

BDM - Week 1

- Introduction to the subject - what is it, what will we be studying, etc.
- Consumption and demand
- Economic Activity depends on 5 basic things
- What is Industry?
- Production, consumption - Consumption theory
- Exchange
- Consumption baskets - different kind of households
- Survey data - who conducts it, how it is done, what is the relevance, etc.
- Utility and prices
- Other sources of survey data - Consumer pyramid - its importance, 4 main categories, few egs.
- Discussion on trends that change behaviour of Indian consumers

Practice Assignment - 1

1) Financial statement of a company include(s):

- Balance sheet ✓
- Profit or loss (income) statements ✓
- Cash flow statements ✓
- All the above

the complete report (annual review by the company)

2) Production is

- A process of value addition ↗ direct defⁿ
- Process of using goods → consumeⁿ
- A measure of the satisfaction received by a customer when a good or service is consumed → ability
- None of the above

3) Utility is

- Derived from production process ↗ products ↗ defⁿ
- A measure of the satisfaction received by a customer when a good or service is consumed
- Economic activity of using goods → consumeⁿ
- All of the above

4) Consumption is

- Economic activity concerned with use of goods ↗ defⁿ
- Process of value addition → producⁿ
- Derived from production process → product
- All of the above

5) There would be no consumption if there was no production?

- True
- False

→ this statement is false, on the contrary it's converse is true, that is, there would be no producⁿ if there wasn't any consumption. (dec 1-3) → Eg. Covid scenario.

6) Demand is created by

- Consumption
- Production
- Utility
- Price

the only influence that increases the demand in market.

For ques
7-11

Country	Home Cooking as a % of Total Food Expenses	Average Spending on Food Expenses per Month (in \$)
US	6.4 → 8	500
India	35.8	200
Russia	42	300
Pakistan	29.1	100
China	33.9	300

7) Average spending on Food expenses for home cooking for Chinese is ~ 40% higher than India

- True ✓
- False
- Cannot say as data is insufficient

$$\text{India} \rightarrow \frac{35.8}{100} \times 200 \Rightarrow 71.6$$

$$\text{China} \rightarrow \frac{33.9}{100} \times 300 \Rightarrow 101.7$$

$$\begin{array}{r} 101.7 \\ - 71.6 \\ \hline \approx 30\% \end{array}$$

Yes, it is higher

8) The marginal utility for Americans for spending on home cooking is 6.4%

- True ✓
- False
- Cannot say as data is insufficient

direct value from the table

9) The other expenses for Indians account for approximately 65%

- True
- False
- Cannot say as data is insufficient

So, this 65% is not the other expenses, it's just that 65% of food expenses are outside of home cooking, but within the range of food expenses.

$$100 - 35.8\% = \approx 65\%$$

10) An average Pakistani prefers to eat out than an average Russian

- True ✓
- False
- Cannot say as data is insufficient

→ 42% on home cooking

11) An average American spending on eating out is more than the average Indian, Russian and Pakistani

- True
- False

64%

(35%) (42%) → (29.1%)

BDM - Week 2

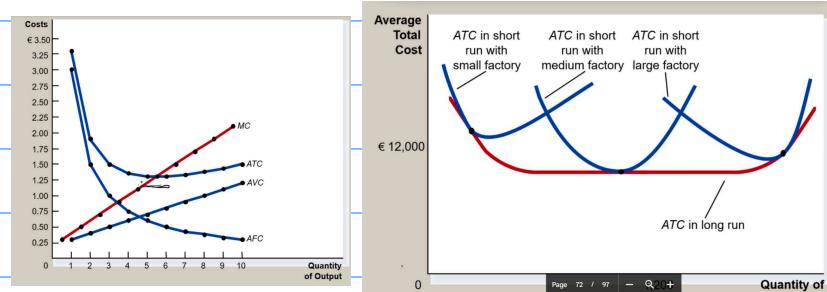
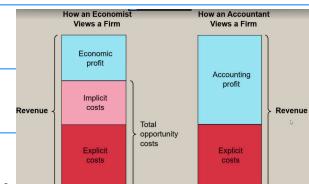
- Consumers allocate their resources, utility (amt of satisfaction that we get) - utils
 - Cardinal utility theory (TUC) - measured in cardinal terms, Ordinal ut (TUO) - numerical terms
 - TUC - difference btw. 2 measurements is itself numerically significant.
- $U_x = f(X), \quad U_y = f(Y), \dots$
- Utility is maximized when:
- $MU_x / MU_y = P_x / P_y$
- $MU = \frac{\text{Change in total utility}}{\text{Change in quantity}} = \frac{\Delta TU}{\Delta Q}$
- Total utility (overall satisfaction), Marginal utility (additional satisfaction)
 - Law of diminishing return, when TU is max, MU = 0; when TU dec., MU = negative
 - Consumers have constraints - budget, goods can be obtained at a price
 - IC (indifference curves), prop. of curves - downward slope, convex to the margin, never intersect, and diff ICs show diff level of satisfaction
 - Market, Quantity demanded, Law of demand - demand schedules and demand curves
 - Shifts in demand curve - income, price of related goods, tastes, expectations, no. of buyers
 - Law of supply and demand
 - Elasticity (measure of responsiveness of quantity demanded).
 - Price Elasticity of Demand = Percentage change in quantity / Percentage change in price

Variety of demand curves

- Demand is elastic
 - Price elasticity of demand > 1
- Demand is inelastic
 - Price elasticity of demand < 1
- Demand has unit elasticity
 - Price elasticity of demand = 1

perfect = infinity
perfect = 0

- Normal goods (+ income elasticity) - necessity (smaller) and luxuries (larger), cross-price elasticity, substitutes, complements
- Elasticity of supply, time period, income effect, substitute effect, etc.
- Production cost, capital availability,
- Costs - opportunity, actual, direct, indirect, explicit, implicit, historical, replacement, fixed, variable, real, prime, total, average, marginal



- if MP > AP then AP is rising
- if MP < AP then AP is falling
- MP=AP when AP is maximized

• The Three Stages of Production in the short run:

- Stage I: from zero units of the variable input to where AP is maximized (where MP=AP)
- Stage II: from the maximum AP to where MP=0
- Stage III: from where MP=0 on

- Cobb-Douglas function: exponential for two inputs

$$Q = aL^bK^c$$

if $b + c > 1$, IRS
if $b + c = 1$, CRTS
if $b + c < 1$, DRTS

- make vs buy, pricing decisions, sunk costs

• Marginal product (MP) = change in output (Total Product) resulting from a unit change in a variable input

$$MP_X = \frac{\Delta Q}{\Delta X}$$

• Average product (AP) = Total Product per unit of input used

$$AP_X = \frac{Q}{X}$$

Long-run Production Function

- If all inputs into the production process are doubled, three things can happen:
 - output can more than double
• 'increasing returns to scale' (IRTS)
 - output can exactly double
• 'constant returns to scale' (CRTS)
 - output can less than double
• 'decreasing returns to scale' (DRTS)

- Statistical estimations of production functions, capacity planning (planning the amnt. of fixed inputs that will be used along with variable inputs)

firm enters if, $P > ATC$
exits if, $P < ATC$

Practice Assignment

Cups of tea/ day	Total Utility
0	0
1	20
2	38
3	52
4	60
5	64

MU
0
20
18
14
12
4

1) The number of cups of tea which has the highest marginal utility is?

- 0
- 1 → 20
- 2
- 3
- 4
- 5

2) For the above data,

- The total utility function illustrates the law of diminishing marginal utility

- The marginal utility function illustrates the law of diminishing total utility

- The marginal utility and total utility are not related

- The data is not sufficient to identify a relationship between marginal and total utility

increases
as TU over time, the MU decreases

$$3) A \rightarrow D \quad | \quad 4) B \rightarrow 100 \quad | \quad 5) C \rightarrow 90 \quad | \quad 6) D \rightarrow 80 \quad | \quad 7) E \rightarrow 60 \quad | \quad 8) F \rightarrow 50$$

Number consumed	Total Utility	Marginal Utility
0	0	A → 0
1	100	B → 100
2	190	C → 90
3	270	D → 80
4	330	E → 60
5	380	F → 50

9) Movement along a demand curve occurs when

- Price of the product varies
- when other things are constant

- Tastes change

- Number of buyers increase

- Income decreases

} they either inc. or dec. the demand

10) Equilibrium is reached when

- Supply and demand curves move parallel to each other

- Supply and demand curves have intersected



→ eq. pt.

- Supply and demand curves have become complementary to each other

- Supply and demand curves are unaffected by market factors

11) What is the equilibrium point for a person who has a purse of Rs. 1000 and wants to buy potato which is sold at Rs. 40/kg

- Not enough information to determine equilibrium point
- Income = ₹1000
- Rs. 1000 since there is Potato = ₹40/kg
- Rs. 40 no info abt.

25 Kg → the supplier pt. of view as will be seen in the next ques'

12) When the market is in equilibrium, which of the following statements are true?

- Price = Market clearing price and Quantity Supplied = Market clearing quantity

- Price = Market clearing price and Quantity Supplied < Market clearing quantity

- Price < Market clearing price and Quantity Supplied <= Market clearing quantity

- Cannot say without the supply and demand curves

From qn

13) Demand for luxuries are inelastic in nature

- True
- False

elastic price elasticity > 1

14) Demand for necessities are elastic in nature

- True
- False

inelastic price elasticity < 1

The price of an envelope was Rs. 3/piece yesterday and Vasu bought 10 envelopes. Today, the price is Rs. 3.75/piece and Vasu is willing to buy only 8 envelopes. Given this information answer the following questions 15 & 16.

$$\text{price c.} = \frac{\% \Delta \text{ in quan.}}{\% \Delta \text{ in price}} = \frac{9 \text{ new-old}}{\text{old}} = \frac{18 - 10}{10} = \frac{2}{10}$$

$$= \frac{10}{\frac{\text{new-old}}{\text{old}} \times 10} = \frac{10}{\frac{2.75 - 3}{3 - 4}} = \frac{10}{\frac{-0.25}{-1}} = \frac{10}{0.25} = 40$$

15) What is the elasticity of Vasu's demand? (correct to one decimal place)

0.8

$$\text{price elasticity} = 0.8 < 1 \\ \Rightarrow \text{inelastic}$$

1 point

16) Based on the above elasticity, which statement is correct?

- Vasu's elasticity of demand is inelastic as elasticity is less than one
- Vasu's elasticity of demand is elastic as elasticity is less than one
- Vasu's elasticity of demand is inelastic as elasticity is greater than one
- Vasu's elasticity of demand is elastic as elasticity is greater than one

17) The equation for a demand curve is $P = 48 - 3Q$. What is the elasticity in moving from a quantity of 5 to a quantity of 6?

$$5) P = 48 - 15 \quad 6) P = 48 - 18$$

$$= 33 \quad = 30$$

$$5 \rightarrow 6 \quad 6 - 5$$

$$33 \rightarrow 30 \quad \frac{5}{30 - 33} = \frac{1}{-3} = -0.33$$

A bachelor after getting a promotion in his job, has decided to analyse his monthly spending before and after the promotion. His monthly income before and after promotion were Rs. 48,500 and Rs. 54,800 respectively. His expenditure, for the respective months are given in the table below. Then answer the below questions 18 to 29.

Category	Income Spent for Item Before Promotion (In Rupees)	Income Spent for Item After Promotion (In Rupees)
Food Items	10324	11324
Clothing & Footwear	11121	11240
Transportation	2433	2447
Entertainment	3220	4220
Tobacco & Alcohol	4547	9501
Education	8249	9275
Loan Repayments	1116	1243
Investments	7505	5550

$$\% \Delta \text{ in Income} = \frac{54800 - 48500}{48500} = 12.9\%$$

$$\Delta Q_1 = \frac{11324 - 10324}{10324} = 9.6\% \quad IE_1 = 0.744$$

$$\Delta Q_2 = \frac{11240 - 11121}{11121} = 1.07\% \quad IE_2 = 0.082$$

$$\Delta Q_3 = \frac{2447 - 2433}{2433} = 0.57\% \quad IE_3 = 0.044$$

$$\Delta Q_4 = \frac{4220 - 3220}{3220} = 31\% \quad IE_4 = 2.4$$

$$\Delta Q_6 = \frac{9275 - 8249}{8249} = 12.4\% \quad IE_6 = 0.96$$

$$\Delta Q_5 = \frac{9501 - 4547}{4547} = 108.9\% \quad IE_5 = 8.44$$

$$\Delta Q_7 = \frac{1243 - 1116}{1116} = 11.3\% \quad IE_7 = 0.88$$

$$\Delta Q_8 = \frac{5550 - 7505}{7505} = -26.4\% \quad IE_8 = -2.01$$

26) Which categories, among the given list, are "Necessities"?

- Food Items
- Clothing and Footwear
- Transportation
- Entertainment
- Tobacco & Alcohol
- Education
- Loan Repayments
- Investments

necessity
↓
inelastic

$$IE < 1$$

27) Why are these items "Necessities"?

- The income spent for them is more than 10000 Rupees before and after promotion
- The income spent for them is not more than 10000 Rupees before and after promotion
- These items have income elasticity between 0 and 1
- These items have income elasticity greater than 1

the essential
def'n of inelastic
necessity

28) Which categories, among the given list, are "Luxuries"?

- Food Items
- Clothing and Footwear
- Transportation
- Entertainment
- Tobacco & Alcohol
- Education
- Loan Repayments
- Investments

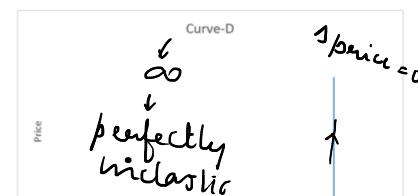
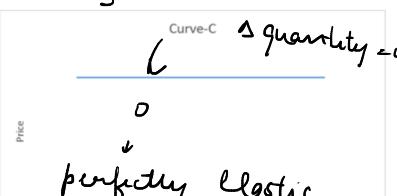
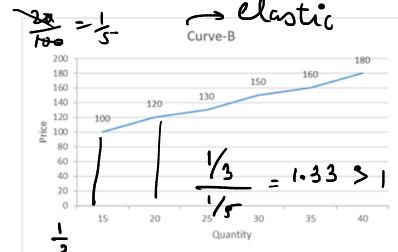
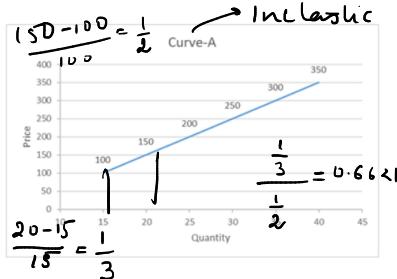
elastic
IE > 1

29) Why are these items "Luxuries"?

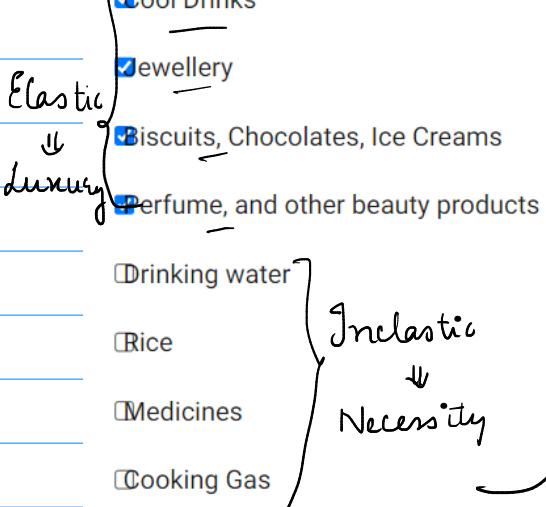
- The income spent for them is more than 10000 Rupees before and after promotion
- The income spent for them is not more than 10000 Rupees before and after promotion
- These items have income elasticity between 0 and 1
- These items have income elasticity greater than 1

$$(-2.01) \Rightarrow | -1 | = 2.01 > 1$$

30) Given the below price elasticity curves, what is the right type of demand (Elastic/Perfectly elastic/ Inelastic/ Perfectly inelastic)?



when other things are constant, which have elastic & inelastic goods, when price fluctuates?



Item Number	Item	Expected Spending
Item 1	IIT Faculty Remuneration	Rs. 5000
Item 2	Office building construction	Rs. 20,000
Item 3	Office building facilities (Video recording, internet tables, chairs, etc.)	Rs. 1,20,000
Item 4	Office building (miscellaneous – telephone, etc.)	Rs. 45,000
Item 5	Closing other remote learning programs	Rs. 1,00,000
Item 6	Registration cost (per student enrolled)	Rs. 100

33) Which is implicit cost:

- Item 1 cost of owned resources
- Item 2 Faculty belongs to that eq.
- Item 3 Faculty belongs to that eq.
- Item 4 Faculty belongs to that eq.
- Item 5 Faculty belongs to that eq.
- Item 6 Faculty belongs to that eq.

34) Which are direct costs:

- Item 1 paid +
- Item 2 labour +
- Item 3 facility
- Item 4

35) Which are fixed costs:

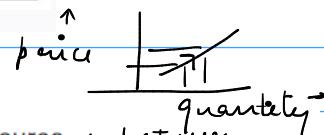
- Item 1 Faculty fixed salary
- Item 2 +
- Item 3 +
- Item 4 +
- Item 5 +
- Item 6 +

36) Which is indirect cost:

- Item 1 telephone
- Item 2 +
- Item 3 transport
- Item 4 +
- Item 5 insurance
- Item 6

37) Which is historical cost:

- Item 1 asset
- Item 2 was acquired
- Item 3
- Item 4 close / replace things
- Item 5



4) Price Elasticity measures whatever movement is occurring, Movement along the demand curve the slope is PE

① Shift in the demand curve

② Does not affect demand curve

③ Cannot say without data

(remember ATC from notes)

Column-A	Column-B
The shape of the average total cost curve will be V shaped	Average total Cost
In the region, average total cost keeps decreasing constant returns to scale	Economics of Scale
There is 1-to-1 relationship between cost in the region	U-Shaped
The plot between ATC and generates the average cost curves	Constant Returns to Scale
ATC quantity per time period	Quantity of production per time period



=

- objectives of pricing strategies, decisions in pricing strategies, build customer's perception of view, there are different kinds of pricing strategies
- market skimming - high price low vol short cycle max profits, value - price set by customer's perception, loss leader - goods sold below cost to encourage sales in festivals, psychological - based on customer thinking 9.99\$, going rate - follow the price of prices of leader in that industry, price discrimination - charging diff price for same good at diff market, penetration - prices set low to penetrate the market, cost plus - to maximize rates of returns of companies, contribution - price to cover var cost and little bit of fixed cost, target - to get specified profit level, absorption cost - to absorb fixed costs, destroyer - to remove entrants its illegal
- Financial analysis - financial status and comparision of financial ratios, what are the objectives of ratio analysis
- Ratio analysis - liquidity, investment/shareholders, gearing, profitability, financial
- Acid test - quick ratio = (current assets - stock)/liabilities, 3:1 very healthy firm
- Current ratio = current asset/current liabilities, ideal 1.5:1

Investment/Shareholders

- Earnings per share - profit after tax / number of shares
- Price earnings ratio - market price / earnings per share - the higher the better generally for company. Comparison with other firms helps to identify value placed on the market of the business.
- EV / EBITDA Ratio - Enterprise Value / EBITDA ratio - the higher the better generally for company . It measures the operational performance of the firm.
- Dividend yield - ordinary share dividend / market price x 100 - higher the better. Relates the return on the investment to the share price.
- Asset Turnover = Sales turnover / assets employed
- Using assets to generate profit
- Asset turnover x net profit margin = ROCE
- Stock turnover = Cost of goods sold / stock expressed as times per year

• Gearing Ratio = Long term loans / Capital employed x 100

- The higher the ratio the more the business is exposed to interest rate fluctuations and to having to pay back interest and loans before being able to re-invest earnings
- Gross Profit Margin = Gross profit / turnover x 100
- Net Profit Margin = Net Profit / Turnover x 100
- Gross profit - effectively total revenue (turnover) – variable costs (cost of sales)

• Net Profit - effectively total revenue (turnover) – variable costs and fixed costs (overheads)

Debtor Days = Debtors / sales turnover x 365

Shorter the better

Gives a measure of how long it takes the business to recover debts

- Limitations of ratio analysis

Practice Assignment - 1

- 1) Suppose, a firm produces a product by incurring a cost Rs.8. The firm could sell 100 items in the market in a month and targeting a revenue of Rs 1000 in month. What should be the mark-up? [enter the value in percentage]

25

$$\text{mark up} = \frac{\text{profit}}{\text{cost}} \times 100 \quad R = 1000$$

$$C = 8 \times 100 = 800$$

$$\text{profit} = 200$$

- 2) Which of the following is not an objective of pricing strategies?

- To maximize profits for the next ten years ✓
- To create an entry barrier to a competitor ✓
- To drive out the competitors from the market ✓
- To make a product affordable to a large mass of people ✓
- None of the above

$$= \frac{200}{800} \times 100 = 25\%$$

3) Riyaz, the owner of Chennai Clothing, wants to renovate his store. Therefore, he has recently applied for a loan from a financial company. The financial company asked for the balance sheet of Riyaz, to check the quick ratio. Following is the balance sheet:

Cash	Rs. 12,000
Inventory	Rs. 3,000
Accounts receivable	Rs. 5,000
Investments in short term instruments	Rs. 1500
Prepaid taxes	Rs. 500
Current liabilities	Rs. 15,000

→ liability

$$\text{Quick ratio} = \frac{\text{assets - stock}}{\text{liability}}$$

$$\frac{12000 + 3000 + 5000 - 500}{15000} = \frac{19500 - 500}{15000} = \frac{16500}{15000} = 1.1$$

Calculate the quick ratio [enter the value to one decimal]

1.1

4) Anandita just reached the railway station. Her train is scheduled after 45 min. She felt very hungry and wanted to eat something before her train starts. She went to the eateries and was surprised to see that all brands charge the same for a cup of coffee. What kind of pricing is this?

- Market skimming
- Value pricing
- Psychological pricing
- Cost plus pricing
- Going rate pricing

all costs same → all brands are keeping their rates same as the price of the prod. by brand leader

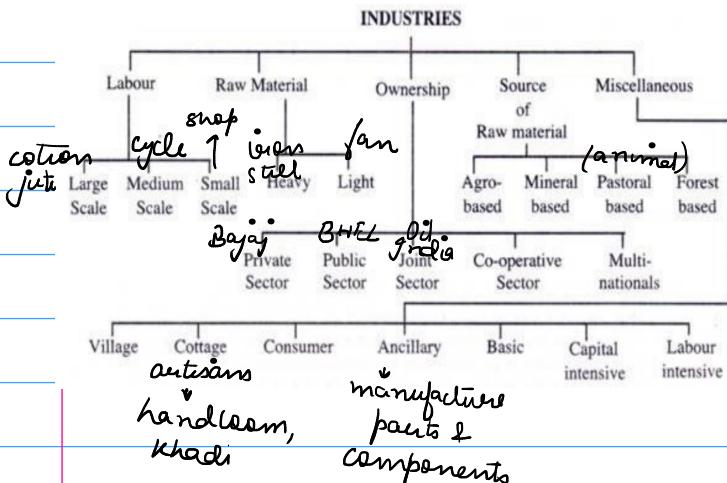
5) Which of the following is valid for a firm's current ratio (CR) and Quick ratio (QR)?

1 point

- CR >= QR
- CR <= QR
- Anything is possible

$$CR = \frac{\text{assets}}{\text{liability}} \geq QR = \frac{\text{assets - stock}}{\text{liability}}$$

BDM - Week 4



- NIC - National Industrial Classification in 1970

- CSO finalized in 1987

Section C Manufacturing

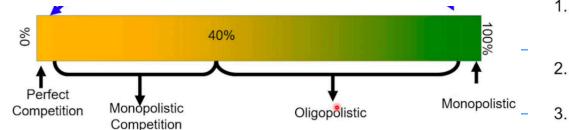
Division 10	Manufacture of food products
Group 101	Processing and preserving of meat
Group 102	Processing and preserving of fish, crustaceans and molluscs
Group 103	Processing and preserving of fruit and vegetables
Group 104	Manufacture of vegetable and animal oils and fats
Group 105	Manufacture of dairy products
Group 106	Manufacture of grain mill products, starches and starch products
Group 107	Manufacture of other food products
Group 108	Manufacture of prepared animal feeds
Division 11	Manufacture of beverages
Group 110	Manufacture of beverages
Division 12	Manufacture of tobacco products
Group 120	Manufacture of tobacco products
Division 13	Manufacture of textiles
Group 131	Spinning, weaving and finishing of textiles
Group 139	Manufacture of other textiles
Division 14	Manufacture of wearing apparel

- ASI - Annual survey of industries, CIF - chief inspector of factories, IIP - Index of industrial production

- PMI - purchasing manager's index - prevailing direction of economic trends, 5 indicator of PMI - New orders, inventory levels, production, supplier deliveries, employment envt.

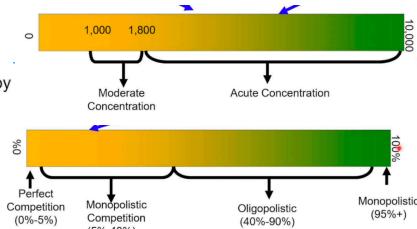
- To measure industry's concentration - Concentration ratio, Herfindahl Index

The concentration measures an industry's concentration by examining the share of output controlled by the largest four firms in that industry



The Herfindahl Index is calculated in three steps:

1. Determine the percent of output produced by each of the largest four firms
2. Square each of those share
3. Add all the squared numbers *



Characteristic	Perfect Competition	Monopolistic Competition	Oligopoly	Pure Monopoly
Number of firms	Many	Large number	Few	One
Relationship with industry	Each firm is an insignificant part of industry	Each firm is a small share of industry	Large firms that dominate the industry	Monopoly is the Industry
Pricing power	None (Firms are price takers)	Limited	Control, with mutual interdependence	Monopolist is a price maker
Product characteristic	Standard or Homogenous	Differentiated (typically by heavy advertising)	Either Homogenous (steel) or Differentiated (Autos)	Product has no substitutes
Barriers to entry	Virtually none	Relatively easy	Relatively hard	Substantial (often insurmountable) barriers to entry
Demand curve	Perfectly Elastic (Horizontal)	Highly Elastic	"Kinked"	Downward sloping

Practice Assignment - 1

1) Which of the following options is/are correct?

- If you increase the production volume:
- The capacity utilization is increased
 - The capacity utilization is decreased
 - ROCE is decreased
 - ROCE is increased

$$ROCE = \frac{\text{operating earnings}}{\text{capital}}$$

\uparrow , output \uparrow , avg. cost of produc \downarrow ,
Capacity uti. \uparrow

3) Which categories, among the given list, are Private sector industry

- Maruti Udyog
- Tata Steel
- Amul
- BHEL

4) Which categories, among the given list, are Public sector industry

- Maruti Udyog
- Tata Steel
- Amul
- BHEL

2) What is the principal source for most of the basic statistics of the industrial sector?
[Enter your answer with all words in small letters]

annual survey of industries

ASI

direct q. from lectures

- 5) Which categories, among the given list, are Joint sector industry

- Maruti Udyog
 - Tata Steel
 - Amul
 - BHEL

Consider the industry data below:

Total = 31,700

Firm	Sales in 2019
Firm A	9,000
Firm B	8,500
Firm C	6,200
Firm D	5,000
Firm E	2,000
Firm F	1,000

} 4 → 28700

- 6) Which categories, among the given list, are Cooperative sector industry?

- Maruti Udyog
 - Tata Steel
 - Amul
 - BHEL

Best eq.

7) Calculate the concentration ratio for the above data for first 4 firms ((round off to two decimal and enter answer with '%' symbol))

✓ 90.52

1 point

- 8) Calculate the Herfindahl index for the above data (round off to integer value)

✓ 2205 (Range $\rightarrow \alpha_{2200} - \alpha_{2210}$)

$$\text{Conc. ratio} = \frac{28700}{31700} = 90.53\%$$

1 point

		%	$(\%)^2$	
A	9000	28.39%	806.05	
B	8500	26.81%	718.98	
C	6200	19.55%	382.53	
D	5000	15.77%	248.78	
E	2000	6.30%	39.00	
F	1000	3.15%	9.92	
				2206.06