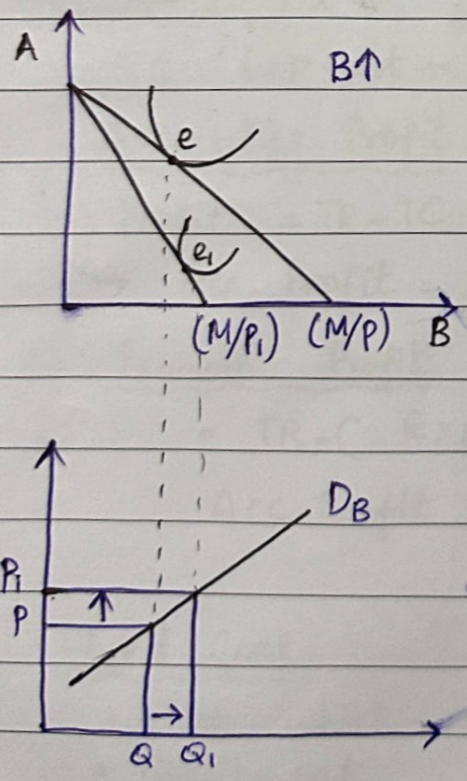
$P \propto Qd$

- It has to be of inferior quality.
- most inferior quality good is giffen good.

Eg:
- Inferior Quality Rice
- Cyccostyle Paper

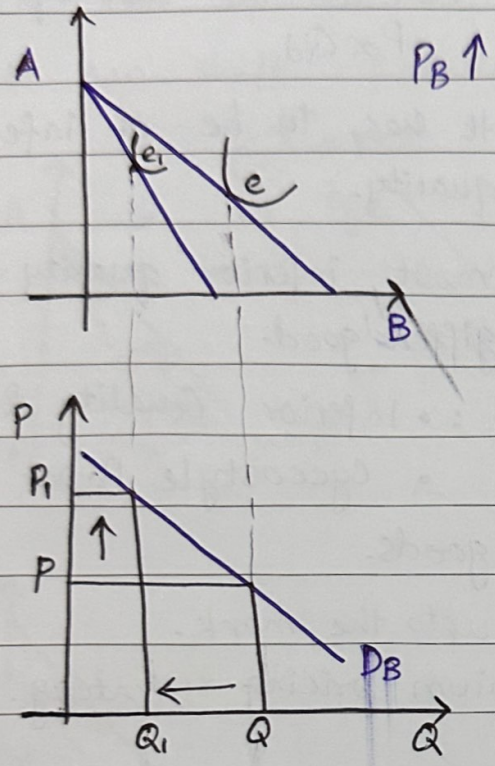
- Luxuries are not giffen goods.
- Quality wise luxuries are upto the mark.
- Pricing is premium or premium pricing strategy.

Giffen Good Demand Curve



- Good B is a giffen good and its price increases.
- (M/P) is the real income
- With price increase, the quality of giffen good has improved.

Normal Good



Cost of Production

Example:

(1) Explicit Cost → Utility Bills, Fuel Charges, Tution Fees.

(2) Implicit Cost → Hidden cost & sometimes not quantified by the accountants. May also be the opportunity cost of doing things.

Example: forgone salary

(3) Accounting Profit

(4) Economic Profit

(5) TC = FC + VC

(6) Law of diminishing returns:
- Short run
- Long run

TR = P x Q

TC = Exp Cost + Imp cost

Accounting Profit

Profit = TR - TC

→ Acc Profit = TR - Explicit Cost

Economic Profit

= TR - (Exp + Imp) Cost

Acc Profit > Eco Profit.

Fixed Cost:

Cost which doesn't change with output.

- Equipment
- Infrastructure

Variable Cost

It may change with output.

Law of Diminishing Returns

Assumptions

- Short Run
- Labour is variable
- Technology is fixed

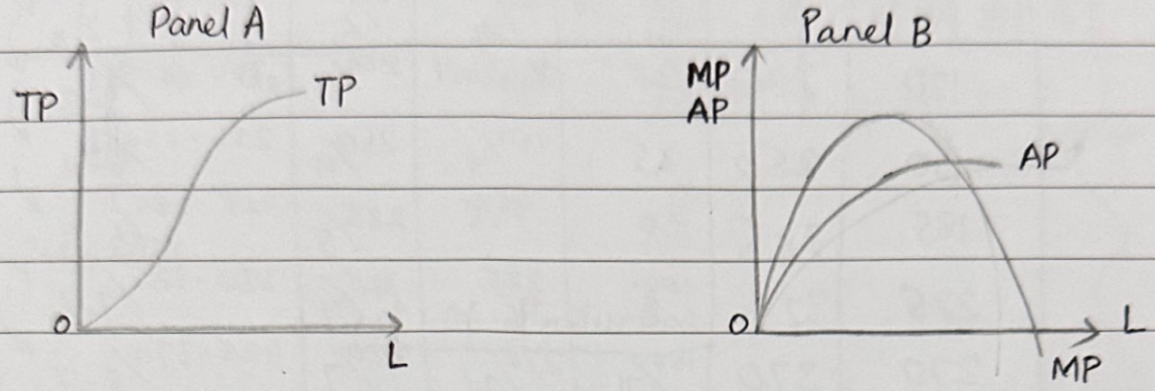
Statement

As successive units of variable resource are added to fixed resource, total product may increase to certain point, but marginal product (difference in total product) will decline.

Variable Product	Total Product	Marginal Product	Average Product
0	0	0	0
1	10	10	10
2	25	15	12.5
3	45	20	15
4	60	15	15
5	70	10	14
6	75	5	12.5
7	75	0	10.75
8	70	-5	8.75

Costs of Production

Total Product = Total Output.



$TC = FC + VC$

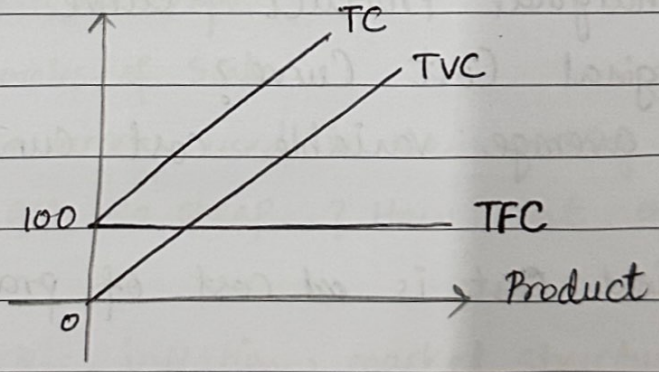
Fixed Cost: It doesn't changes with output/product.

Variable Cost: Can change with output. Eg Fuel, Utility bill
Cost of variable resource.

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

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

$TC = 100 + 0$



$\text{Marginal Cost} = \frac{\Delta TC}{\Delta TP}$

$\text{Average Cost} = \frac{TC}{TP}$

AVC = TVC/Product

AFC = TFC/Product

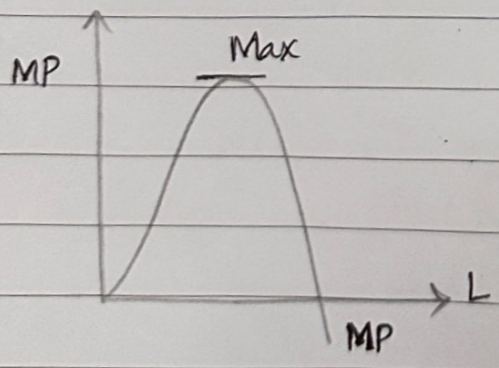
TC = FC + VC AFC = TFC / Product
ATC = TC / TP AVC = TVC / Product Date /

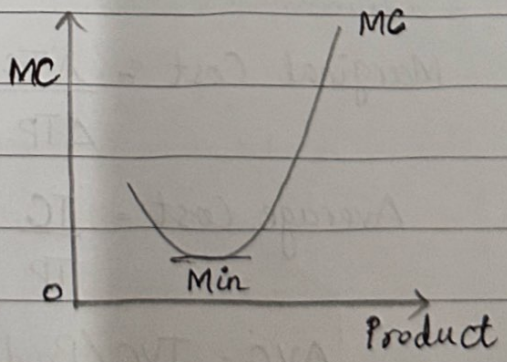
TP	TFC	TVC	TC	AFC	AVC	ATC	MC
0	100	0	100	100/0 = 0	0	100/0	145 - 100 / 1 - 0
1	100	45	145	100	45	145	185 - 145 / 2 - 1
2		85	185	100/2 = 50	85/2	185/2	220 - 185 / 3 - 2
3		120	220	100/3	40	220/3	250 - 220 / 4 - 3
4		150	250	25	150/4	250/4	285 - 250 / 5 - 4
5		185	285	20	185/5	285/5	325 - 285 / 6 - 5
6		225	325	100/6	225/6	325/6	370 - 325 / 7 - 6
7		270	370	100/7	270/7	370/7	425 - 370 / 8 - 7
8		325	425	100/8	325/8	425/8	490 - 425 / 9 - 8
9		390	490	100/9	390/9	490/9	565 - 490 / 10 - 9
10	100	465	565	10	465/10	565/10	

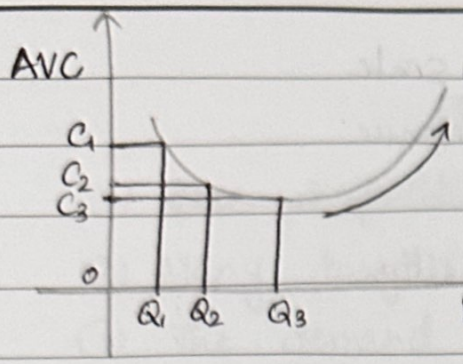
Q. Why Marginal Product Curve is mirror image of Marginal Cost Curve?

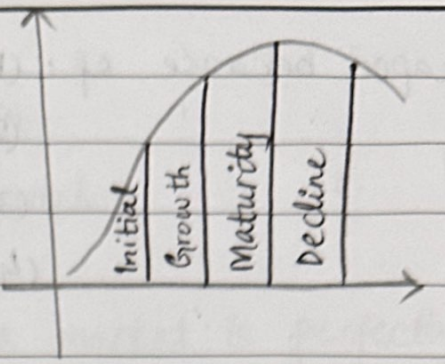
Q. Why average variable cost curve is U-shaped?

- Marginal Cost is ~~add~~ cost ~~of~~ producing additional output.









14-Oct-2024

Cost of Production

Q1. What can shift the cost curves?

Q2. What are the explicit & implicit costs of attending the university?

Q3. Do the resources remain fixed & variable in the long run??

Q4. Interpret Economies of Scale
Economies of Scope
Diseconomies of Scale.

Q5. What are the resources used in the making of a newspaper. Why newspapers are so cheap...? How cost of production is covered?

Ans1. Economies of scale, inflation, market structure (competition) increase of labour, increase quality of inputs, technology

Ans2. Explicit: Tuition, Security, Course books, project material, transport, fuel (visible expense)
Implicit: Degree, Income from freelancing, time
All becomes variable as expansion takes place.

Ans3. Not fixed, but variable as all inputs are flexible.

Ans5. Labour, equipment, administration, raw materials (paper, ink), delivery, Information, Printing Press

Cheaper because of: (1) Economies of scale
(2) Advertising Revenue
(3) Subscriptions
(4) Digital Transition

Cost of production is covered by:
(1) Advertising
(2) Subscriptions & Sales
(3) Additional Services

Ans4. Economies of scale is cost advantage that a business obtains due to the scale of its production. Eg Chase Up. As output increases, the average cost per unit decreases.

Economies of Scope refers to the efficiencies gained by producing multiple products together rathar than separately. When a company can share resources, such as equipment or distribution channels, it can lower the overall cost of production across different products. Eg. Habitt (is both economies of scope & scale)

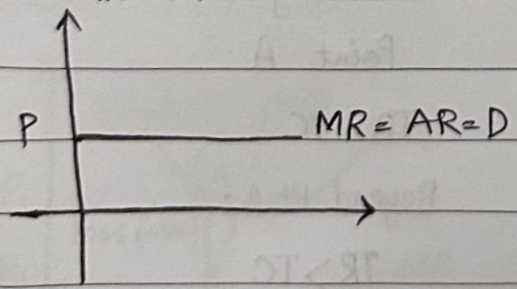
Pure Competition

(1) ~~Pure competition~~, market model
(2) Many buyers & sellers
(3) The demand curve for this market is perfectly elastic, price is uniform.
(4) Price is equal to marginal revenue. Also equal to avg revenue & also equal to demand.
Firms can enter & exit the market at any time as there are no barriers to enter & exit.
(5) Products are homogenous (All firms are producing same product)

16-Oct-2024.

Perfect Competition

- It is a simplified market model.
(1) There are large no of buyers & sellers.
(2) The product is homogenous.
(3) The firms are price takers.
(4) Demand collectively is perfectly elastic.
(5) P = MR = AR = D



(6) Free entrance & exit
(7) There is no govt.

Applications:

(1) It is applicable in agriculture to the point when crop is not reaped.

- seeds
- fertilizer
- Irrigation
- Technology.

- Call Rates - Sms Packages

Profit Maximisation Approaches In Short Run OF A Purely Competitive Firm

(1) Total Revenue & Total Cost Approach

(2) Marginal Revenue & Marginal Cost Approach

Conditions:

(1) TR > TC Economic Profit

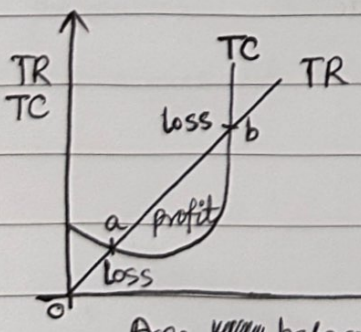
(2) TR < TC Loss

(3) TR = TC Break Even/ Normal Profit

(4) TR = AVC loss but firm has still green light (Firm being indifferent to shut down)

(5) TR < AVC Firm has to shut down.

Normal Profit is the opportunity cost of the entrepreneur.



Area before point A (loss)

Precisely At Point A

TR = TC

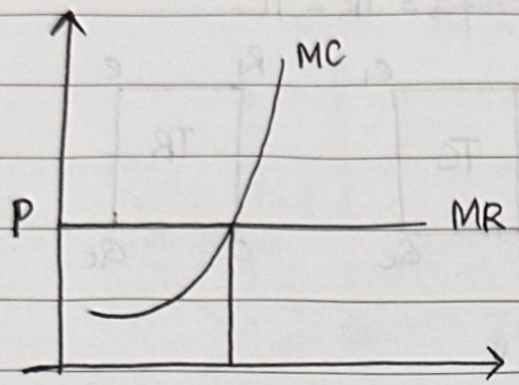
Beyond Pt A:

TR > TC

At B: TR = TC

as pads in alphabets for

$P = MR = AR = D$



Intersection of MR & MC determines equilibrium, output, cost area & revenue area.

Break Even (TR = TC)

$AR = ATC$

$ATC = \frac{TC}{Q}$

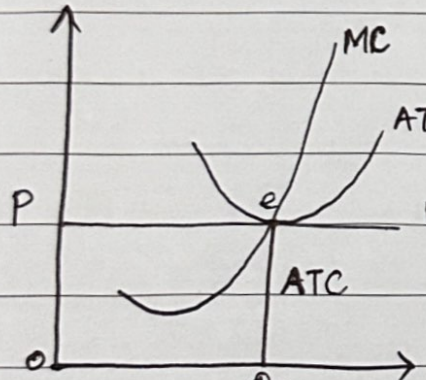
$\boxed{TC = ATC \times Q}$

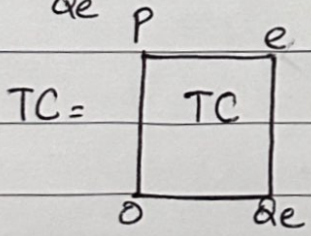
Q = Product = Output

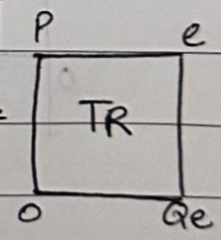
$D = MR = AR = P$

$AR = TR/Q$

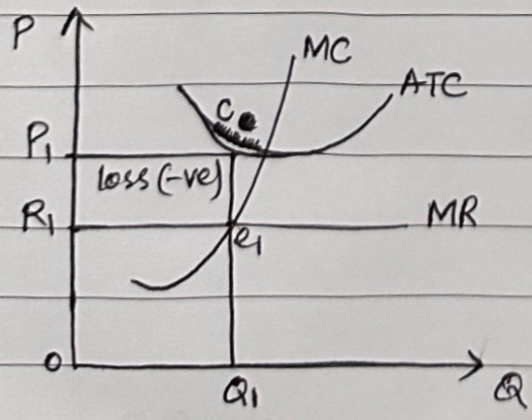
$\boxed{TR = AR \times Q}$

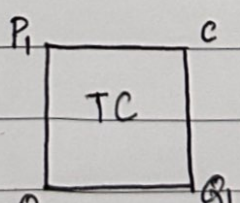


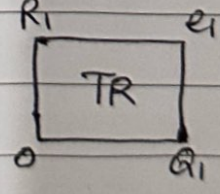


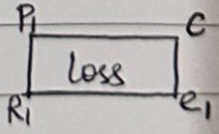


Loss (TR < TC)

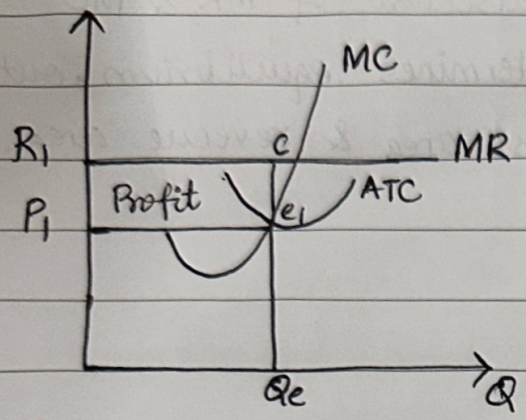




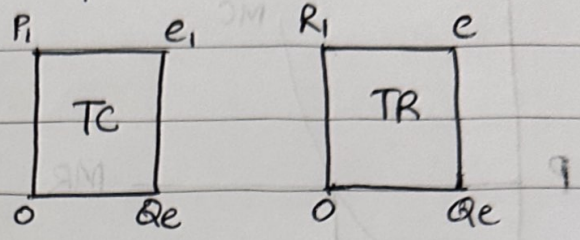


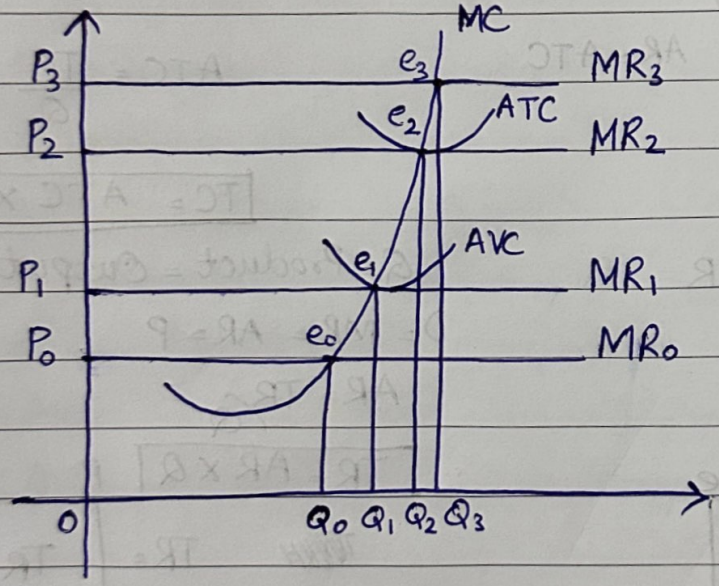


Profit (TR > TC)



Profit = TR − TC

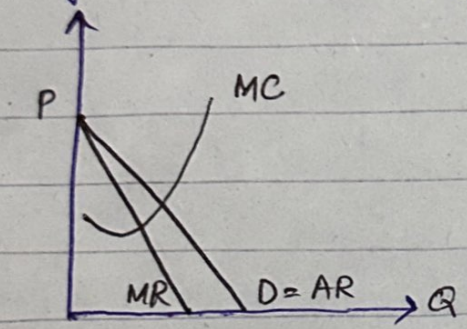




18-10-2024

PURE MONOPOLY

(1) There is a single seller
(2) There are barriers to entry & exit.
(3) A monopolist is a price maker
(4) P = AR
(5) A monopolist can practice price discrimination.
(6) Legal issues & copy right issues also exist.
(7)

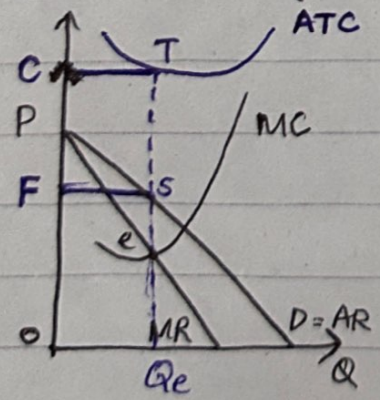


Eg: Pak Railways.

(8) There are regulations.

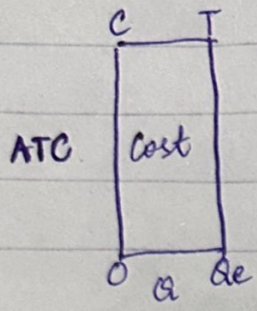
TR > TC	Economic Profit
TR < TC	loss
TR = TC	Break Even
TR = AVC	Indifferent (Loss)
TR < AVC	Shutdown

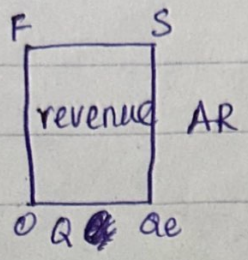
Loss



MC = MR
- Equilibrium output & price
- determine TC & TR areas.

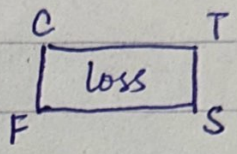
Cost area is under Average total cost curve.



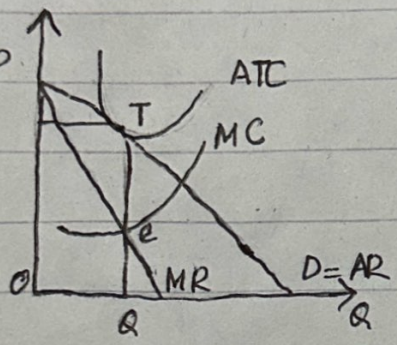


ATC × Q = TC

AR × Q = TR

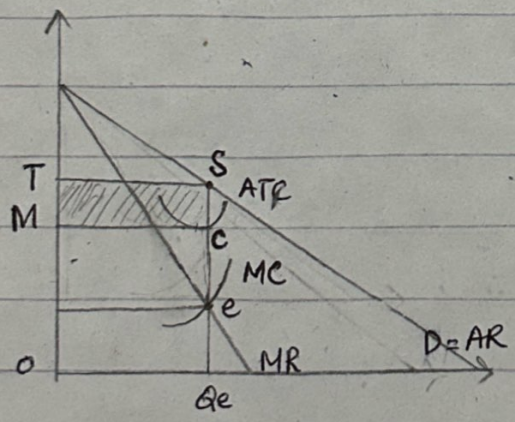


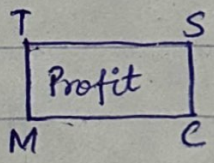
Break Even P



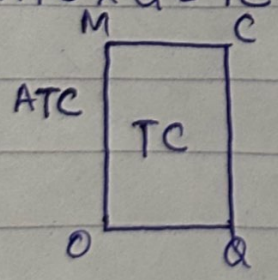
Profit

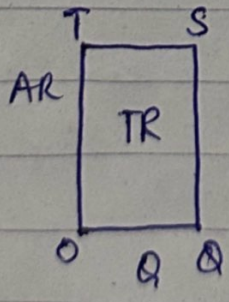
TR > TC





ATC × Q = TC





AR × Q = TR

23-10-2024

National Income Accounts

(1) Product, Income and Expenditure Methods.

(2) Significance of trade

MacroEconomics Issues

- GDP, GNP
- Unemployment
- Exchange Rate
- Balance of Payment

GDP

Total production within the borders in fixed time.
National income accounts are just any accounts maintaining the production measures.

Types of GDP:

(1) Nominal GDP → Current dollar GDP (Current year prices)

(2) Real GDP → Constant dollar GDP

(1) It's the production of goods & services in current year x prices in the current year.

Real GDP Production in current year x prices in the base year.

Expenditure Method

It takes into account ultimate users of the product.

$Y = C + I + G + NX$

Investment → Govt spending → Net Exports

$C = a + bY_D$

GNP

Production within the borders and beyond the borders. Production + exports + Remmitances.

Methods

(1) Production Method
(2) Income Method (GDP is the sum of all the incomes in a fixed time period)
(3) Expenditure Method

Production = Income = Expenditure

(1) Value added = Final Output − Input

"total goods & services produced in a fixed time period at market value."

(2) All kind of income (profit, wages, salaries, proprietor's income, taxes, dividends, Rate of interest).

Profit TR − TC
Wages Income earned on hourly basis
Salaries Income on monthly basis
Proprietor's income Income of self employed
Taxes Income for governments
Dividends Earnings on stock & shares.
Rate of Interest Bonds and Securities

Expenditure Method

It takes into account ultimate users of the product.

$$Y = C + I + G + NX$$

Govt Spending

Investment ← $C = a + bY_D$ → Net Exports

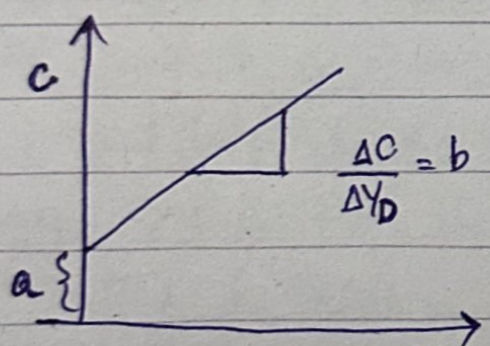
$Y_D = Y - T$ (disposable income)

a = Autonomous Consumption

The type of consumption which prevails/ exists even when not earning.

$$b = \frac{\Delta C}{\Delta Y_D}$$

→ marginal propensity to consume.



Investment

- Residential Investment
- Investment in stocks & bonds
- Insurance

Consumer Durables
& Non Durables

Govt Spending

- Bail outs / Stimulus package
- Public Investment
- Transfers
  - EOBI
  - Public Hospitals
  - pensions.

25-Oct-2024

Product, Income and Expenditure Methods

Product approach — Value added approach
Income approach — All types of income
Expenditure approach. — Ultimate users of the product

Consider a hypothetical economy
With two enterprises
(1) Orange Inc → Orange Orchards
(2) Juice Inc → Orange Juice

(A) Orange Inc Transactions	(B) Juice Inc Transactions
• Wages paid to employees $15000	• Wages paid to Employees $10000.
• Taxes paid to govt $5000	• Taxes paid to govt $2000
• Revenue received from the sale of oranges $35000	• Oranges purchased from A $25000.
• Oranges sold to public $10000	• Orange Juices sale $40000
• Oranges sold to juice inc $25000	

Product Method

Value Added = Final Output − Input
Value Added for A = 35000 − 0
Value Added for B = 40000 − 25000 = $15000.
GDP with added value = 35000 + 15000 = $50000

Income Method

It includes all types of income

Profits + wages + taxes

Two ways of Calculating GDP

- Before Tax Profit
- After Tax Profit

Before Tax Profit

(A) = 35000 − 15000 = $20000

(B) = 40000 − (10000 + 25000) = $5000

Profits + wages

= (20000 + 5000) + (15000 + 10000)

= $50000 GDP

When tax is neither a liability nor an income.

Expenditure Method

10000 + 40000 = $50,000 GDP

GDP with After Tax Profit

After Tax Profit + Wages + Taxes

(A) (20000 − 5000) + 15000 + 5000 = $35000

(B) (5000 − 2000) + 10000 + 2000 = $15000

15000 + 35000 = $50,000

(15000 + 3000) + (15000 + 10000) − (5000 + 3000)

= 50,000

Income Method
It includes all types of income

Nominal GDP Current Year Quantities x Current Year Prices
Real GDP Current Year Quantities x Base Year Prices
GDP Deflator Quarterly Measure of Inflation = $\frac{N.GDP}{R.GDP} \times 10$

Base Yr Data			Current Yr Data	
Fruit	Quantity	Prices	Qty	Prices
Apples	3000	$2	4000	$3
Oranges	6000	$3	14000	$2
Bananas	8000	$4	32000	$5

Required

- Nominal & Real GDPs in base year & current year.
- Deflator in base year & Current year.

Nominal GDP in base year
3000 x 2
6000 x 3
8000 x 4
56000

Nominal GDP in current yr
4000 x 3
14000 x 2
32000 x 5
200,000

Real GDP in current yr
4000 x 2
14000 x 3
32000 x 4
178,000

Real GDP in base yr
56000
Real & Nominal GDPs in base yr remain same

28-10-2024

Parable - Analogy or a kind of story with a lesson

Farmer
Crops → Cost is less
Animals → Cost is more

Rancher
Animals / livestock — Cost is less
Crops — Cost is more

Gains from trade is lesson learnt

Parable of the modern economy

Refer back to circular flow model.
- Consumption
- Savings
- Equilibrium income

Adam Smith's Theory of Absolute Advantage

Assumptions

(1) Factors of production can be moved across the borders.
(2) Labour Hours are fixed.
(3) There is no govt.
(4) Each country understands the strengths & weaknesses of each other.

	Country A	Country B
X	2+1=3 { 2	1 { 2+1= 3
Y	{ 1	2 {

Labour Hours are fixed = 2

A has absolute advantage in X. & relative advantage in Y.

B has absolute advantage in Y & relative advantage in X.

World Production before trade

$3 + 3 = 6$

If country A employs 2 labour hrs in producing X.

	A	B
x	4	0
y	0	4

Specialization has taken place.

4	0
0	4

Terms of trade (Exchange Rate)

1:1

x:y

	Country A	Country B
X	3+1	
Y		3+1

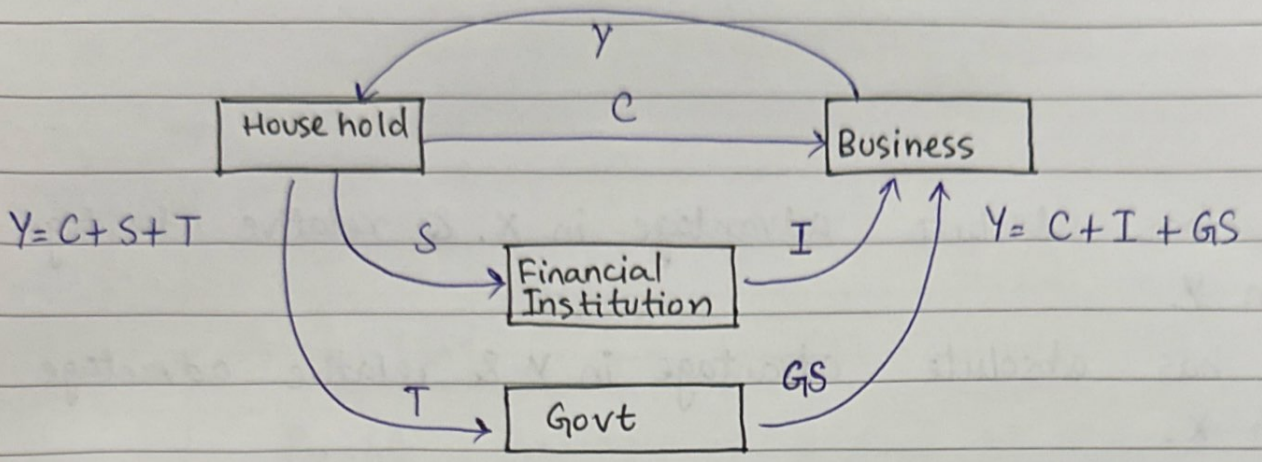
	A	B
x	3	1
y	1	3

$4 + 4 = 8$

Gains from trade = $8 - 6 = 2$

Closed Economy

CIRCULAR INCOME FLOW



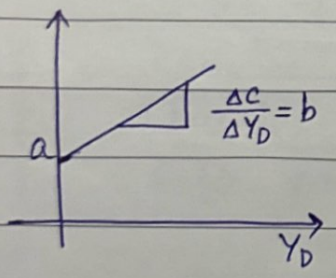
$C = a + bY_D$

a = Autonomous Consumption

b = Marginal Propensity to Consume

Y_D = Disposable Income

$\boxed{Y_D = Y - T}$ (Income − Tax).



Saving function

$Y = C + S + T$

$Y = a + bY_D + S + T$

OR

$Y - T = a + bY_D + S$

$Y_D = a + bY_D + S$

$S = Y_D - a - bY_D$

$S = -a + (1-b)Y_D$

$(1-b)$ = mps (marginal propensity to save)

marginal propensity to Consume $mpc + mps = 1$

Equilibrium Income

Date

$$Y = GS + C + I$$

$$Y = GS + a + bY_D + I$$

$$Y = a + b(Y - T) + I + GS$$

$$Y = a + bY - bT + I + GS$$

$$Y - bY = a - bT + I + GS$$

$$Y = \frac{1}{(1-b)} \times (a - bT + I + GS)$$