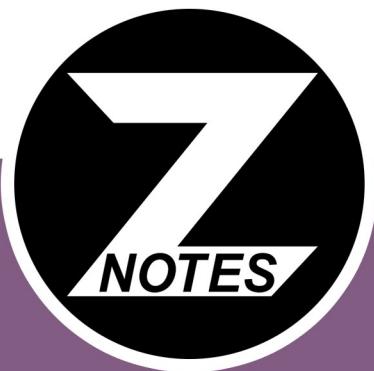


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Updated to 2016-18 Syllabus

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# CIE A2-LEVEL ECONOMICS 9708

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SUMMARIZED NOTES ON THE SYLLABUS

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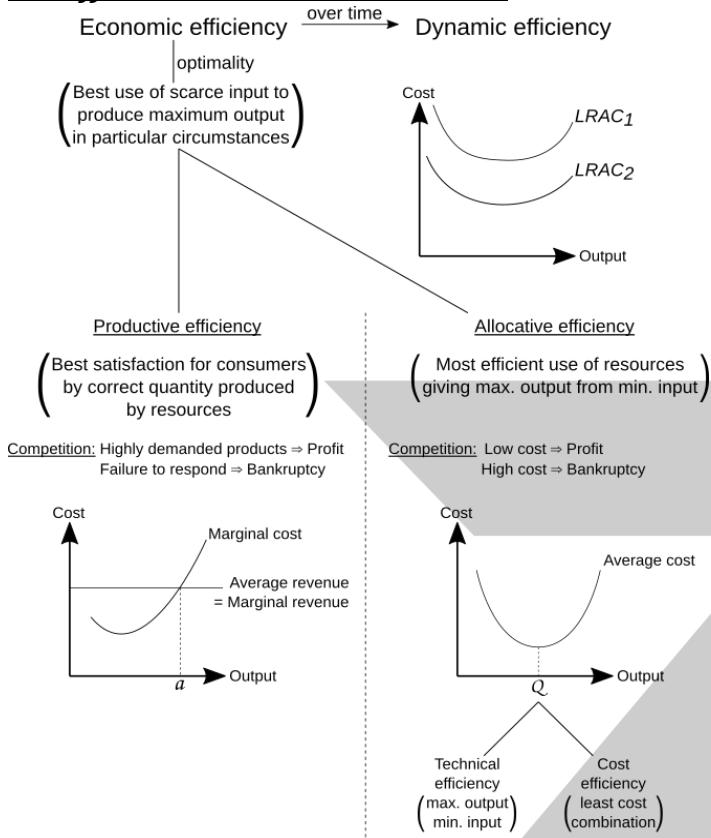
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Macroeconomic Policies

NOTES

## 1. BASIC ECONOMIC IDEAS AND RESOURCE ALLOCATION

### 1.1 Efficient Resource Allocation



### 1.2 Social Costs & Benefits

- Social cost/benefit:** is total cost/benefit to whole society due to an economic activity. (Social cost = Private cost/benefit + External cost/benefit)
- Private cost/benefit:** is internal cost/benefit of an economic activity.
- External cost/benefit:** is 3<sup>rd</sup> party cost/benefit of an economic activity.

### 1.3 Cost-Benefit Analysis

STEP	ADVANTAGES	DISADVANTAGES
Identification	All cost/benefit considered	Identification is tough
Monetary evaluation	Most will have market prices	Shadow prices
Forecast	Future consequences	Uncertainty in estimation
Interpretation	All info. useful	Bureaucracy
Decision making	Investment projects	Public expenditure

Refer to AS section 1.4 and 3.2 for A2 section 1.4 (Market failure) and 1.5 (Externalities).

## 2. THE PRICE SYSTEM & THE MICRO ECONOMY

### 2.1 Utility

- Utility:** is the satisfaction gained from consumption of a product.
- Total utility:** is the satisfaction gained from the consumption of **all units** of a product over a particular period of time.
- Marginal utility:** is the satisfaction gained from the **last unit** of a product consumed over a particular period of time.
  - Note: Consumers purchase products when  $P \leq MU$
  - Individual demand curve = Marginal utility curve
- Law of diminishing marginal utility:** states that as the quantity consumed of a product by an individual increases, marginal utility decreases.
- Equi-marginal principle:

$$\frac{MU_A}{P_A} = \frac{MU_B}{P_B} = \frac{MU_C}{P_C} = \dots$$

(True for rational individuals only)

- Limitations of marginal utility theory:
  - Unit of measurement.
  - Habit and impulse.
  - Ceteris paribus
  - Enjoyment may **increase** as consumption increases.
  - Quality and consistency of **successive** units of product consumed.
- Note:** Diminishing marginal utility → Kinked demand curve.  
Diminishing marginal rate of substitution → Kinked indifference curve.

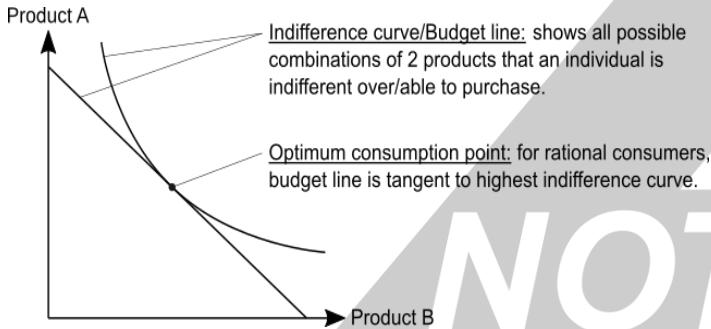
### 2.2 Behavioral economics

- Behavioral economics:** attempts to explain choices and decisions by individuals particularly when they contradict traditional economic theory, i.e. **irrational behaviour**.
- Rational behaviour:** is the assumption made in economics that individuals and firms will always carefully take into account **marginal costs and benefits** in making decisions in order to maximize **total utility with perfect information**.

- Note:** Imperfect information, often caused by framing (incorrect representation) leads to bounded rationality, so individuals have to resort to heuristics (mental shortcuts) to take decisions.
- These include:
  - Anchoring
  - Availability
  - Representation
- Other aspects of behavioral economics:
  - Endowment effect.
  - Loss aversion.
  - Reference points.
  - Certainty vs. uncertainty.
  - Over-confidence.
  - Too much choice.
  - Herd instinct & competition.
  - Implications for policy.

### 2.3 Indifference Curves & Budget Lines

- Marginal rate of substitution:** is the quantity of one product an individual is prepared to give up in order to obtain an additional unit of another leaving the individual at **same utility**. It is **diminishing**.

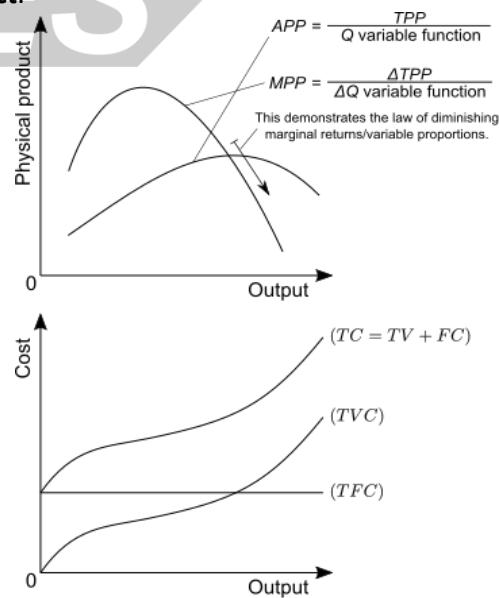


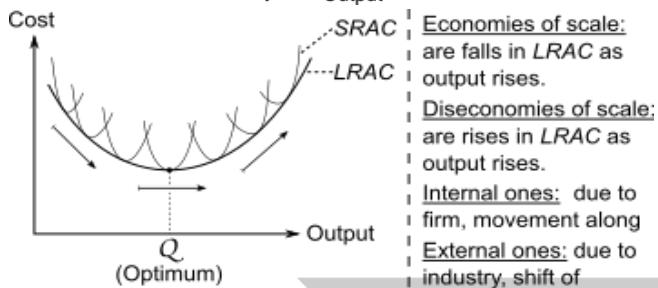
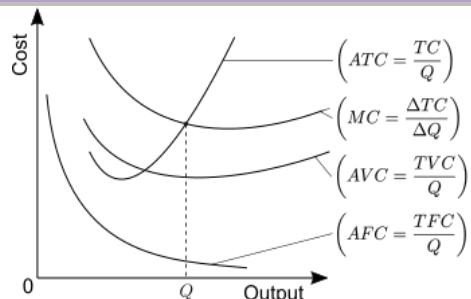
- Substitution/Income effect:** is the change in quantity demanded of a product due to change in **relative price/real income**.
- Price effect = Substitution effect + Income effect.**
- Giffen/Veblen good:** are goods whose price and demand are directly related as they are **necessary/luxurious**.

PRICE EFFECTS			
Price change	Good type	Price effect (on demand)	Demand change
Fall	Normal	Both effects $\uparrow$	Rise
Fall	Inferior	Sub. effect $\uparrow >$ In. effect $\downarrow$	Rise
Fall	G/V	Sub. effect $\uparrow >$ In. effect $\downarrow$	Fall
Rise	Normal	Both effects $\downarrow$	Fall
Rise	Inferior	Sub. effect $\downarrow >$ In. effect $\uparrow$	Fall
Rise	G/V	Sub. effect $\downarrow >$ In. effect $\uparrow$	Rise

### 2.4 Types of Cost, Revenue & Profit;

- Profit:** is the difference between total revenue and cost, i.e.  $TR - TC$ . It is of **2 types**.
- Normal profit:** is the amount of profit that can be earned in the **next most profitable enterprise**, so just covers **opportunity cost**.  $TR = TC$
- Supernormal profit:** is any profit in excess of normal profit.  $TR > TC$
- Note:** Payment to enterprise is normal profit.  
 $\therefore$  Total cost = Rent + Wages + Interest + Profit
- Production function:** is the relationship between quantity of inputs of **factor of production and result output** over a time period.
- Isoquant:** is a curve which shows a particular level of output over a combination of inputs. It is similar to **indifference curve**. **Output refers to total physical product.**





- Note: In long-run there are no **fixed/sunk costs**. So, the **LRAC** is a combination of a series of **SRAC**.

- Note:

$$\text{Least cost combination} \rightarrow \frac{\text{MPP Factor A}}{P \text{ Factor A}} = \frac{\text{MPP Factor B}}{P \text{ Factor B}} = \dots$$

	<b>Economies of scale</b>	<b>Diseconomies of scale</b>
Internal	<ul style="list-style-type: none"> <li>• Technical</li> <li>• Financial</li> <li>• Managerial</li> <li>• Marketing</li> <li>• Purchasing</li> <li>• Risk-bearing</li> <li>• Increased dimensions</li> <li>• Economies of scope</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of communication</li> <li>• Demotivation</li> <li>• Alienation</li> <li>• Slack management (X-inefficiency)</li> <li>• Non-flexibility</li> <li>• Labour disputes &amp; turnover</li> </ul>
External	<ul style="list-style-type: none"> <li>• Transport</li> <li>• Concentration</li> <li>• Knowledge</li> <li>• Ancillary industries</li> <li>• Specialised labour</li> <li>• Reputation</li> </ul>	<ul style="list-style-type: none"> <li>• Competition for inputs</li> <li>• Congestion</li> <li>• Pollution</li> </ul>

- Revenue:

$$TR = P \times Q \quad AR = \frac{TR}{Q} \quad MR = \frac{\Delta TR}{\Delta Q} \quad \therefore AR = P$$

## 2.5 Differing Types of Business Structures & their Objectives

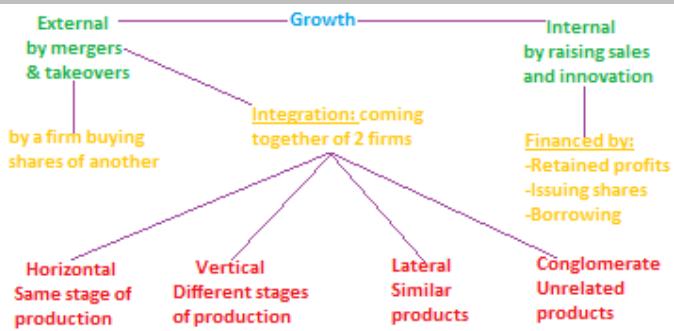
- **Firm:** is a business which hires factors of production to produce goods and services.
- **Industry:** is a group of firms producing similar goods and services.

<b>TYPES OF BUSINESS STRUCTURES</b>	<b>STRATEGIES EMPLOYED TO FULFILL AIMs</b>
• Sole trade	• Barriers to entry.
• Partnership	• Improve quality & lower price.
• Private limited company	• Advertise.
• Public limited company	• Takeover.

- Objectives: are standardized to profit maximisation.
- This may not be possible as:
  - $MC$  &  $MR$  difficult to calculate.
  - Could encourage takeover.
  - May encourage new entrants.
  - May attract investigation by competition commission.
- Other objectives, such as:
  - Growth
  - Revenue maximisation
  - Sales maximisation
  - Profit satisficing
  - Managerial utility maximisation
  - Survival
  - Loss minimisation
  - Ethical responsibilities
  - Strategic monopolization
- These other objectives are due to **divorce of ownership and control**, causing the **principal-agent problem** of conflicting interests of **managers & shareholders**.
- The organizational slack gives rise to X-inefficiency, but strict AGMs (annual general meetings) can prevent this.

## 2.6 Growth & Survival of Firms

- **Growth:** of firms is a key objective of managers as their salaries and status are directly related to size of firm.
- Survival of small firms:
  - Low startup costs.
  - Small **niche** markets.
  - Personalised services.
  - Government support.
  - May grow.
  - Act as **ancillary** firms.
  - Full ownership and independence.
  - Provide employment.
  - Are flexible.
  - Good labour relations.
  - Training for labour & enterprise.
  - Combine with other firms



## 2.7 Different Market Structures

- **Market structure:** is the way in which a market is organized in terms of the number of firms and the barriers to the entry of new firms.
- **Perfect competition:** Many firms, no barriers.
- **Monopolistic competition:** Many firms, few barriers.
- **Oligopoly:** Few firms, high barriers.
- **Monopoly:** One firm, very high barriers.
- **Imperfect competition:** is any market structure except perfect competition.
- **Concentration ratio:** is the proportion of a market's output controlled by the largest firms.

### Perfect competition:

- Many buyers and sellers – low concentration ratio.
- They are **price takers** – no preferential treatment. ( $AR = MR$ )
- Perfect knowledge – of prices & profits.
- Homogenous product – no product differentiation  $PED = \infty$
- No barriers – free entry and exit.
- No transport costs – perfect factor mobility.
- Same technology for all firms.
- Normal profits in long run.  
 $(MC) = (AC) = (MR = AR = P)$
- Short run abnormal profits or losses offset by hit & run competition.
  - Efficient – Allocative:  $MC = AR$ , Productive:  $MC = AC$
  - Low prices and high quality.
  - Lots of suppliers – cost reduction.  $MC = S$
  - Responsive to changes in demand due to flexibility.
- High turnover for firms – creates uncertainty.
- Lack of research – innovation is copied.

- Lack of variation – limits consumer choice.
- Unable to take advantages of economies of scale.
- Shutdown – Short run:  $P = \min. AVC$ , Long run:  $P = \min. AC$
- Acts as efficiency benchmarks for other market structures.

### Monopolistic competition:

- Many firms – low concentration ratio
- Price makers –  $AR > MR$
- Heterogeneous, i.e. differentiated products –  $PED: -1 \text{ to } -\infty$
- Excess capacity – Industry should have fewer & larger firms.
- Low startup costs – Permits entry and exit.
- Allows short run profits & losses to be offset.
- Nonprice competition – advertising, branding, packaging, servicing.
- Normal profits in longrun –  $AC = AR$
- Inefficient – Allocative:  $MC < AR$ , Productive:  $MC > AC$ .

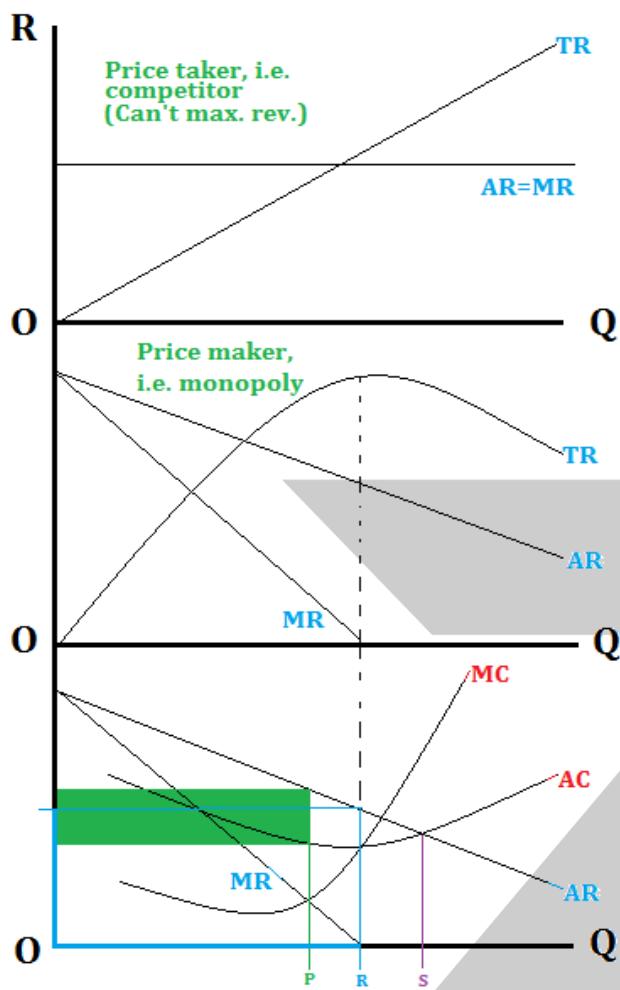
### Oligopoly:

- Few firms – high concentration ratio
- Mixture of price takers and price makers (leaders).
- Barriers to entry – excess capacity.
- Abnormal profits in long & short run –  $AR > AC$
- Inefficient – Allocative:  $AR > MC$ , Productive:  $MC > MC$ .
- Mutually interdependent – kinked demand curve.
- Knowledge – of competitions – maybe collusion – by cartels.
- Price stability/rigidity – fear of price war.

### Monopoly:

- Pure (single)
- Legal (SOE)
- Natural (competition winner)
- Dominant (40%+ share)
- Price maker –  $AR > MR - PED: 0 \text{ to } -1$ , so, no substitutes.
- Excess capacity – productive inefficiency.

## 2.8 Detailed Properties of Oligopolies & Monopolies



Max. profit=Green box, when  $MC=MR$  at P.

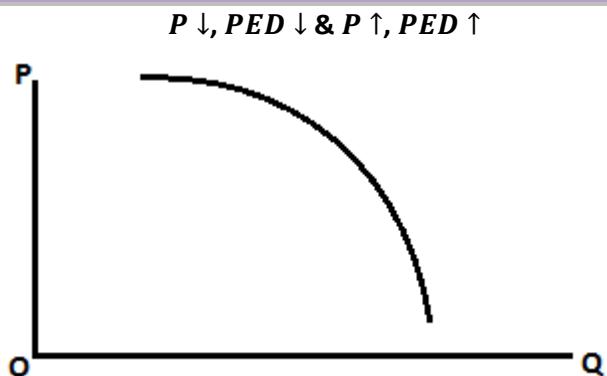
Max. revenue=Blue box, when  $MR=0$  &  $PED=-1$  at R.

Max. sales=S at breakeven, when  $AC=AR$ .

Note that the final diagram used was for a monopoly to enable demonstration of general objectives of firms.

Public monopoly	Private monopoly
$MC$ pricing	$AR = MC$
Normal profits	$AR = AC$
Productive efficiency	$AC = MC$

- **Mutual interdependence:** is a characteristic of oligopolistic markets where firms are anticipative reactions of rival firms to their actions. So, in fear of losing customers due to **price war**, firms keep prices stable, giving rise to the **kinked demand curve** where



- **Types of oligopolies:**

1. Perfect → Homogeneous goods.
2. Imperfect → Differential products.

- **Note:** Kinked demand curve model ignores **non-price competition**.

- **Non-price competition:**

- Sponsorships.
- Post-sale services.
- Branding.
- Advertisement.
- Research & development.
- Credit arrangements.
- Packaging.
- Lotteries.
- Free gifts.

- **Collusion:** is mutual agreement on price & output fixing.

- Illegal.
- Risk govt. investigation.
- Cheating may break it.
- Unpopular with consumers.
- Information cost.
- Cost differences.
- Product differences.
- High profits may attract new firms.

- **Barriers to entry:**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>○ Location</li> <li>○ Brand loyalty</li> <li>○ Control over resources</li> <li>○ Patents</li> <li>○ Legislation</li> <li>○ Economies of scale</li> </ul> | <ul style="list-style-type: none"> <li>○ High sunk costs</li> <li>○ High fixed costs</li> <li>○ High minimum efficient scale</li> <li>○ Restrictive practices</li> <li>○ Limit pricing</li> </ul> |
|---|---|

- **Monopoly:**

ADVANTAGES	DISADVANTAGES
○ Lower costs due to economies.	○ Higher prices due to diseconomies.
○ R&D to gain protected profits.	○ Less R&D as no pressure.
○ Avoids wasteful duplication.	○ Less consumer surplus & choice.
○ Can compete against MNCs	○ Irresponsive to changes in demand.
• <b>Deadweight loss:</b> is reduction in consumer surplus when a monopoly restricts output and raises price.	
• <b>Price discrimination:</b> is the practice of selling some product in different markets at different prices.	
○ <b>1st degree:</b> each consumer pays maximum prepared to.	
○ <b>2nd degree:</b> different prices for successive blocks of consumption.	
○ <b>3rd degree:</b> different group of consumers pay different prices.	
• Conditions:	
○ Market separation	
○ Price maker	
○ Different PEDs	
○ Arbitrage impossible	
• Issues:	
○ Deadweight/welfare loss.	
○ Some pay higher/lower.	
○ Higher revenue & profits.	
○ Affordability & income equality increased.	
○ Profits finance research.	
○ Some paying higher benefits all.	
• <b>Price leadership:</b> is a situation where a dominant/accurate firm changes its price and others follow. It is informal collusion, cartel is formal.	
• <b>Limit pricing:</b> is adopted by monopoly/oligopoly to deter new entrants by setting prices <b>below max. profit</b> .	
• <b>Predatory pricing:</b> is adopted by <b>monopoly/oligopoly</b> to force competitors out of market thereby exploit monopoly power by setting prices well <b>below average cost</b> .	
• <b>Contestable markets:</b>	
○ No barriers to entry – threat of competition.	
○ Pressure removes organizational slack, preventing X-inefficiency.	

- Short run – abnormal profit, but long run – normal profit.
- No sunk costs, i.e. non-recoverable entry costs.

• **Note:** The potential threat to oligopolies and monopolies from contestable markets forces them to benefit consumers more than what perfectly competitive markets would.

## 2.9 Game Theory

- **Game theory:** is the analysis of strategies and decision-making by rational players in any activity or situation in which those involved know their decision will have an impact on other players and the way their reactions will affect the original decision.
- **Zero-sum game:** is one of pure conflict in which player's gain will equal other players' loss.
- **Prisoner's dilemma:** is a competitive situation in which attempts by 2 players to find best strategy for their own selves by acting independently, results in a worse final outcome than if they had colluded.
- **Two-player pay-off matrix:** is a table showing the outcomes (pay-offs) for 2 players of their respective strategies or decisions.
- **Maximin strategy:** is a conservative strategy chosen by a player which provides best of worst possible outcomes of a decision.
- **Maximax strategy:** is an aggressive strategy chosen by a player which provides the best of the best possible outcomes of a decision.
- **Dominant strategy:** leads to best possible outcome for a player irrespective of strategy adopted by other player.
- **Nash equilibrium:** is a solution in a non-cooperative situation in which each firm's best strategy is to maintain its present behaviour.

## 3. GOVERNMENT MICROECONOMIC INTERVENTION

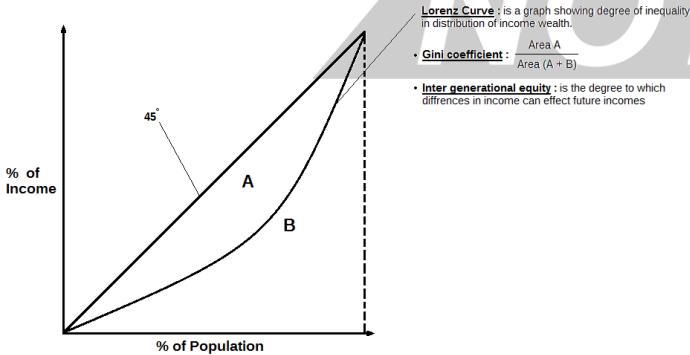
### 3.1 Policies to Achieve Efficient Resource Allocation & Correct Market Failure

- **Prohibition:** is banning of a certain product from a country.
- **License:** is a restricted permission to supply a product in an economy, by the government.

- **Property rights:** ensure owners of economic goods have a right to decide how such assets are used.
- **Pollution permit:** is a license for a firm to bring about a reduction in the level of pollution over a period of time.
- **Information:**
  - helps utility maximization by ensuring rational decisions.
  - prevents market failure concerning merit & demerit goods.
- **Nudge theory:** is an attempt by a government to alter the economic behaviour of people in some way.
- **Regulating bodies:** are organisations that are set up to enforce particular policies and regulations in an economy, especially about monopolies, environment, consumer & transportation.
- **Efficiency:** is the most economic use of resources.

### 3.2 Equity & Policies Towards Income & Wealth Redistribution

- **Equity:** is idea of justice, in terms of distribution of output.
- **Redistribution of income and wealth:** is a government policy which involves taking money from wealthier members of an economy through taxation and giving to the poor by benefits.
- **Inheritance tax:** is paid on value of inherited property.
- **Capital tax:** is paid on increase in resale value of asset.
- **Tax credit:** is a payment from a government to a unit that is dependent on low income.



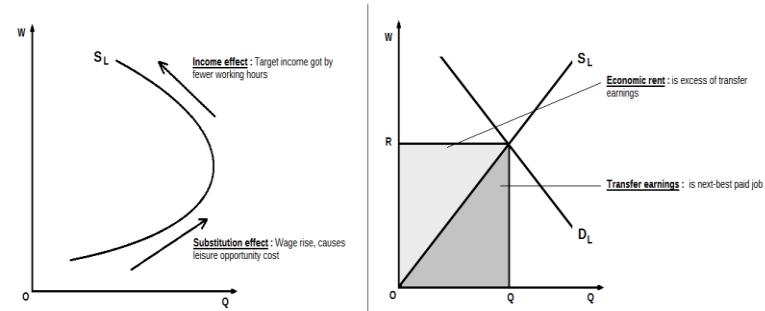
### 3.3 Labour Market Forces & Government Intervention

Labour demand conditions	Labour supply conditions
<ul style="list-style-type: none"> <li>• Demand/price of product.</li> <li>• Training/education/skill.</li> <li>• Productivity.</li> <li>• Restrictive practices.</li> </ul>	<ul style="list-style-type: none"> <li>• Population size &amp; structure.</li> <li>• Labour force participation.</li> <li>• Taxes and benefits.</li> <li>• Migration.</li> </ul>
$PED_L$ conditions	$PES_L$ conditions
<ul style="list-style-type: none"> <li>• Proportion of labour costs to total cost.</li> <li>• Factor substitution.</li> <li>• <math>PED</math> of product.</li> <li>• Time.</li> </ul>	<ul style="list-style-type: none"> <li>• Occupational &amp; geographical mobility of labour.</li> <li>• Unemployment.</li> <li>• Time.</li> </ul>

- Demand for labour is derived from the final good or service it contributes in producing.

Derivation:	Wage=MC labour	MR labour=MRP
Equilibrium:	MC labour=MR labour	Wage=MRP

- **MRP (Marginal revenue product):** is the extra output produced by an additional worker (**MPP**, i.e. **Marginal physical product**) multiplied by additional income earned by firm from this output. (**MR**)
- Note: Demand curve for labour is MRP curve.
- **Pecuniary advantages:** are **monetary rewards** obtained in a particular occupation, e.g. salary, wage, bonus, overtime, etc.
- **Non-pecuniary advantages:** are **non-monetary rewards** obtained in particular occupation, e.g. status, fringe benefits, working conditions, flexible hours, holiday length, job satisfaction, ease of transport, in-service training, etc.
- **Net advantages:** are overall advantages to a worker of choosing one job over another. It includes both **pecuniary and non-pecuniary advantages**.



• **Wage differentials:**

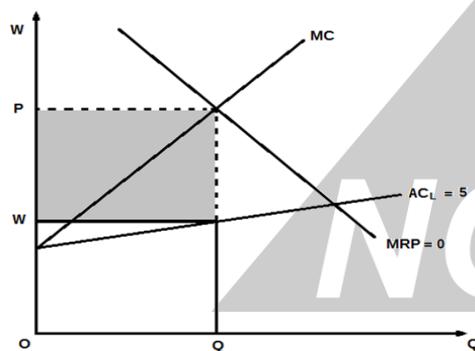
- **Personal:** Age, qualifications, experience, skills, hours worked.
- **Firm:** Factor mix, profitability, non-pecuniary advantages.
- **Geographical:** Different mix of industries, mobility affected by social ties and housing.
- **Occupational:**  $MRP$ , strength of trade unions & employers, mobility affected by qualifications and skills.

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> <li>• Encourage employers to train labour, raising productivity.</li> <li>• Reduce poverty.</li> <li>• Raise employment by increasing <math>AD</math>.</li> <li>• Motivates workers.</li> <li>• Enable firms to compete on equal terms.</li> </ul>	<ul style="list-style-type: none"> <li>• Unemployment.</li> <li>• Wage-cost spiral causing inflation.</li> <li>• Reduction in international competitiveness.</li> </ul>

• **Monopsonist:** is sole buyer, in a market.

$$\therefore W \neq MRP$$

$$W = MRP - (\text{shaded area})$$



• **Trade unions:** are organisations of workers active in protecting member interests, such as: (even provide training)

- Wages and pay differentials between skilled & unskilled.
- Working conditions and safety.
- Job security and nonpecuniary benefits.

• **Their strength is determined by:**

- Level of employment.
- Size and proportion of membership.
- $PED$  of final product.
- Industrial action, e.g. overtime bans, work to rule & strikes.

• **Closed shop:** is when employment in an industry is not possible without trade union membership.

• **Collective bargaining:** is a process of negotiation between trade union and employer representatives.

• **Arbitration:** is involvement of 3<sup>rd</sup> party seeking to reach agreement.

• **Bases of bargains:**

- Living cost.
- Comparability.
- Profitability.
- Productivity.

• Governments may seek to influence wages by income policies, regulations against **gender discrimination, public sector wages and rational minimum wage**.

• It aims to reduce poverty and counterbalance monopsony power but problems are faced in setting its rate and enforcing it on industries where profits are low or competition is fierce.

• **Note:** All government policies are set counter-cyclically to the business cycle to offset effects.

## 4. THE MACRO ECONOMY

### 4.1 Economic Growth, Development & Sustainability

• **Economic growth:** is increase in national output of an economy over a period of time, calculated by changes in **GDP**.

○ **Actual economic growth:** is an increase in real **GDP** shown by outward shift of production point on **PPC and AD** shifting right with space capacity.

○ **Potential economic growth:** is an increase in productive capacity shown by rightward shift of **PPC and AS**.

• **Economic development:** is an increase in welfare and quality of life.

• **Sustainable development:** ensures that needs of the present generation can be met without compromising well-being of future generations.

• **Economic growth factors:**

- Increased mobility & flexibility
- More efficient allocation
- New export markets
- Corporate tax reduction
- Upturn in business cycle
- Increase in labour force

- Labour quality improvement
- More research & development
- Technological advances
- Net investment in capital stock
- Capital-intensive production

• And everything that shifts ***AD*** & ***AS*** to the right.

**BENEFITS**

- Higher living standards
- Poor gain without income redistribution
- Reduced cyclical unemployment
- Greater international power
- Increased tax revenue

**COSTS**

- Opportunity costs of forgone consumer goods
- Pollution
- Depletion of resources
- Stress
- Structural unemployment

• Exploiting resources:

- Increase employment, output, income and tax revenue.
- Improve trade position and living standard.
- Develop other industries using income.

• Conserving resources:

- Prevent reduction in quantity & quality of resources sustaining development.
- Avoid over-dependence.

• Exploit resources when:

- Poor and in debt.
- Have comparative advantage.
- Have current world demand.

## 4.2 National Income Statistics

- **National income:** is total income of an economy over a given period of time.

**THE STATISTICS ARE USED**

**TO:**

- Calculate economic growth.
- Make international comparisons.
- Formulate economic policy.

**THE METHODS USED TO CALCULATE THESE ARE:**

- Output
- Income (excluding transfer payments)
- Expenditure:  
(+ – exports, subsidies  
– imports, taxes)

<b>GDP =</b>	Total domestic income – imports
<b>GNP =</b>	$GNP = GDP + \text{net foreign property incomes}$
<b>GNI =</b>	$GNI = GDP + \text{primary foreign incomes}$
<b>NNP =</b>	$NNP = GNP - \text{depreciation (fall in value of capital)}$
<b>NDP =</b>	$NDP = GDP - \text{depreciation}$

Problems involved in making comparisons	
<b>over time</b>	<ul style="list-style-type: none"> <li>• Price changes (inflation adjustment)</li> <li>• Population changes (per capita adjustment)</li> <li>• Shadow economy</li> <li>• Working hours and conditions</li> <li>• Externalities</li> <li>• Distribution of income</li> <li>• Product quality</li> <li>• Labour &amp; capital balance</li> </ul>
<b>between countries</b>	<ul style="list-style-type: none"> <li>• Different currencies (Use purchasing power parity)</li> <li>• Different tastes</li> <li>• Different climates</li> <li>• Differences in accuracy.</li> </ul>

- **National debt:** is amount of money government & public sector owes domestically and abroad accumulating over a number of years.

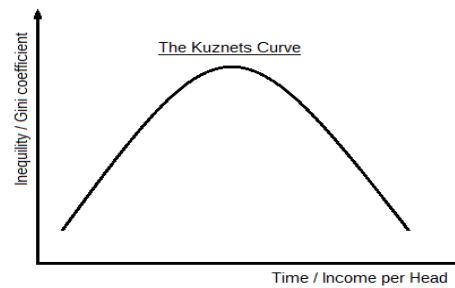
- It increases during economic downturns & military conflicts.
- Opportunity cost of tax revenue.
- Balance of payments deficit.
- Debt burden on citizens.
- Caused by budget deficit.

**Measurable economic welfare:**

- Real GDP per capita
  - Leisure time
  - Unpaid work
  - Depletion of natural resources
  - Changes in development
- Human development index:**
- Life expectancy
  - Per capita GNI
  - Years of schooling

**Human poverty index:**

- Longevity
  - Adult literacy
  - Deprivation
- Multidimensional poverty index:**
- Replaced HPI in 2010.
  - Child mortality & nutrition
  - Schooling & attendance
  - Electricity, water, sanitation, fuel, flooring & assets

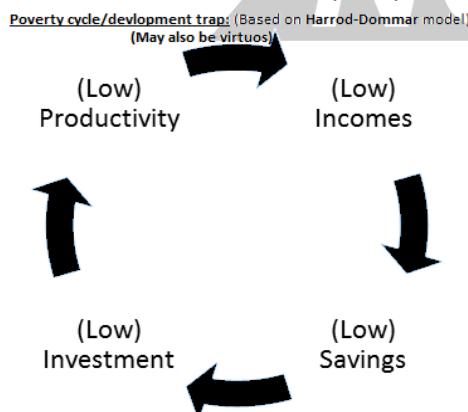


### 4.3 Classification of Countries

- **Developing economy:** has low *GDP* per head.
- **Developed economy:** has high *GDP* per head.
- **Emerging economy:** has rapid growth rate providing good investment opportunities, e.g. BRIC, MINT, etc.
- **Dependency ratio:** is the proportion of economically inactive to labour force.
- **Optimum population:** maximizes *GDP* per head.
- **Infant mortality rate:** is the no. of deaths of infants below one year old in a given year per thousand live births.
- **Natural increase:** is the difference between:
  - Birth rate (no. of live births per thousand population per year) & Death rate (no. of deaths per thousand population per year)
- **Migration:** is the difference between:
  - Immigration (people coming into country) & Emigration (people leaving country)
- **Population structure:** shows population of a country by age and gender in a pyramid.

#### **Characteristics of developing economies**

- High national increase
- Population above optimum
- More young people than old
- High dependency ratio
- Low incomes
- High income inequality
- Less working women
- Employment in primary sector
- Exports of narrow range of goods
- Rural-urban migration
- Net emigration
- High external debt
- Dependent on developed economies
- Low quality of life.

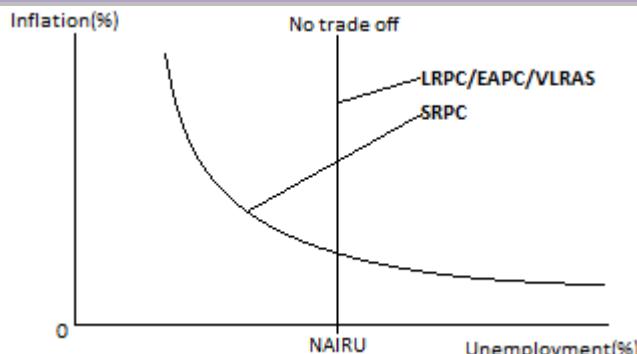


- **Note:** Emerging economies share some of these properties, while developed economies have characteristics contrasting to aforementioned.

### 4.4 Employment/Unemployment

- **Labour force:** is all the people eligible of working in a country, employed and/or receiving unemployment benefits.
- **Participation rate:** is the proportion of population either employed or officially registered as unemployed.
- **Working population:** are the people willing and able to work.
- **Size of labour force depends on:**
  - Population size
  - Birth rate
  - Death rate
  - School leaving age
  - Retirement age
  - No. of people in post-school education
  - Availability and value of unemployment benefits
  - Attitudes to working women
  - State of economy
- **Labour productivity:** measures efficiency of labour in terms of output per person per period of time. **It is affected by:**
  - Education
  - Skills
  - Training
  - Experience
  - Technical knowledge
  - Level of capital available
  - Working methods & practices
  - Motivation
- **Unemployment:** is a situation that occurs when people are able and willing to work but, are unable to gain employment.
- .. **Unemployment rate**

$$\text{Unemployment rate} = \frac{\text{No. of people unemployed}}{\text{Working population}} \times 100\%$$
- **Note:** Unemployment rate may show a pattern affected by the trade cycle.
- **Full employment:** is level of employment when everyone (except frictionally unemployed (around 3%)) who is willing and able to work have a job.
- **Natural rate of unemployment (NAIRU):** i.e. non-accelerating inflation rate of unemployment is unemployment rate at macroeconomic equilibrium which prevents rate of inflation from rising.
- **Note:** NAIRU is shown on expectations augmented Philips curve/long-run Philips curve/very long-run aggregate supply curve of new-classical economists.



- Causes of Unemployment:**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>○ Education</li> <li>○ Skills</li> <li>○ Training</li> <li>○ Experience</li> </ul> | <ul style="list-style-type: none"> <li>○ Technical knowledge</li> <li>○ Level of capital available</li> <li>○ Working methods &amp; practices</li> <li>○ Motivation</li> </ul> |
|---|--|

- Consequences of unemployment:**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>○ Lost output</li> <li>○ Lost skills</li> <li>○ Lost tax revenue</li> <li>○ Unemployment benefit</li> <li>○ Outdated skills.</li> <li>○ Health problems</li> </ul> | <ul style="list-style-type: none"> <li>○ Lower incomes</li> <li>○ Hysteresis</li> <li>○ More time to search for job</li> <li>○ Fewer strikes</li> <li>○ Less inflation</li> <li>○ Easy recruitment</li> </ul> |
|---|---|

**Claimant count:** measures unemployment in terms of unemployment benefit receipts.

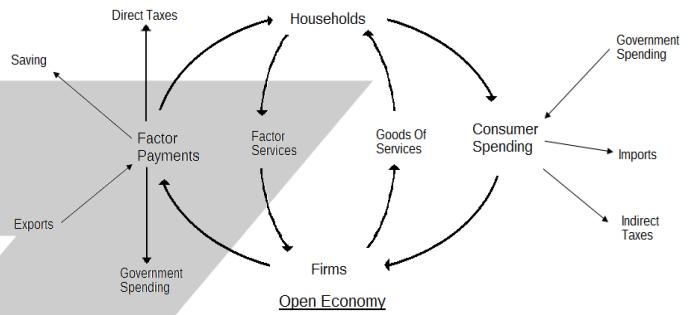
Accuracy problems	
Includes	Excludes
<ul style="list-style-type: none"> <li>• Those not actively seeking work</li> <li>• Those working in informal economy</li> </ul>	<ul style="list-style-type: none"> <li>• Discouraged workers</li> <li>• Partners of employed</li> <li>• Government trainees</li> </ul>

**Labour force survey:** measures unemployment according to those who say are actively seeking work.

Method	Advantages	Disadvantages
Claimant court	<ul style="list-style-type: none"> <li>• Quick</li> <li>• Cheap</li> </ul>	<ul style="list-style-type: none"> <li>• Not very accurate</li> <li>• Not useful for comparison</li> </ul>
Labour force survey	<ul style="list-style-type: none"> <li>• More inclusive</li> <li>• Useful for international measures</li> </ul>	<ul style="list-style-type: none"> <li>• Costly and time-consuming</li> <li>• Subject to sampling errors</li> </ul>

Policies to correct unemployment	
Demand-side	Supply-side
<ul style="list-style-type: none"> <li>• Lower interest rate.</li> <li>• Increase growth of money supply.</li> <li>• Lower exchange rate.</li> <li>• Reduce taxes.</li> <li>• Increase government spending.</li> </ul>	<ul style="list-style-type: none"> <li>• Cut unemployment benefit.</li> <li>• Reduce income tax.</li> <li>• Improve education &amp; training.</li> <li>• Trade union reform.</li> <li>• Increase labour market information.</li> </ul>

#### 4.5 Circular Flow of Income



**Circular flow of income:** is a simple model of the process by which income flows around the economy.

**Multiplier:** is a numerical estimate of a change in spending in relation to the final change in spending. ∴

$$k = \frac{1}{mpw} = \frac{\Delta Y}{\Delta J}$$

**Open economies:** conduct foreign trade, while

**Closed economies:** don't conduct foreign trade.

**Injections( $J$ ):** are money of outside circular flow of income that increases  $GDP$ , i.e. Investment( $I$ ), Exports( $X$ ), and government spending( $G$ ).

**Leakages( $L/W$ ):** are incomes withdrawn from circular flow of income reducing  $GDP$ , i.e. Savings( $S$ ), Taxation( $T$ ) and Imports( $M$ ).

**Note:** Income:  $Y$  & Consumption:  $C$ .

**Note:** Marginal – additional; Propensity – proportion of income.

Sectors	Injections ( $J$ )	AE components	Multiplier ( $1/mpw$ )
Households	$(-)S$	$NY = C + S$	N/A
(+) Firms	$I$	$NY = C + I$	$\frac{1}{mpw}$ or $\frac{1}{1-mpc}$
(+) Government	$I + G$	$NY = C + I + G$	$\frac{1}{mpw + mpt}$
(+) Foreign trade	$I + G + (X - M)$	$NY = C + I + G + (X - M)$	$\frac{1}{mpw + mpt + mpm}$

<b>APC</b>	<b>MPC</b>	<b>APS</b>	<b>MPS</b>	<b>1</b>
$\frac{C}{Y}$	$\frac{\Delta C}{\Delta Y}$	$\frac{S}{Y}$	$\frac{\Delta S}{\Delta Y}$	$APC + APS; MPC + MPS$

$$\therefore AE = C + I + G + (X - M)$$

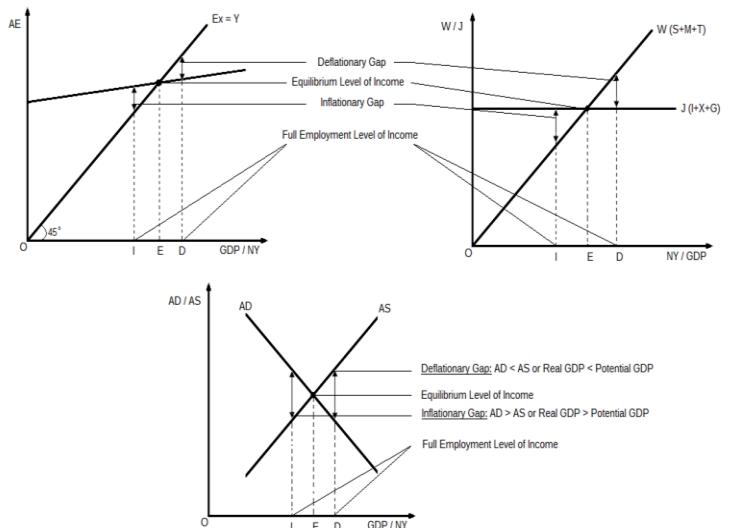
- **Note:**

- AD – Price; AE – Income
- Disposable income = income + state benefits – direct taxes.
- **Consumption:** is spending by households on goods and services.
- **Saving:** is income that is disposable after consumption.
- **Dissaving:** is spending financed by borrowing on past savings.
- **Paradox of thrift:** is the contradiction that increase in savings lead to fall in savings in long-run due to lower spending and income.
- Consumption function:  $C = a + (mpc)Y$ ; ( $a$  = autonomous consumption)
- Saving function:  $S = -a + (mps)Y$ ; ( $a$  = autonomous dissaving)
- Note: autonomous – when income is zero.
- As income rises, **APS & MPS** rises while **APC & MPC** falls.
- **Investment:** is spending by firms on capital goods.
- **Government spending:** is total local & national expenditure on goods & service.
- **Net exports:** is income from exports minus income spent on imports.

#### Determinants of components of AE (& AD)

Consumption (C)	Net exports (X – M)
<ul style="list-style-type: none"> <li>• Disposable income</li> <li>• Distribution of income &amp; wealth</li> <li>• Interest rate</li> <li>• Credit availability</li> <li>• Expectations</li> </ul>	<ul style="list-style-type: none"> <li>• GDP of a country</li> <li>• GDP of other countries</li> <li>• Relative prices of exports</li> <li>• Quality of exports</li> <li>• Exchange rate</li> </ul>
Investments (I)	Government spending (G)
<ul style="list-style-type: none"> <li>• Interest rate</li> <li>• Technology</li> <li>• Cost of capital</li> <li>• Consumer demand</li> <li>• Expectations</li> <li>• Government policies</li> </ul>	<ul style="list-style-type: none"> <li>• Government policies</li> <li>• Tax revenue</li> <li>• Demographic changes</li> </ul>

- **Income determination:**



- **Autonomous investment:** is made independent of income.

- **Induced investment:** is made in response to changes in income.

- **Accelerator theory:** is a model that suggests a change in income, hence demand will cause a greater proportionate change in induced investment.

- **Capital-output ratio:** is a measure of the amount of capital used to produce a given amount/value of output. It is considered to be constant in the accelerator theory, but may vary as:

- |                             |   |
|-----------------------------|---|
| ○ Interest rates change     | ○ Demand change may be temporary  |
| ○ Technological advancement | ○ Capital goods industries at full capacity, preventing buying machines |
| ○ Machinery costs change    |   |
| ○ Spare capacity exists     |   |

- **Note:** Influence of investment may be yield, i.e. return, e.g. interest, dividends, etc. from an asset shown as a % of investments cost, market price or face value.

#### 4.6 Money Supply

**Quantity theory of money:**  $P \propto M$  is derived from the Fisher equation  $MV = PT$  or  $PY$  by monetarists as they assume  $V$  and  $T/Y$  are constant.

$M$	= money supply
$V$	= velocity of circulation, i.e. no. of times money changes hand
$P$	= general price level
$T$	= no. of transaction
$Y$	= real GDP

**There is a time lag.-Keynesians disagree.**

- **Narrow money:** can be spent directly, i.e. notes, coins & current accounts.
- **Broad money:** used for spending sand savings i.e. notes, coins and all bank deposits.
- Money supply may increase due to:
  - **Credit creation**, i.e. lending by banks.
  - Budget deficit financing by banks of government spending.
  - **Quantitative easing** by purchase of government securities (used to raise money) from private sector to raise money supply.
  - Total currency inflow into country.
- **Monetary transmission mechanism:** is the process by which a change in monetary policy works through economy via change in  $AD$  thus, the price level and  $GDP$ .
- **Central bank:**
  - Controls money supply
  - Issues notes & coins
  - Sets interest rate
  - Settles external debt
  - Holds gold & foreign currency reserves
- **Commercial bank:**
  - Accepts deposits
  - Lends (even mortgage)
  - Bill payments
  - Selling insurance & foreign currency
  - Holds important documents & valuables.
  - Helps with wills and tax.

$$\text{Credit multiplier} = \frac{\text{Value of new assets created}}{\text{Value of change in liquid assets}} \text{ or } \frac{100}{\text{liquidity ratio}}$$

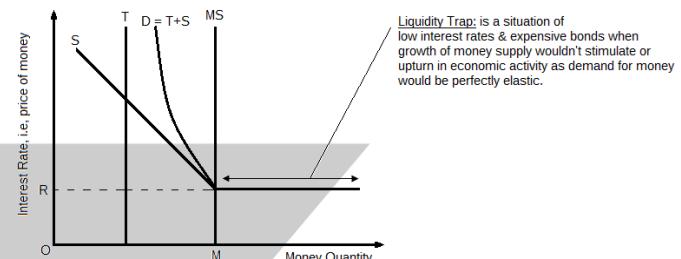
$$\text{Liquidity ratio} = \frac{\text{Value of liquid assets}}{\text{Value of total assets}} \times 100\%$$

#### 4.7 Interest Rate Determination

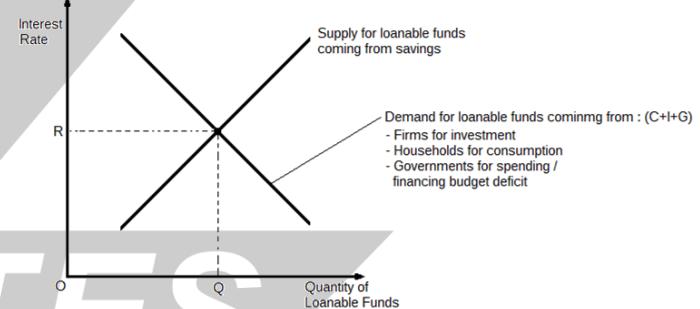
- **Keynesians:** are economists who think that government intervention by fiscal policy is needed to achieve a full employment as markets are too slow to adjust. Demand for money is explained by **liquidity preference theory**.
- **Idle balances:** is the amount of money held for speculative demand(s); i.e. interest elastic demand for holding money with a motive to make future gains from buying financial assets.

- **Active balances:** is the money held for transactionary motive of buying day-to-day goods & services and precautionary motive of unexpected events. Denoted by( $T$ ).

Influences on demand of money	
Transactionary	Precautionary
<ul style="list-style-type: none"> <li>• Prices.</li> <li>• Products.</li> <li>• Frequency of pay.</li> <li>• Income.</li> </ul>	<ul style="list-style-type: none"> <li>• Credit cost.</li> <li>• Insurance cost.</li> <li>• Expectations.</li> <li>• Income.</li> </ul>



- **Monetarists:** are economists who believe that control of money supply by monetary policy is essential to avoid inflation as markets clear easily. They support the **loanable funds theory**.



#### 4.8 Policies of Trade & Aid Towards Developing Economies

- **Multinational corporation (MNC):** are usually large public limited companies that produce in **more than one country**.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• May raise output, employment, exports and tax revenue.</li> <li>• Low price, high quality &amp; choice due to competition.</li> <li>• Brings new ideas &amp; capital.</li> </ul>	<ul style="list-style-type: none"> <li>• Pollution &amp; depletion of non-renewable resources.</li> <li>• Profit diversion &amp; top-level employment, non-local.</li> <li>• Drive out domestic firms &amp; unduly influence government.</li> </ul>

- **Foreign aid:** is assistance given to developing economies on favourable terms. They can be tied (conditional), untied (unconditional), bilateral (2 countries) & multilateral (many countries).

It is best untied and multilateral.

- **Foreign direct investment (FDI):** is setting up of production units or purchase of existing production units in other countries.

- **World Bank:** is an international organization that lends money to developing economies for projects that will promote development.

**It consists of:**

- International Bank for Reconstruction and Development
- International Finance Corporation
- International Development Association
- Multilateral Investment Guarantee Agency
- International Centre for Settlement of Investment Disputes

- **International monetary fund (IMF):** is an international organization that promotes free trade and helps countries in balance of payments difficulties.

**It aims to:**

- promote international monetary cooperation.
- facilitate expansion and balanced growth of international trade.
- provide exchange stability.
- assist setup of multinational payment system
- make resources available to members experiencing balance of payments problems.

**IBRD & IDA loans & grants cover:**

- Health & education, e.g. sanitation, combating AIDS.
- Agriculture & rural development, e.g. irrigation.
- Environmental & rural development, e.g. irrigation.
- Infrastructure, e.g. roads, railways, electricity.
- Governance, e.g. anti-corruption.

Lack of strong legal framework in an economy can give rise to corruption, thus activities such as bribes, aid-fund diversion, etc. which can hinder development can occur.

## 5. GOVERNMENT MACRO INTERVENTION

### 5.1 Interconnectedness of Macro-economic Problems

- Inflation reduces internal value of money.
- Exports become dearer and imports cheaper.
- Current account deficit occurs if ML-condition met.

- Exchange rate falls due to reduced demand and increased supply of currency.

- Fall in unemployment increases  $AD$ , thus causes inflation.

- **Timbergen's rule:** is that there must be at least one policy measure for every macroeconomic objective.

- Refer to AS section 5 for more.

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