

H2 ECONOMICS

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SUMMARY OF MICROECONOMICS

CONCEPTS COVERED

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SCARCITY AND RESOURCE ALLOCATION

The basic economic problem is that of **scarcity** – the competition between unlimited wants and limited resources. Hence, resources have to be allocated in such a way to promote the two main microeconomic aims – efficiency and equity.

The three basic economic questions that arise out of the problem of scarcity are thus

1. What to produce
2. How to produce and
3. For whom to produce.

The **Production Possibility Curve** is the graph that shows maximum attainable combinations of two goods or services that can be produced in an economy when all resources are used fully and efficiently, at a given state of technology

Productive Efficiency refers to the absence of waste in the production process. (How)

- All points on the PPC are productive efficient, points inside the PPC are inefficient representing either unemployment (not all available resources being used) or underemployment (resources not engaged fully)
- For producers, all points on the LRAC are PE
- For consumers, only the MES (lowest point on the LRAC) is PE

Allocative Efficiency is the situation in which society consumes a combination of goods and services that maximizes its welfare – i.e., maximum utility. Only one point on the PPC is allocatively efficient (What)

- AE is achieved when $P = MC$
- AE is achieved when $MSB = MSC$

Distributive Efficiency is achieved when goods and services are produced to those who want or need them – not affected by an economy's position on the PPC (For whom)

MARKET SYSTEMS

In different economic systems, the three basic questions are solved differently.

In a **laissez faire** or **free market**, they are solved by the interaction of the market forces of demand and supply – known as the price mechanism – setting an equilibrium price and output level. The price mechanism works as consumers and producers are motivated by self-interest and profit- and utility-maximization.

- What to produce: Determined by consumer sovereignty
- How to produce: Determined by the relative prices of factor inputs
- For whom to produce: Determined by purchasing powers of individuals or households

In a **command** or **planned economy**, the problems are solved by a central planning body.

The **mixed economy** strikes the balance between the extremes and uses both free market forces as well as government intervention to answer these questions. (See notes on Market Failure and Government Intervention)

DEMAND AND SUPPLY

FACTORS AFFECTING MARKET DEMAND

Population	Affects the number of potential customers – the size of the market <ul style="list-style-type: none"> An absolute increase or decrease in total population, A change in composition of the population,
Interrelated goods	Change in prices of substitutes or complements
Taste & Preferences	Fads may lead to sudden and temporary increases or decreases in demand New inventions and technology may lead to a permanent decreases in demand
Seasonal changes	Climatic conditions, or festivities/holidays may lead to increases in demand for particular goods (like flowers on Valentine's day)
Expectations of the future	Changes as a result of expectations of future price changes
Income (Y)	An increase in income leads to an increase in spending on luxury goods, and a decrease in demand for inferior goods

FACTORS AFFECTING MARKET SUPPLY

Costs	Changes in costs of production due to changes in prices of factor inputs like RMs, fuel and power will cause the supply curve to shift
Related products, prices of	Affected depending on whether the good is in joint or competitive supply with other products
Innovations	Improvements in techniques of production will lower production costs and shift the supply curve rightward
Natural factors	Favourable climatic conditions lead to increase in supply, while natural catastrophes will decrease the supply of agricultural produce
Government policies	Taxation and subsidy policies affect the cost of production <ul style="list-style-type: none"> Subsidies decrease the minimum price at which producers will supply Taxes, on the other hand, increase the minimum price
Expectations of the future	Changes as a result of expectations of future price changes

INTERRELATED DEMAND

Goods in **joint demands** are complements
E.g. petrol and cars
Goods in **competitive demand** are substitutes
E.g. beer and ale
Derived demand refers to the demand of a factor of production for a good
E.g. steel for cars

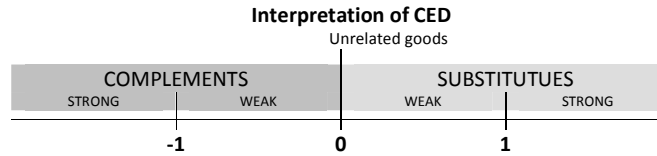
INTERRELATED SUPPLY

Goods in joint supply are produced together
E.g. beef and leather
Goods in competitive supply are produced at the expense of each other
E.g. milk and leather

CROSS ELASTICITY OF DEMAND

CED measures the D.O.R. of the DD of good A to a change in price of good B - $\frac{\Delta Q_A}{\Delta P_B} \times \frac{P_B}{Q_A}$

Usefulness: Provides firms the effects on their products' demand when faced with a change in the price of a rival's product or complementary products. If two goods have a high negative CED, the two firms selling them can come together to sell the goods jointly.



PRICE ELASTICITY OF SUPPLY

PES measure the degree of responsiveness of the Q_{SS} of a good to a change in its price - $\frac{\Delta Q}{\Delta P} \times \frac{P_0}{Q_0}$

Determinants	Time period	Factor mobility	Number of firms	Spare capacity/ stocks	Production period
More inelastic	Short run	Low	Few	Unavailable	Long
More elastic	Long run	High	Many	Available	Short

Usefulness of PES

Effects on price stability

APPLICATIONS OF D&S FRAMEWORK

INCIDENCE OF TAXES AND SUBSIDIES

	Tax	Subsidy
Inelastic PED	Incidence falls more on consumers	Consumers receive a higher share of the subsidy
Elastic PED	Incidence falls more on producers	Producers receive a higher share of the subsidy

EFFECTS OF PRICE FLOORS AND CEILINGS

Minimum price – set above market equilibrium	Maximum price – set below market equilibrium
<ul style="list-style-type: none"> ▪ Protection of the welfare of certain producers or workers <ul style="list-style-type: none"> ○ Agricultural support prices and the minimum wage legislation. ▪ May want to create a surplus which can be stored in preparation for future shortages 	<ul style="list-style-type: none"> ▪ Set to achieve some form of equity to protect consumers <ul style="list-style-type: none"> ○ Price control for basic goods in wartime ○ Rent control
<p>Leads to a persistent surplus: continuous accumulation of stocks</p> <ul style="list-style-type: none"> ▪ Misallocation of resources: allocatively inefficient ▪ Misinterpretation of price signals: creates illusion of a lucrative market <ul style="list-style-type: none"> ○ Producers become complacent ○ May bring in new producers, creating greater surpluses ▪ Stock storage = waste of money 	<p>Resultant shortages create problems</p> <ul style="list-style-type: none"> ▪ Misallocation of resources: allocatively inefficient ▪ Prices no long serve as signals to distribute scarce resources <ul style="list-style-type: none"> ○ Alternative allocative mechanisms: balloting, rationing ▪ Emergence of the black market

FIRMS & HOW THEY OPERATE

The **production function** is the relationship between output and factor inputs

The **short run** refers to period of time over which at least one Factors Of Production is fixed

- The following assumptions are made during the SR
 - Total Product = f(labour, capital) only
 - Labour is the variable FOP and is considered homogenous
 - Capital is the fixed FOP and technology is held constant

The **Law of Diminishing Marginal Returns** states that as more units of variable factors are applied to a given quantity of a fixed factor, there comes a point beyond which each additional unit variable factor adds less to the total output than the previous variable factor.

OBJECTIVES OF THE FIRM

Explicit costs are payments made to outside suppliers of inputs

Implicit costs are costs which do not involve a direct payment to a third party

Accounting cost is the monetary value of the explicit costs of production

Economic cost is the total monetary value of explicit and implicit costs of production

Revenue

Total revenue = Price × Quantity

Average revenue = Price = Demand

Marginal revenue is the change in the firms total revenue resulting from a change in its sale by one unite

- The shape of the MR curve reflects the shape of a firm's DD curve
- The MR curve is always below a firm's DD curve

Profit Maximization

Normal Profits

Accounting Profit = Implicit Cost

Zero economic profit

Supernormal Profits

Accounting Profit > Implicit Costs

Positive economic profit

Subnormal Profits

Accounting Profit < Implicit Costs

Negative economic profit

...and if you really don't know anything at all,

PROFIT MAXIMISATION at MR=MC

COSTS IN THE LONG RUN

Increasing returns to scale	Constant returns to scale	Decreasing returns to scale
output increase more than proportionately to the increase in inputs (technical economies of scale)	output increases proportionately to the increase in inputs	output increases less than proportionately to the increase in inputs (technical diseconomies of scale)

The **LRAC** curve is a typically U-shaped curve

- From the producer's point of view, all points on the LRAC are PE
- From the consumers' point of view, only the lowest point on the LRAC (the MES) is PE
- The downward sloping half of the LRAC reflect technical EOS
- The upward sloping half of the LRAC reflect technical DOS

INTERNAL ECONOMIES OF SCALE

IEOS are savings in average costs that occur to a firm as a result of expansion of the firm (LRAC falls)

Technical EOS: Technical and engineering factors

Factor indivisibility – Equipment cannot be used fully when output is small

- Higher output = more efficient use of machines

Increased dimensions – Large machines may be more efficient

- More output for a given amount of input
- Less people needed to operate machines

Linked processes – A large factory may take a product through several stages in its production

- Save times and costs – no need to move semi-finished products from one factory to another

Specialization and division of labour – In large scale factories, worker do simpler and repetitive jobs

- Less training is needed
- More efficient in a particular job
- More time saved in switching from one operation to another

By-product economies – waste to a small plant may be used in manufacture by larger plants

Managerial EOS: Employment of specialists like financial experts etc.

- Division of work increases efficiency of workers in their own areas of responsibility
- Decentralisation of decision making also increase efficiency of management
 - Distortion and delays of information are avoided

Marketing/Commercial Economies: Large firms have bargaining advantage

- Preferential treatment – buying in bulk
- Unit costs of transportation is decreased as well

Financial Economies: Large firms find it easier and cheaper to raise funds

Risk-bearing Economies: Large firms have an advantage in bearing non-insurable risk

R&D Economies: Large firms can afford R&D facilities

Welfare Economies: Efficiency of workers can be increased by provision of welfare services

Economies of Scope: Large firms enjoy can enjoy economies of scope by increasing the range of products being produced – fixed costs are shared among products

INTERNAL DISECONOMIES OF SCALE

IDOS are increases in average costs that occur to a firm as a result of expansion (LRAC rises)

Complexity Management: A more complex organization requires more skilful entrepreneurs and managers to coordinate and control

- Expansion of ownership – incentives for managers to reduce costs/increase profits decrease
- Long chains of authority leads to a time-lag in decision implementation
- Extensive red-tape leads to slow responses to change in D&S conditions

Strained Relationships: Lack of personal loyalties on behalf on workers toward the company

EXTERNAL ECONOMIES OF SCALE

EEOS are the savings in average costs that occur to all firms in an industry as a result of expansion of the industry, or the concentration of firms in a certain location (LRAC shifts down)

Economies of Concentration: More firms located in the same area derive mutual benefit

Availability of Skilled Labour – increased demand for particular skills give benefits

- Educational institutions set up
- Joint development of research and training facilities

Well developed infrastructure – Better infrastructure is set up to cater for economies of concentration

Reputation – large, well established industries builds up a name which customers associate with quality

1. Brand loyalty, steady clientele

Economies of Disintegration: Creation of subsidiary industries to cater to need of a major industry

Economies of Information: Publication of trade journals increase productivity of individual firms

EXTERNAL DISECONOMIES OF SCALE

EDOS are increases in average costs that occur to all firms in an industry as a result of the expansion of the industry or the concentration of firms in a certain location. (LRAC shifts up)

Increased strain on infrastructure: Infrastructure will be taxed to its limits

2. Congestion, increased fuel consumption

Rising costs of FOPs: Growing industries may create a shortage of RMs or skilled labour

GROWTH OF FIRMS

MEASURING GROWTH

1. Quantity of output sold
2. Turnover (total annual revenue)
3. Market share
4. Capital stock (amount of real assets)
5. Number of employees

METHODS OF GROWTH

Internal Expansion: Making more of a product, or extending a firm's product range

Mergers & Acquisitions: Forming of new enterprises by the merging with, or taking over of one or more existing firms.

1. Vertical Integration
 - Merger between firms engaged in different stages of a production process
 - Backward integration (oil refineries buying oil wells)
 - Forward integration (breweries buying pubs)
2. Horizontal Integration
 - Usually an acquisition of firm(s) at the same stage of production in the industry
 - Market dominance due to reduced competition
 - Greater specialization and economies of scale
3. Conglomeration
 - Mergers involving firms which are not directly related to each other
 - Diversify output
 - Reduce risks of trading
 - Ensure long term growth

MOTIVES FOR GROWTH

See "Measuring Growth"

1. Exploit EOS
2. Gaining market share
3. Security through economies of scope
4. Increase market valuation
5. Reduce chances of acquisition by another firm

SURVIVAL OF SMALL FIRMS

Demand-side Factors	Supply-side Factors
<p>Nature of product Bulky and perishable products: bricks, fresh fish Products for which variety is preferred: clothes Specialized products: machines, religious items</p> <p>Prestige markets Markets limited by prices: luxury vehicles, jewelery</p> <p>Direct, personalized services G&S where direct, individual attention is required: lawyers, doctors, dentists, hairdressers</p> <p>Geographical limitations Local markets due to larger bulk as compared to value and transport costs</p>	<p>DOS setting in early MES is low: tailor shops</p> <p>Vertical disintegration Small firms perform small parts of a larger production process when disintegration occurs</p> <p>Low entry barriers</p> <p>Lack of capital</p> <p>Product-life cycles Banding allows small firms to band together to gain advantages of bulk buying</p> <p>Non-traditional motives etc. etc.</p>

MARKET STRUCTURE

Spectrum of Market Structures			
Competitive Markets		Contestable/Non-Competitive	
Perfect Competition	Monopolistic Competition	Oligopoly or Oligopolistic Competition	Monopoly/Duopoly
∞		Number of Firms/Sellers	
		1	

Bases for comparison of market structures **efficiency and equity**

The **Theory of Contestable Markets** shows how monopolies or near monopolies may practice competitive pricing due to low barriers to entry and exit

- The market for low cost carriers is extremely contestable (~\$10m investments)

The **concentration ratio** of an industry measures the output of an industry largest firm (or firms) as a proportion of the industry's total output.

- For PC, the concentration ratio extremely low
- For a monopoly, the concentration ratio is almost 100%

Market saturation refers to the situation in which a product has become diffused within a market. A diffused product is one that is available to almost all consumers, or more applicably, almost all households, for example the refrigerator or an automobile. Market growth is constrained and demand cannot be stimulated when a market is saturated.

The factors affecting market saturation include

- Consumer purchasing power and prices
- Competition
- Technology (dynamic efficiency)
- Product life cycles (when products will get replaced by newer products)
- Population growth

PRICE DISCRIMINATION

Price discrimination is the situation where (a) a producer sells a good to different buyers at two or more different prices or (b) when the same consumer is charged different prices for the same product for reasons not associated with cost differences.

CONDITIONS NECESSARY FOR PRICE DISCRIMINATION

1. Control over market supply
2. Ability to segment the market without possibility arbitrage
3. Market segments must have different PEDs

TYPES OF PRICE DISCRIMINATION

First degree	Second degree (block pricing)	Third degree
Each customer is charged his reservation price (the maximum price they are willing to pay)	Different prices are charged for different blocks of the same good.	Same product sold at different prices to different customers.
Auctions	Utilities, taxi fare	Admission tickets to parks, etc.

COSTS AND BENEFITS OF PRICE DISCRIMINATION

Costs

1. Loss of consumer surplus

Benefits

1. Higher output
2. Higher profits for the firm
3. Provision of goods that would otherwise not be produced
 - a. With PD, a firm may be able to cover costs

MARKET FAILURE

Market failure occurs when the free market fails to allocate resources in an optimum and efficient manner. There are four main sources of market failure:

1) EXTERNALITIES

Externalities occur when some of the costs or benefits associated with production or consumption of goods and services spill over onto third parties.

When market failure is present, allocative efficiency is achieved when **MSB=MSC**

Positive externalities	Negative externalities
Occur when society benefits from the consumption or production of a commodity or service	Occur when costs are imposed on society from the consumption or production of a commodity or service
Education, vaccination etc.	Pollution, smoking etc.
Merit goods	Demerit goods
Goods that society values and judges that everyone should have whether the individual wants them or not.	Goods that society values and judges to be bad for and individual
Underconsumed due to imperfect information – individuals are unaware of long-term benefits and positive externalities	Overconsumed due to imperfect information – individuals are unaware of long-term detriments and negative externalities
Consumption of merit goods is believed to generate positive externalities (MSB exceeds MPB)	Consumption of demerit goods leads to a fall in social welfare (MPB exceeds MSB)
Healthcare, education, public libraries	Alcohol, cigarettes, drugs, addiction to gambling

2) ZERO PROVISION OF PUBLIC GOODS

A **public good** is a good/service which is

- Non-rivalrous** – its benefits are not depleted by an additional user
 - MC = 0, for allocative efficiency, P = MC = 0
 - Public goods have to be **provided at no charge**
- Non-excludable** – impossible (or difficult) to exclude people from its benefits
 - 'Free rider' problem arises – no one will pay for what he can get free
 - Private firms will not provide public goods (unable to charge for consumption)
 - Public goods, therefore, have to be **provided by the government**

Examples of public goods include streetlamps and public libraries

Note: a **private good** is one that is both **rivalrous and excludable** – automobiles, clothing, food etc.

3) IMPERFECT COMPETITION

Perfect competition does not always exist in real markets, and more often than not, free market forces do not lead to optimum efficiency in resource allocation.

One example is the **monopoly**: the monopolist's output is not allocative efficient as it produces at a point where $P > MC$, creating a DWL of both consumer and producer surplus.

4) INEQUITY

The problem of inequity is distinct from that of inequality. Equity refers to a distribution of income that is considered fair – a normative issue. An equitable distribution is thus not the same as an equal distribution.

While to some extent, some degree of income inequality is desirable – as incentives to work hard etc., a very unequal distribution of income has negative repercussions especially on the socioeconomic front.

The solutions to inequity are briefly discussed under "Dealing with Inequality and Inequity"

GOVERNMENT INTERVENTION

Problem	Intervention	Evaluation
Zero provision of public goods	Direct provision of public goods	
Negative externalities	Financial intervention: taxes (equal to the monetary value of the MEC) are imposed on individuals or a firm, internalizing ECs	Advantages <ul style="list-style-type: none"> ▪ Leaves space for market forces to interact ▪ Provision of revenue for the government Disadvantages <ul style="list-style-type: none"> ▪ Difficulty in valuating EC ▪ Overvaluation means output is below social optimum, as with undervaluation means that output is not sufficiently lowered (ie, society's welfare is not always maximized) ▪ Effectiveness of tax dependent on PED
	Legislation: laws and administrative rules are passed to prohibit or regulate behaviour that imposes an EC, e.g. pollution permits	Enforcement is difficult and expensive
	Education, campaigns and advertisements solve the problem of imperfect information by allowing the external costs to be made known to the consumer, discouraging demand	Benefits must outweigh the costs of implementation. A lot of time may be needed for effects to be felt
Positive externalities	Financial intervention: subsidies made to the producer or consumer	Advantages <ul style="list-style-type: none"> ▪ Considered the most effective way of solving underconsumption as it is easily implemented Disadvantages <ul style="list-style-type: none"> ▪ Like taxes, the valuation of EB is difficult ▪ High government expenditure is required ▪ Okun's leaky bucket: each dollar transferred from a richer to a poorer individual, results in less than a dollar increase in income for the recipient. Leaks arise as a result of administrative costs, changes in work effort, attitudes etc. arising from the redistribution
	Legislation include regulation seatbelt usage, compulsory education etc.	Enforcement requires constant checking which may translate to high costs.
Non provision of merit goods	<p>There is a need to produce merit goods (which are naturally underconsumed) at low prices or for free due to four reasons</p> <ol style="list-style-type: none"> 1. Social justice: they should be provided according to need and not ability to pay 2. Large positive externalities, for example in the provision of free health services helps to contain and combat the spread of disease 3. Dependants are subject to their guardians decision which are not necessarily the best, therefore the provision of services like free education and dental treatment is needed to protect dependants from uninformed or bad decisions 4. Ignorance: The problem of imperfect information makes consumers unaware of the positive externalities and benefits that arise from consumption 	
Imperfect markets	Imposition of a lump-sum tax on a monopolist (shifts AC upwards), and supernormal profits are taken as tax. Governments may also regulate MC/AC pricing for monopolies.	
	<p>Government may impose regulations to control a monopolies</p> <ol style="list-style-type: none"> 1. Forbidding the formation of monopolies (e.g., antitrust laws) 2. Forbidding monopolistic behaviour (like predatory pricing) 3. Ensuring standards of provision. 4. Ensuring competition exists (e.g., deregulation) 	

NATIONALIZATION AND PRIVATIZATION

Nationalization refers to the public (governmental) ownership of certain firms to provide goods or services sold in the market, that is, public corporations engaged in commercial activities. Governments often take over natural monopolies to prevent monopoly pricing and examples include public utilities.

Advantages	Disadvantages
Consumers protected from high prices	Cross inefficiency may arise
Ensuring social costs and benefits are taken into account when production decisions are made	No profit motive may lead to nationalized enterprises being allocatively inefficient

Privatization refers to a change in ownership of an activity from the public to the private sector.

State owned companies having lost money may privatize to give new owners the responsibility of restructuring the enterprise.

FORMS OF PRIVATIZATION

1. **Denationalization:** Privatization of ownership – sales of assets or shares. The government may retain some shares in the enterprise, and acts as a regulator in this case to ensure that public interest is protected.
2. **Franchising:** Gives the private sector a right to operate a particular service/activity for a given length of time. May be exclusive or competitive
3. **Privatization of production:** Government buys goods and services instead of producing them
 - Refuse collection services being contracted to private firms
4. **Privatization of financing:** Government relies on consumer charges rather than tax revenue to subsidize operations. (e.g., independent school fees)
5. **Deregulation:** Liberalization of regulation to promote competition through the removal of barriers to entry (creation of contestable markets)
 - Telecommunications, financial industry, airline (US 'open skies' policy)

EVALUATION OF PRIVATIZATION

For	Against
Revenue for the government – reduces public-sector borrowing requirement. Allows the government to make tax cuts without reducing spending. Revenue might come in from higher corporate tax receipts from the privatized companies	Long term revenue loss – future profits from industries are lost by the state Natural monopolies are best left to the public sector as duplication of services is unnecessary – wasteful and inefficient and not in the best interests of consumers
Increased competition due to contestable markets and profit motives which translates to Benefits for consumers in the form of lower prices, wider choices and better qualities as X-inefficiency is reduced (<i>see Nationalization</i>)	Competition may not increase replacing a public-sector monopoly with a private-sector one does not increase competition as firms are still able to act like monopolists
Increased efficiency and flexibility as private companies are normally more successful in raising capital, lowering prices and cutting out waste. Little governmental interference allows the company to respond to market forces, and make commercially sensible decisions and investments	Market forces may not ensure greater efficiency – like before, remaining as private-sector monopolies are likely to earn supernormal profits even if they are inefficient. Large firm size also prevents firms from being taken over
Wider share ownership increases accountability to the public	Private-sector firms may not act in public interest as they do not take into account negative externalities (like resultant unemployment) and are unlikely to base their output and pricing on social justice and equity
Cost-push inflation is reduced. Private firms are less willing to accept inefficient working practices. Wage raises have to be justified by higher productivity.	

DEALING WITH INEQUALITY AND INEQUITY

The **tax system** can be used to reduce inequalities in income and wealth.

- **Progressive taxes:** people earning higher incomes are taxed a higher percentage of their income
 - Reducing income differentials
 - May create disincentives to work with excessive progressivity
- Direct tax imposition on wealth (e.g., inheritance taxes)

Monetary provision: money raised through the tax system is paid to low-income groups to increase Y_D

- **Means-tested benefits** are paid to those that fit certain criteria
 - Unemployment benefits
 - Might create disincentives to work
 - Not always claimed by those for whom they are designed
 - Expensive to administer
 - Low take up rates: bureaucracy and social stigma
- **Universal benefits** are paid out to everyone in certain categories regardless of income/wealth
 - State pensions, child benefits
 - May imply paying out money to those who do not need it
 - More expensive

Direct provision of goods and services are also financed through the tax system. Free provision means that if services are used equally by all, lower income groups gain more advantage, reducing inequality

- Healthcare and education
 - Subject to market failure, but justified by inequity

GOVERNMENT FAILURE

Government failure arises when government intervention in the market to improve market failure worsens the situation: increases market distortions and reduces welfare and economic efficiency instead of otherwise.

REASONS FOR GOVERNMENT FAILURE

Problem of incentives: undesirable incentives may create inefficiencies

- Taxation distorts incentives
 - Disincentives to work harder with progressive tax
 - DWL of a tax may cause a disincentive to consume and produce
- Politicians motivated by political power rather than economic imperatives
 - Policies designed to retain power rather than maximize efficiency
 - Political pressures dominates societal welfare
 - Taxes that reduce externalities may be unpopular are avoided
- Inappropriate incentives of public enterprises

Problems of information arise as, just as the markets lack information, more often than not, governments do too. The government may not know the full costs/benefits of policies even though it wishes to work to the interests of the consumer

- Imperfect information about the true value of a negative externality
 - Difficult to trace the source of a negative externality
 - Problems of taxation – difficult to put a figure to EC (*see Government Intervention*)
- Imperfect information about the level of consumer demand
 - Public goods provided may not be needed, or produced are wrong quantities

Problems of distribution arise as policies may affect different groups of people differently

Bureaucracy and inefficiency arise when policies are wide reaching and detailed, more people and resources will be involved. Inflexibility due to bureaucracy leads to a lack of fine-tuning (governments respond more slowly to problems when circumstances change)

Time lags in planning and implementation of policies cause policies to be ineffective, irrelevant, or come too late to solve a mounting problem

Frequent shifts in government policy may cause economic efficiency to suffer as firms find it difficult to plan without knowledge of tax rates, subsidies, wage controls etc.

Vicious circle of government intervention

SUMMARY OF MACROECONOMICS

CONCEPTS COVERED

NATIONAL INCOME ACCOUNTING
AGGREGATE DEMAND
CONSUMPTION FUNCTION
INVESTMENTS
NATIONAL INCOME EQUILIBRIUM
TAXATION
FISCAL POLICY
MULTIPLIER EFFECT
INFLATION
UNEMPLOYMENT
ECONOMIC GROWTH
BALANCE OF PAYMENT
INTERNATIONAL ECONOMICS

MACROECONOMIC AIMS

1. Low inflation
2. Sustained economic growth
3. Low unemployment
4. Balance of payments equilibrium

NATIONAL INCOME ACCOUNTING

Gross Domestic Produce refers to the value of all final goods/services produced within a given country during a given period of time

Gross National Produce refers to the value of all final goods/services produced by domestic factors of production during a given period of time

$$\text{GDP} = \text{GNP} + \text{NFIA}$$

USEFULNESS OF NATIONAL INCOME STATISTICS

Usefulness	Limitations
<p><u>Economic growth</u></p> <ul style="list-style-type: none"> ▪ Can measure changes in output as well as the rate of economic growth ▪ Gives an insight into living standards ▪ Is measured on a year-to-year basis on increases in national output <p><u>Comparisons across countries</u></p> <ul style="list-style-type: none"> ▪ Measure economic strength of countries ▪ Determines countries' levels of development ▪ Determines whether countries are in need of aid ▪ Classification of countries ▪ Developed/developing etc. based on per capita income <p><u>Measures contributions from various sectors</u></p> <ul style="list-style-type: none"> ▪ Determines if income is fairly distributed <p><u>Formulating future policies</u></p> <ul style="list-style-type: none"> ▪ Can forecast, as well as interpret trends ▪ Economic planning, policymaking etc. 	<p><u>Inaccuracies</u> – output going unrecorded, figures understate output</p> <ul style="list-style-type: none"> ▪ Nonmarket activities ▪ Volunteer work, housekeeping etc. are not recorded in NY figures ▪ Underground economy ▪ Illegal – drug dealing, prostitution etc. ▪ Legal – moonlighting with double jobs etc. ▪ Hidden from government records <p><u>International comparisons</u></p> <ul style="list-style-type: none"> ▪ Procedures differ from country to country ▪ Inaccuracies in data provided ▪ Conversion to common currency is required (PPP is sometimes used) ▪ Difference in culture ▪ Differences in population sizes ▪ Differences in size of underground economy ▪ May be in different phases of the business cycle – e.g. peak vs. trough <p><u>Measuring welfare/SOL</u></p> <ul style="list-style-type: none"> ▪ Leisure time ▪ As GDP increases, leisure time may have to be sacrificed – value placed on recreation may not be considered ▪ Environmental degradation ▪ Pollution not considered as costs to rise in output, finite resources may be depleted ▪ Income inequality ▪ Distribution of income, proportion on spending not reflected ▪ Higher output/production does not necessarily improve consumption – e.g. defence spending
<p style="text-align: right;">Note</p> <p>Though GDP does not measure economic well-being, it is positively associated with many things people value including a higher material standard of living, better health and longer life expectancies, higher literacy rates and educational attainment</p>	

NOMINAL VS. REAL INCOME

Nominal income refers to income at ruling prices, with no account of inflation

Real income refers to income at base year prices and takes into account inflation rates

BALANCE OF PAYMENTS

In the BOP receipts from abroad are regarded as credits (inflows) and entered in the accounts as positive. Outflows are regarded as debits and taken as negatives. When the credits and debits are taken, they must sum to zero.

A **surplus** on the BOP refers to a situation in which international receipts (credits) are greater than international payments (debits) over a year. Conversely, a **deficit** on the BOP refers to a situation in which international receipts are less than international payments.

Current Account	Goods Balance <ul style="list-style-type: none"> ▪ Imports and exports of physical goods 	BOT
	Service Balance <ul style="list-style-type: none"> ▪ Import and exports of services (e.g., insurance) 	
	Income Balance <ul style="list-style-type: none"> ▪ Wages, interest and profits flowing into and out of the country 	
Capital Account	FDI <ul style="list-style-type: none"> ▪ Inflow and outflow of investments – investments overseas will be seen as outflows, investments from foreign MNCs (for example) will be seen as an inflow ▪ Note that <u>profits</u> from such investments are to be credited into the current account and not here. 	
	Overall Balance <ul style="list-style-type: none"> ▪ A positive currency flow indicates BOP surplus – increase in foreign currency available for adding to foreign reserves/paying off foreign debts ▪ A negative currency represents a BOP deficit 	
	Official Reserves (Net) <ul style="list-style-type: none"> ▪ Shows how monetary authorities deal with net currency flows, whether surpluses or deficits 	

AGGREGATE DEMAND

AD is defined as the total level of demand in an economy
 In a four sector economy, it is given by $AD = C+I+G+(X-M)$

The AD curve is **downward sloping** due to three effects

- **Real wealth effect** – When prices go down, purchasing power goes up. Consequently, consumption goes up
- **Interest rate effect** – When price levels go down, demand for money goes down leading to a fall in interest rates. This means the cost of borrowing is lowered, increasing demand and subsequently, firms’ level of investment.
- **International substitution effect** – When export prices go down, foreigners buy more. Likewise, when import prices are relatively higher, imports are substituted by domestic products.

SHIFTS IN AD

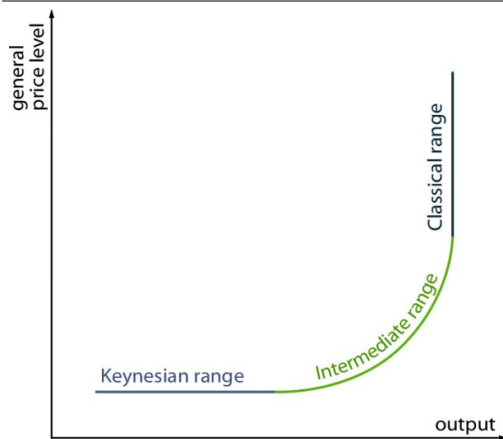
Shifts of the AD curve may be effected by a change in any of the following

Real Wealth	When real wealth increases, demand increases. AD shifts right.
Interest rates	When interest rates go down, price levels go down. Consumers are more likely to purchase now (as the opportunity cost of investment is lower). AD shifts right
Inflation	If there is an expected change in prices in the future, consumers will tend to purchase now. AD shifts right.
Income abroad	When income from abroad increases, demand for exports increases. AD shifts right.
Exchange rates	As local currency appreciates, there is an increase in imports and a decrease in exports. AD shifts left
Expectations	

AGGREGATE SUPPLY

AS is the total output of each good/service that firms would like to produce at each possible price level.

SHAPE OF THE AS CURVE



Keynesian range

- Supply is perfectly elastic
- Output is at a level less than full employment
 - i.e. there is spare capacity
- An increase in output doesn't reflect any changes in the general price level.

Intermediate range

- Level of output is approaching full employment
- An increase in output is reflected by an increase in general price levels
- Law of diminishing marginal returns sets in

Classical range

- Supply is perfectly inelastic
- Output is at full employment
- An increase in production has merely inflationary pressure – an increase in general price levels does not reflect any change in output

SHIFTS IN AS

Shifts of the AS curve may be effected by a change in any of the following

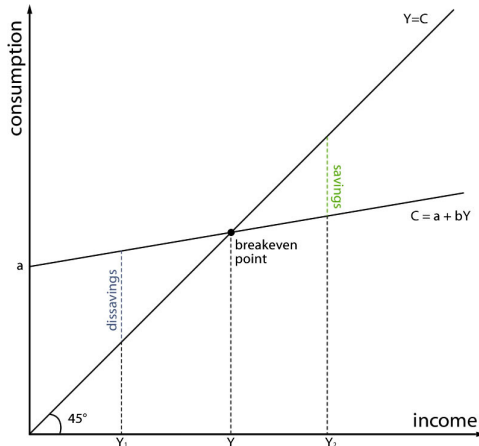
Government policies	Depending on type of policy, may affect either SRAS or LRAS.
Inflation	If prices are expected to rise, produces supply less. SRAS shifts left.
Factor prices	Lower factor prices mean lower costs of production. SRAS shifts right, LRAS may shift right if the decrease in price is permanent
Technology	Lowers costs of production, increases output. Both SRAS and LRAS shift right.
Supply shocks	Supply shocks are temporary increases/decreases in supply. Only SRAS is affected.

CONSUMPTION FUNCTION (C)

The **consumption function** is maps the level of aggregate consumption desired at each level of disposable income.

Assumptions of the consumption function are that

1. Technology is constant
2. Potential output is constant (i.e., the PPC does not shift)
3. There is fixed general price level



Autonomous consumption (indicated by a) refers to the level of consumption that does not vary with income

Induced consumption (indicated by bY) refers to expenditure that varies directly in income (b = MPC)

Average propensity to consume (APC) refers to the proportion of total income spent on consumption.

$$\text{It is given by } APC = \frac{C}{Y} = \frac{a+bY}{Y}$$

Marginal propensity to consume (MPC) refers to the proportion of extra income spent on consumption.

$$\text{It is given by } MPC = \frac{\Delta C}{\Delta Y}$$

The **absolute income hypothesis** states that an increase in absolute income translates directly to a change in absolute consumption.

On the other hand the **permanent income hypothesis** states that consumption is dependent, to some extent, on one's expected income for the rest of one's life.

Savings refer to the residual of consumption.

$$\text{The APS is given by } APS = \frac{S}{Y} = 1 - APC$$

$$\text{The MPS is given by } MPS = \frac{\Delta S}{\Delta Y} = 1 - MPC$$

SHIFTS IN THE CONSUMPTION FUNCTION

The consumption function may shift due to changes in the following

Wealth	An increase in wealth shifts the consumption function upwards
Interest rates or availability of credit	An increase in interest rates shifts the consumption function downwards
Distribution of income	A more equal distribution of income shifts the consumption function upwards
Expectation of future prices or income	Expectations on future prices or income may shift the consumption function upwards or downwards.

AGGREGATE EXPENDITURE

AE is defined as the total level of spending in an economy.

In a four sector economy, it is given by $AE = C+I+G+(X-M)$ *

Consumption	Investments	Government expenditure	Exports	Imports
Autonomous and induced	Autonomous in the SR	Autonomous	Autonomous	Induced

* Do note that even though it is the same as AD, the axes of the AE graph are different

INVESTMENT (I)

Investment (I^m) refers to the act of acquiring fixed capital assets and accumulating stocks and inventories. In essence, it is the process of adding capital goods in an economy.

Autonomous investment refers to investment influenced by firms' long run profits outlook (under various influences) and is independent of Y . Investments are autonomous in the short run.

Induced investment refers to investment that varies directly with Y , and is a result of firms responding the changes in the flow of income.

The **marginal efficiency of investment** (or rate of return on investments) is a graph plotted on the axes investments against interest rates. The MEI curve is interest rate inelastic and downward sloping due to the inverse relationship between investments and interest rates.

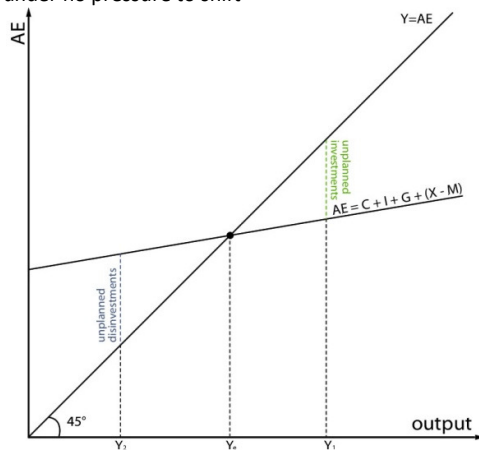
CHANGES IN INVESTMENTS

Investments may shift as a response to changes in any of the following

Business confidence	A higher business confidence (affected by many things) will increase investments.
Cost and availability of capital goods	The lower the cost of capital goods, the higher the rate of investments.
Rate of change of income	As the income increases at an increasing rate, investments will increase as well.
Government policies	Government policies (e.g. pioneer statuses, tax holidays) generally work to increase investments
Technology	Changes in technology shifts the MEI rightward

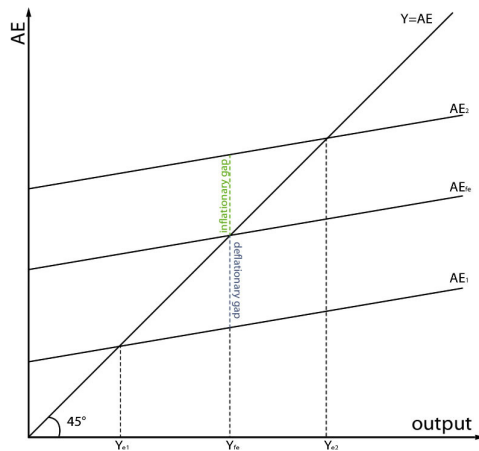
NATIONAL INCOME EQUILIBRIUM

The equilibrium level of income is the level of income towards which the economy will tend, and, once reached, will be under no pressure to shift



- At Y_1
 - There is unsold output
 - Unplanned investments
 - Firms reduce output in the next time period
- At Y_2
 - There is excess demand
 - Firms draw on stocks
 - Unplanned disinvestments
 - Firms increase output in the next time period

EQUILIBRIUM AND FULL EMPLOYMENT



Full employment is defined as the level at which all economically active persons employed in the economy, not taking into account those that are structurally or frictionally unemployed. (Typically the unemployment rate at full employment lies between 4-6%)

The **deflationary gap** refers to the amount of AE that falls short of the level necessary to reach full employment

The **inflationary gap** refers to the amount of AE that exceeds the level necessary to achieve full employment. In real life, this hardly happens as there is very rarely cases of overemployment where $AE > AE_{fe}$

TAXATION (T)

PURPOSE OF TAXATION

1. Government revenue
2. Social purpose
 - a. Reduces inequality in income or wealth distribution
 - b. Checks on consumption of demerit goods
3. Economic
 - a. Fiscal tool
 - b. Changes patterns of demand
 - c. Influences BOP, protects domestic economics
 - d. Redirects trade through preferential tariffs

TAX STRUCTURES

Direct taxes are taxes on income and wealth, not passed on to consumers. (Income tax, estate duty etc.)

Indirect taxes are taxes on expenditure/production of goods. They can be passed on, and often, consumers bear the burden of indirect taxes. (VAT/GST, customs duty, sales tax etc.)

The **impact** of taxation refers to whom a tax is levied.

The **incidence** of taxation refers to the eventual distribution of the tax burden.

Marginal tax rate (MTR) refers to the proportion of additional income paid in taxes. It is given by $\frac{\Delta T}{\Delta Y}$.

Average tax rate (ATR) refers to the proportion of total income paid in taxes. It is given by $\frac{T}{Y}$.

Proportional Tax	Progressive Tax	Regressive Tax
MTR = ATR	MTR > ATR	MTR < ATR
Corporate tax	Income tax	GST
	Takes into account ability to pay	

EFFECTS OF TAXATION

1. **Production**
 - a. Affects labour supply – progressive taxes discourages work, lowers income, production and supply of labour
 - b. Acts as a disincentive for enterprise
2. **Investments** – lower taxes means a higher MEI, but also means a higher government deficit leading to higher interest rates, lower investments. Net effect is variable
3. **Savings** – progressive taxes reduces ability and willingness to save
4. **Resource allocation** – helps in resource reallocation, different goods are taxed differently
5. **Inflation** – direct taxes lead to investments, higher direct taxes means lower disposable income and lower export prices. Effects of unions

GOVERNMENT EXPENDITURE (G)

TYPES OF GOVERNMENT EXPENDITURE

1. Operating expenditure: Incurred on a day-to-day basis. More or less anything that isn't development expenditure.
2. Development expenditure: For economic and social development.

EFFECTS OF GOVERNMENT EXPENDITURE

1. **Resource allocation** – varying the types of government expenditure can affect the pattern of production in an economy
2. **Income and wealth distribution** – expenditure on health, education, social welfare, old-age pensions benefits mainly the poor. Coupled with a progressive tax system, reduces inequalities between the rich and poor.
3. **Economic growth** – expenditure on infrastructure etc. may improve the productive efficiency of a country. Output employment and income increases.
4. **Economic stability** – G used as a tool to influence level of economy activity in depression, inflation etc.

FISCAL POLICY

Fiscal policy (FP) is the use of the budget (T or G) as an instrument of macroeconomic policy to adjust AD

NONDISCRETIONARY FISCAL POLICY: AUTOMATIC STABILIZERS

Tax progressivity – stabilizes abrupt changes in consumption and economic activity

Unemployment compensation – slows down inflation by offsetting loss of earned Y in the unemployed

Family assistance programmes – stabilizes demand as aid is tied to income level – slows down the fall in consumption and AD

DISCRETIONARY FISCAL POLICY: BUILT IN STABILIZERS

	Expansionary FP	Contractionary FP
Effected by	Increasing G; Decreasing T	Decreasing G; Increasing T
Creates a	Deficit ($G > T$)	Surplus ($G < T$)
Effects	<p>Permanently increases NY by a multiple amount if G is a new expenditure and not a substitution of another</p> <p>A deficit is financed by either borrowing – which leads to crowding out effect; lowers I^m – or money creation (without such adverse effects)</p>	<p>Debt reduction – if tax revenue is transferred to the domestic money market; i/r falls; C and I stimulated</p> <p>Impounding if the surplus is left idle</p>

PROBLEMS WITH FISCAL POLICY

Nondiscretionary

Automatic stabilizers, while helping to reduce the severity of fluctuations in the economy, **do not eliminate them**

Adverse supply-side effects:

- **High taxes** discourage effort and initiative (e.g., highly progressive income taxes)
- **High unemployment benefits** encourages longer search times and increases equilibrium unemployment increase

Fiscal drag: In the even of a recession, attempts to move out of recession would be dampened by the effect of automatic stabilizers. This means that economic recovery takes a longer time

Discretionary

Not suitable for **SS-side inflation**, as FP mainly targets AD

Political pressure – problems of what part of the budget to change due to pressure from various vested interest groups. Changes in G are difficult to administer – especially increasing taxes.

Difficult in prediction

- Crowding out effect
- Exact effect may vary
- Size of multiplier may mean MPC (and therefore MPM) fluctuates variably

Time lags: recognition, administrative as well as operational lags.

Inflexibility as projects underway are difficult to halt without resource wastage

Crowding out of private investment when government spending increases

Cost inflation due to rise in corporate taxes

Case: Fiscal Policy with respect Singapore

Note that FP is directed a long-term economic growth, and has a limited effect on Singapore due to our high MPM and MPS, both of which affect the multiplier which in turns dampens the effect of fiscal policy.

Also, we have a low MPT as compared to most developed countries, and need to keep it low to maintain competitiveness, thus increasing T is not suitable.

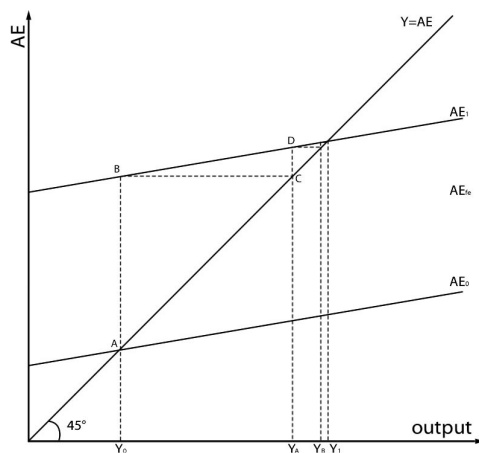
THE MULTIPLIER EFFECT

The **multiplier** is a numerical coefficient by which a change in AE is multiplied to show the final change in NY.

The multiplier is given by $k = \frac{1}{MPW} = \frac{1}{MPS+MPT+MPM} = \frac{\Delta Y}{\Delta AE} = \frac{1}{1-MPI}$

THE MULTIPLIER PROCESS

When there is an rise in injections (**say, firms decide to invest more**), aggregate expenditure (**C+I+G+X-M**) will be higher. Firms will respond to this increased demand by using more labour and other resources and thus paying out more incomes (**Y**) to households. Household consumption will rise and so firms will sell more. Firms will respond by producing more, and thus using more labour and other resources. Household incomes will rise again. Consumption and hence production will rise again, and so on. There will thus be a multiplier rise in incomes and employment. This is known as the multiplier effect. The process, however, does not go on forever. Each time household incomes rise, households save more, pay more taxes and buy more imports. In other words, withdrawals rise. When withdrawals have risen to match the increased injections, equilibrium will be restored and National Income and employment will stop rising. (**Sloman**)



- At Y_0 , planned AE > planned output
- Unplanned disinvestments of AB
- Firms increase output by BC to match the higher AE, Y_0B
- NY increases from Y_0 to Y_a
- Consumption rises, AE rises to Y_aD
- Unplanned disinvestments of CD
- Firms continue to increase output until planned AE = output

ACCELERATOR THEORY

The **accelerator theory** relates investments to a change in NY. It states that firms will choose to invest when NY is rising at an increasing rate.

The accelerator process

1. Autonomous AE increases
2. Multiplier kicks in, NY increases – multiplier effect
3. If NY increases faster than before, firms respond by increasing investments
4. The increase in investments increases AE
5. 2nd multiplied increase in NY occurs – multiplier effect
6. 2nd increase in investments occurs – accelerator effect

INFLATION

Inflation refers to a situation in the economy where there is a general and sustained increase in prices, and is measured in terms of indices such as the CPI.

CONCEPTS

Inflation may be characterized as **moderate** (>10%), **galloping** (double- to triple-digit percentage increases) or in a state of **hyperinflation** (up to a million or a trillion percent).

Reflation refers to a period of mild inflation. **Disinflation** refers to the process of elimination or reducing inflation while **deflation** refers to a situation in which there are falling prices. **Slumpflation** refers to a period during which there is both inflation and unemployment. **Stagflation** refers to a period during which there is inflation with no or negligible growth in GDP/GNP/

CAUSES OF INFLATION

Demand-pull inflation (shifting AD) may be caused by

- Increased AD (anything that changes CIGXM)
 - Reduction in exchange rates
 - Reduction in taxes
 - Reduction in i/r
 - Rising consumer confidence
 - Faster economic growth externally
- Changes in money supply
 - Money supply growing faster than output
 - Increased bank borrowing

Cost-push inflation (shifting AS) may be caused by

- Higher costs
 - Wage-push inflation
 - Profits-push inflation - firms passing on costs to consumers by raising prices
 - Supply-side inflation - rise in prices of imported raw materials
 - Higher import/export prices
 - Increase in the level of indirect taxes
 - Structural inflation due to structural rigidities (like labour immobility)

COSTS OF INFLATION

<p>Effects of income redistribution</p> <ul style="list-style-type: none"> ▪ Fixed income earners lose out – Y_{real} falls ▪ Demand-pull inflation generally widens profit margins, cost-push inflation may squeeze profit margins. In general, consumers lose out if inflation causes Y_{real} to fall ▪ Savers lose out ▪ Debtors gain, creditors lose out. In general, inflation tends to encourage borrowing and discourage lending. 	<p>Effects on production and investment</p> <p>Mainly depends on the <u>extent</u> of inflation</p> <ul style="list-style-type: none"> ▪ Favourable to economic growth – profits rise, costs lag behind ▪ Sends the wrong signals to producers if inflation is unexpected ▪ Creates uncertainty ▪ Increases speculation
<p>Effects on balance of payments</p> <p>Depends on the extent of inflation with respect to other countries. Consider the situation in which the domestic market experiences greater inflation than foreign markets</p> <ul style="list-style-type: none"> ▪ Exports become less competitive in foreign markets, foreign imports become more competitive in domestic markets 	<p>Other effects</p> <ul style="list-style-type: none"> ▪ Wage spiral (higher prices → Dd for higher wages → higher wages → higher prices etc.) ▪ Stimulus: depends on the level of employment at which the economy is at <ul style="list-style-type: none"> ○ Consider the different effects of cost-push and demand-pull inflation

UNEMPLOYMENT

TYPES AND CAUSES OF UNEMPLOYMENT

Frictional	Structural
<p>Arises when people are in between jobs – exists even when the economy is at full employment.</p> <ol style="list-style-type: none"> Imperfect labour market operations <ol style="list-style-type: none"> e.g. Imperfect information Immobility of workers 	<p>Arises due to</p> <ol style="list-style-type: none"> Changes in the structure of the economy Mismatch between skill/location of the labour force and those required for new jobs <ol style="list-style-type: none"> Changes in pattern of demand/supply
Classical (Real-wage)	Demand-deficient (Cyclical)
<ol style="list-style-type: none"> Monopoly power causing wages to be above market clearing level <ol style="list-style-type: none"> Role of unions 	<p>Involuntary unemployment</p> <ol style="list-style-type: none"> Due to lack of AD for goods Associated with transitions of the economy through the business cycle

COSTS OF UNEMPLOYMENT

- Lost output
- Waste of resources – deskilling of workers over time
- Government finances
 - Lost of tax revenue
 - Direct – Unemployed do not pay income tax
 - Indirect – Unemployed consume less and hence pay less indirect taxes
 - Increased spending on welfare benefits
- Loss of profits
 - Firms lose profits from potential output at full employment
- Social costs

ECONOMIC GROWTH

Actual growth refers to the percentage annual increase in national output.

Potential growth refers to the speed at which the economy could grow should no resources be left idle.

FACTORS AFFECTING RATE OF ECONOMIC GROWTH

Productivity refers to the quantity of goods/services that a worker can produce for each hour of work

- Natural resources
 - Increase in natural inputs
 - Increase in quantity of labour
 - Increase in population size of participation
- Human capital
 - Knowledge/skills acquired
 - Education, training, retraining
- Physical capital
 - Increase in stock of capital goods
 - Economic growth is fastest when the share of output devoted to capital formation is large
- Technological knowledge
 - Innovation, new production methods

CAUSES OF SLOW/NEGATIVE ECONOMIC GROWTH

- AD – if AD does not expand at the rate of supply increase, unemployment may exist and growth may be slowed
- Low rate of I^m – may be due to low savings.
- Capital accumulation – a lack of increase in capital would mean that growth has an upper limit. Technological change would then be necessary for economic growth
- Lack of natural resources
- Lack of human capital – education, training and retraining plays a part in preparing the workforce for growth.
- Sociocultural factors – religious/social norms may impact the economy
- Political factors – stability is essential for growth
- Policy mistakes/external shocks

CONSEQUENCES OF SLOW ECONOMIC GROWTH

Unemployment/lost output	Less consumption/savings	Lower investment/LR growth
Less workers would be hired, capital accumulation falls.	Lower income means falling expenditure as well as savings. Borrowing may also be greater	Recession may lead to falls in investment via the accelerator effect. Long term economic growth is compromised

COST-BENEFIT ANALYSIS: ECONOMIC GROWTH

Benefits	Costs
<p><u>Increased levels of consumption</u> <u>Higher standards of living</u> Provided economic growth > population growth, it will lead to a higher Y/capita. This leads to a increase in consumption.</p> <p><u>Avoiding other macroeconomic problems</u> Without a growth in productive potential, a demand for higher Y may lead to higher inflation, BOP disequilibrium etc. Growth helps to meet these demands and avoid such crises.</p> <p><u>Income redistribution is easier</u> If Ys rise, governments find it easier to redistribute Y to the poor without the rich losing out. Also, government revenues rise (from increases in tax revenue) and such revenues can be used to alleviate poverty. Without a continual rise in NY, the scope for helping the poor is much more limited.</p> <p><u>Society feels it can afford to care more for the environment</u> As people grow richer, they may become less occupied with private consumption, and more concerned to live in cleaner environments. Likewise, the regulation of pollution tends to be stricter in DCs than in LDCs.</p> <p><u>Increase in government tax revenue</u></p>	<p><u>Present opportunity costs of growth</u> To achieve even faster growth, firms have to finance more investments etc. These finances come from savings, or retaining profits or taxes, and raising these means, in some way or other, a cut in consumption. In the SR high growth thus leads to less consumption and more.</p> <p><u>Growth may generate extra demand</u> "The more people have, the more they want" – higher consumption may not necessary lead to higher utility</p> <p><u>Social effects</u> Materialism, less caring society etc. May drive up violence, crime and related social problems</p> <p><u>Environmental costs</u> Society may be more concerned for the environment, but also more likely to destroy it. Higher levels of consumption translate to higher levels of pollution and waste.</p> <p><u>Non-renewable resources</u> Such resources are rapidly depleted, rather than used more efficiently.</p> <p><u>Effects on income distribution</u> While some people may gain from higher SOLs, other may lose. If the means to growth are greater incentive (such as cuts in progressivity of Y tax), then the rich get richer and the poor get poorer – no trickle-down is felt. Growth may also involve changes in production, which also means changes in the skills required. People may find their skills no longer relevant as a result of growth. Unemployment may rise.</p>

References: Sloman, RJC Economics notes.

BALANCE OF PAYMENTS

A BOP is in **equilibrium** if annual trade is in overall balance and the exchange rate remains stable

CAUSES OF DISEQUILIBRIUM

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. High MPM – caused by a preference for foreign products leading to trade deficits. In Singapore’s case may be due to lack of natural resources 2. Changes in pattern of demand 3. Changes in pattern of production – production may shift overseas 4. Changes in terms of trade – if DD_M is price inelastic, a fall in imported goods may mean that BOP improves | <ol style="list-style-type: none"> 5. Exchange rates – appreciations of domestic currency means that imports are cheaper 6. Inflation 7. Cyclical and monetary changes – and increase in GDP due to higher AD means that imports become cheaper. 8. Institutional changes 9. Sociopolitical factors |
|---|--|

CONSEQUENCES OF PERSISTENT DISEQUILIBRIUM

Persistent Deficit	Persistent Surplus
<ol style="list-style-type: none"> 1. Foreign reserves/exchange rates – foreign reserves decline, borrowing may be necessary to finance deficit, currency may depreciate and consequently, external purchasing power declines. External debts incurred, the servicing of which leads to further outflows of currency 2. Reduction investments – a persistent deficit implies problems in a country. This leads to a loss of confidence and thus investments 3. Employment – if deficit is due to higher cost of production, a persistent deficit may imply further job loss is a present threat 	<ol style="list-style-type: none"> 1. Other countries’ deficit – another country’s deficit may become a problem for the country with a surplus in the future 2. Dutch disease – short term capital flows may result in speculation, causing an appreciation in a country’s currency. Exports become uncompetitive 3. Inflation – if the surplus is due to an increase in AD, inflationary pressures may occur if the economy is close to Y_{fe}

INTERNATIONAL ECONOMICS

International trade refers to the exchange of goods and services between countries, involving the use of different currencies and crossing international borders

The factors encouraging trade are

1. The **uneven distribution of resources** throughout the world
2. The need for **different proportion of factor inputs** for the production of different goods
3. The **limited international mobility** of resources

THE THEORY OF COMPARATIVE ADVANTAGE

A country is said to have **comparative advantage** in the production of a good when the country can produce that good at a lower opportunity cost than another country.

- Assumptions held:
1. No transport costs
 2. No trade restrictions
 3. Perfect mobility
 4. Full resource employment

The **law of comparative advantage** states that trade thus arises between two nations if there is a difference between the comparative costs of producing particular goods.

	Production before specialization			Production after specialization	
	Wheat	Cloth		Wheat	Cloth
Country A	100	60	Country A	110	54
Country B	5	10	Country B	0	20
World output	105	70	World output	110	74

Sources of comparative advantage

1. International differences in factor endowments
 - a. Differences in resources endowments, climate etc.
 - b. The relative prices of factor inputs (and therefore prices of goods and services) thus differ
 - c. Note how factor endowments may change over time
2. Differences in technology
 - a. Varying intensities of R&D, ability to keep up with technology
3. Dynamic comparative advantage
 - a. Refers to the changing pattern in CA
 - b. Looks to governments to continually establish policies and promote opportunities for countries to best exploit their areas of CA

TRADE: AN ANALYSIS

Advantages	Disadvantages
<p>Greater world output, higher consumption of goods and services</p> <ul style="list-style-type: none"> ▪ With trade, consumption can occur outside the PPC at previously unattainable levels, directly translating to higher levels of welfare for society <p>Reduction in unit costs of production</p> <ul style="list-style-type: none"> ▪ Exploiting EOS by small domestic markets – ability to export to other countries helps to widen markets for products <p>Stimulate economic development and growth</p> <ul style="list-style-type: none"> ▪ Expansion of domestic markets ▪ Increasing competitiveness of domestic markets ▪ Attracting investment <p>Facilitates transfer of technology and ideas</p> <p>Consumer benefits</p> <ul style="list-style-type: none"> ▪ Greater consumer choice ▪ Lower prices ▪ Better quality of products 	<p>Unfair competition and dumping</p> <ul style="list-style-type: none"> ▪ Unfair competition as some imports may be heavily subsidized by governments ▪ Local enterprises may be stifled <p>Imports of harmful goods</p> <p>Overdependence on other countries</p> <ul style="list-style-type: none"> ▪ Specialization inevitably means the narrowing of economics structures ▪ Changes in market conditions may also cause serious economic decline due to structural rigidities ▪ Certain goods are basic, essential, or strategic and countries cannot afford to depend on foreign suppliers for such goods

BARRIERS TO TRADE

Natural barriers to trade

1. High transport costs (e.g. port taxes, freight charges etc.)
 - a. Costs of moving and handing goods.
 - b. Transport costs raises COP and reduces relative efficiency
2. Factor immobility
3. Increasing costs of production
 - a. Opportunity costs are not constant
 - b. LDMR sets in, raising costs of production in the process
 - c. Explains the prevalence of partial, rather than complete, specialization

Artificial barriers to trade: Protectionism

Tariffs

Tariffs are custom duties or taxes on imports imposed by governments, serving to raise the price of imported goods.

Effects of a tariff:

1. Consumers reduce consumption of imports
 - a. Switching to domestically produced import substitutes
 - b. Consumer surplus decreases
2. Domestic producers expand production
 - a. Revenues previously earned by foreign producers now go to domestic producers
 - b. Producers' surplus increases
3. Gains in government revenue
 - a. Tariffs received as tax revenues
 - b. Overall deadweight loss

Note that the overall effect of a tariff, like all taxes, depend on the PED_M

Quotas

Quotas are limits imposed on the physical quantities or values of goods imported into or exported out of a country.

The effects of a quota are more or less similar to those of a tariff (but do take note of how the surpluses change and where profits go in the case of quotas).

Other nontariff barriers

These include embargos on imports, voluntary export restraints, rules of origin etc.

PROTECTIONISM: AN ANALYSIS

Point	Evaluation
Protection of infant industries New industries need to be protected from competition in their initial stages. Time is needed to develop skilled management, reputation, reap EOS etc. For industries having potential CA, a guaranteed home market is essential.	Difficulties in identifying which industries will achieve CA in the LR. Also difficult to determine when the industry is sufficiently established to do without protection.
Protection of mature industries Traditional industries may lose their CA in world markets. Protection is thus needed to allow such industries to decline slowly and prevent the precipitation of massive regional unemployment.	Perpetuates domestic inefficiency and represents misallocation of resources. Also likely to be met by retaliation.
Increasing domestic production Especially during recessions or economic stagnation. Protectionism diverts demand towards domestic products	
Protection against low wage foreign labour To allay fears of SOLs dropping due to import of cheaper goods or loss of jobs	Goes against the principle of CA – losses in CA should drive a country to source for new areas of CA. Benefits of trade are also subsequently lost under protectionism.
Reduce BOP deficits Deficits caused by high levels of imports may run down foreign reserves.	Depends on the PED_M and PED_x . Governments must also take into account other causes of the disequilibrium and tackle these causes directly
Prevent unfair trade practices Protection against dumping, etc.	Protectionism in this case is justifiable – just note that level of protection should only cover the differences between the export price and normal selling price.

Noneconomic reasons may include political reasons like national security or foreign policy, or social reasons like the restriction of imports of harmful commodities.

GLOBALIZATION

Cost-Benefit Analysis: International capital movements

	Benefits	Costs
Host	<ol style="list-style-type: none"> 1. Economic growth, employment 2. Increased productivity, higher wages 3. Transfer of managerial and technical skills 4. Benefits from technology, PPC shifts outward 5. Demonstration and competitive effects 6. Increased exports, forex earnings 7. Government tax revenues 	<ol style="list-style-type: none"> 1. May stifle local enterprises 2. Destabilizing effects of fund movements 3. Economic dualisms 4. Crowding out effect 5. Environmental degradation
Source	<ol style="list-style-type: none"> 1. Other industries' contribution to exports increase 2. Income from abroad – remittances etc. 3. Investments abroad improve competitiveness 	<ol style="list-style-type: none"> 1. Short run loss of jobs 2. Lower wages 3. Loss of tax base and thus revenues 4. Falling exports if investments from abroad supplies the market directly from the home country

MACROECONOMICS CHEAT SHEETS

CONCEPTS COVERED

UNEMPLOYMENT

INFLATION

ECONOMIC GROWTH

BALANCE OF PAYMENTS

UNEMPLOYMENT

Types and Causes		Policy Options	
<p>Note that some level of unN will always be present in an economy at the level we know as full employment. This natural rate of unN is also known as equilibrium unN. Below are the four main types of unN you should be aware of.</p>		<p>Expansionary demand management policies Generally only works for demand-deficient unN as these policies increase AD</p> <p>Fiscal policy $G \uparrow$ on supply-side policies $\rightarrow AD \uparrow$ Income tax $\downarrow \rightarrow$ more incentive to be employed</p> <p>Monetary policy $i/r \downarrow \rightarrow i^m \uparrow \rightarrow AD \uparrow$ [xcrp to increase demand for exports or to decrease amount of foreign labour] - weak</p>	<p>Supply-side policies increase the productive capacity of the economy <u>Improving employability</u>: through education, retraining etc. (e.g. WDA in Singapore) <u>Improving incentives</u> for people to search and accept N (e.g. through tax/benefit reforms) <u>Sustaining EG</u> in the LR constantly creates new jobs</p>
<p>Frictional Arises when people are in between jobs – exists even when the economy is at full employment. 1. Imperfect labour market operations 2. Immobility of workers</p>	<p>Structural Arises due to 1. Changes in the structure of the economy 2. Mismatch between skill/location of the labour force and those required for new jobs - Changes in pattern of demand/supply</p>	<p>Conflicts In general solving demand-deficient unN would have demand-pull inflationary pressures – demand and costs pressures. Also, a low rate of unemployment may result in a current account deficit.</p>	
<p>Classical 1. Monopoly power causing wages to be above market clearing level - Role of unions</p>	<p>Demand-deficient (cyclical) Involuntary unemployment 1. Due to lack of AD for goods 2. Associated with transitions of the economy through the business cycle</p>		

Consequences		
	Internal	
Short run	<p>$Y_e < Y_f$ $unN \uparrow \rightarrow$ output, G, NY all \downarrow $unN \uparrow \rightarrow$ SOL \downarrow</p> <p>Loss of potential output that could have been produce if unemployed were employed \rightarrow less goods for consumption</p> <p>SOL \downarrow for unemployed – forced to consumer less due to lower Y_D</p>	
	<p>Decreased FDI $unN \uparrow \rightarrow$ FDI \downarrow Especially in the case of structural unN – labour force is deskilled, companies tend to pull out</p> <p>[$unN \uparrow \rightarrow M \downarrow \rightarrow$ CP, current account \downarrow] – this point is rather weak</p>	
Long run	<p>Loss of output and profits: unN limits the outward shift of the PPC Structural unN – inward shift of the PPC due to quantity of labour falling</p> <p>Deskilling – skills becoming obsolete PEG is affected in the LR – PPC moves out less quickly</p> <p>Lower PEG $unN \uparrow \rightarrow$ dissavings $\rightarrow S \downarrow \rightarrow$ supply of loanable funds $\downarrow \rightarrow i/r \uparrow \rightarrow i^m \downarrow \rightarrow$ K stock $\downarrow \rightarrow$ PEG \downarrow (outward shift of PPC limited)</p>	<p>Income redistribution The Y-gap worsens as structural/seasonal unN tends to happen to people from lower Y groups</p> <p>Fiscal costs to governments In <u>welfare states</u>, $G \uparrow$ as unN benefits are paid out. <u>Tax revenues</u> \downarrow both directly (as zero Y earners do not pay income tax) and indirectly (zero Y earners consume less and thus pay less taxes on C).</p> <p>Inefficiency as an economy is producing within the PPC</p> <p>Negative social effects like strikes, crimes and suicide.</p>

INFLATION

Refers to a situation in the economy where there is a general and sustained increase in prices, and is measured in terms of indices such as the CPI.

Types and Causes		Policy Options	
Demand-pull inflation (shifting AD) <ul style="list-style-type: none"> Increased AD (anything that changes CIGXM) <ul style="list-style-type: none"> Reduction in exchange rates Reduction in taxes Reduction in i/r (hence $I^m \uparrow$) Rising consumer confidence Faster economic growth externally Changes in money supply <ul style="list-style-type: none"> Money supply growing faster than output Increased bank borrowing 		Contractionary demand management policies. Generally used for Dd-pull inflation. <u>Fiscal policy</u> $T \uparrow \rightarrow I^m \downarrow, C \downarrow \rightarrow AD \downarrow$ $G \downarrow \rightarrow AD \downarrow$ <u>Monetary policy</u> $i/r \uparrow \rightarrow I^m \downarrow, C \downarrow \rightarrow AD \downarrow$ $Ss_M \downarrow \rightarrow i/r \uparrow \rightarrow$ etc	
Cost-push inflation (shifting AS) <ul style="list-style-type: none"> Higher costs <ul style="list-style-type: none"> Wage-push inflation Profits-push inflation - firms passing on costs to consumers by raising prices Supply-side inflation - rise in prices of imported raw materials Higher import/export prices Increase in the level of indirect taxes Structural inflation due to structural rigidities (like labour immobility) 		Supply side policies <u>Market policies</u> Manpower policies: <ul style="list-style-type: none"> Improve efficiency of labour markets such that $un \downarrow$ Better matching of workers to jobs Pro-competition policies: <ul style="list-style-type: none"> Reduce the monopoly/market power of unions/business, such they unable to push up W rates ahead of average productivity increases. (e.g. antitrust laws) <u>Wage-Price policies</u> <ul style="list-style-type: none"> Wage guideposts Price guideposts Wage-price freeze <u>Supply side economics</u> <ul style="list-style-type: none"> Increase AS e.g., via increasing technological capabilities 	
Conflicts			
Note that regulating inflation should always be a government's first priority as it may lead to a major economic collapse as well as the implementation of currency reforms. Meeting other policy objectives often conflicts with decreasing inflation – e.g. increasing employment, economic growth etc.: Phillips' Curve: Trade off between unemployment and inflation? Stagflation, slumflation			

Consequences	
	Internal
Short run	<p>Case 1: Demand-pull inflation Negligible change in output, unemployment and NY - economy at Y_f. GPL increases. Consequently, SOL falls.</p>
	<p>Case 2: Cost-push inflation output, unemployment and NY all fall Consequently, SOL falls</p>
Long run	<p>Lower level of investments <u>Moderate/high inflation</u> \rightarrow business confidence $\downarrow \rightarrow I^m \downarrow \rightarrow$ rate of EG limited (PPC does not shift out as much) <u>Mild inflation</u> stimulates EG and builds business confidence as it is a sign of a healthy economy $\rightarrow I^m \uparrow \rightarrow$ PPC shifts outward</p> <p>Savings decrease, consequently, EG is limited The value of money falls as people would rather consume at the present time $\rightarrow Ss_M$ available for $I^m \downarrow \rightarrow i/r \uparrow \rightarrow I^m \downarrow \rightarrow$ EG is limited</p>
	<p>BOP – CP, relative prices of exports $\uparrow \rightarrow$ quantity of exports $\downarrow \rightarrow$ current account worsens \rightarrow feedback mechanism \rightarrow problem worsens especially when inflation is cost-push, may alleviate demand-pull inflation* *Cheaper M \rightarrow lower Dd for local goods $\rightarrow X-M \downarrow \rightarrow AE \downarrow$</p> <p>FDI – FDI will probably \downarrow (due to inflation being a sign that the economy is unstable), but depends on the degree of inflation</p> <p>BOP worsens – pressure on xcr to depreciate.</p> <p>Redistribution of income Wage price spiral Prices $\uparrow \rightarrow$ Dd for higher W $\rightarrow W \uparrow \rightarrow$ prices \uparrow etc.</p> <p>Function of money breaks down - Money as a medium of exchange, serves as a store of value. Under severe inflation, these functions break down. Regression of the economy into one that deals with barter trade. Consequently, the price mechanism is distorted (under hyperinflation) and can no longer rationally allocate resources.</p>

ECONOMIC GROWTH

Specifically referring to a growth in real GDP per capita
 Actual Economic Growth: Economy moves from a point within to PPC to another that is closer to the PPC
 Potential Economic Growth: Outward shift of the PPC

Causes of PEG		Policy options	
Increase in the quantity of resources 1. Physical K – $i^m \uparrow \rightarrow AD \uparrow, AS \uparrow$ 2. Labour resources – labour force \uparrow 3. Quantity of land/RM Noting that RM can now be easily imported 3. Entrepreneurship – innovation, opening new markets, increased efficiency		Actual EG - Expansionary demand management policies <u>Fiscal policy</u> $T \downarrow \rightarrow Y_D \uparrow \rightarrow C \uparrow \rightarrow AD \uparrow$ $G \uparrow \rightarrow AD \uparrow$ <u>Monetary policy</u> $i/r \downarrow \rightarrow i \uparrow$ (more borrowing, spending) $\rightarrow AD \uparrow$	
Improvements in the quality of resources Investments in human capital Research and development Improving the quality of land		Potential EG – Supply-side policies to increase productive capacity <u>Cutting of tax rates</u> – incentive for people to work harder and increase productivity <u>Cutting unemployment benefits</u> to create more incentives to be employed <u>Education and retraining</u> <u>R&D</u> to find more efficient ways to produce, allocate resources	
Improvements to productivity of resources Technological improvements – knowledge creation and application Also: Infrastructure and External influences (growth of trade partners)		Conflicts The extent to which AEG benefits the economy is limited by Y_f level. AEG may lead to demand-pull inflation when the economy is operating at/near Y_f . Consequently, this affects the BOP as domestic currency strengthens and X competitiveness decreases, worsening the current account. PEG \uparrow could mean that the current level of C falls in the pursuit of K accumulation for future production. This is, however, beneficial in the LR, provided that governments actively pursues AEG	

Consequences			
		Internal	External
Short run	Benefits - Increase in the amount of g/s available for C - $N \uparrow$ - more factors employed to produce more g/s - These leads to $SOL \uparrow$ Costs - To achieve higher growth rates in the future, current C has to reduced – divert more resources into the production of K goods - EG when the economy is at Y_f would have inflationary pressures	Benefits - If EG is brought about by $X \uparrow \rightarrow CP$ the current account improves \rightarrow BOP improves - Stable EG \rightarrow prestige in the international arena - Consequently, domestic currency may strengthen Costs Appreciation of the currency may lead to loss of X competitiveness	Effects on income distribution While some people may gain from higher SOL, other may lose. If the means to growth are greater incentive (such as cuts in progressivity of Y tax), then the rich get richer and the poor get poorer – no trickle-down is felt. Growth may also involve changes in production, which also means changes in the skills required. People may find their skills no longer relevant as a result of growth. Structural unemployment may rise. The rate of AEG must outpace the rate of population growth for it to be beneficial

BALANCE OF PAYMENTS

Surplus: international receipts (credits) exceed international payments (debits).
 Deficit: international payments (debits) exceed international receipts (credits).

Causes of a disequilibrium

In the current account (goods and services)

1. Changes in the TOT – changes in the price of exports relative to the price of imports
2. Relative growth rates – growth rates in the domestic economy relative to that in trade partners
3. Changing comparative advantage
4. Changes in exchange rates – BOP deficits/surpluses caused by strength of exchange rates

In the capital/financial account (investments and loans)

1. Short term capital flows (“hot money”) – speculative money moving in and out of countries looking for best returns
2. Long term capital flows – FDI, portfolio investments etc.

Conflict

Technically, rapid EG may happen at the expense of worsening the current account – especially if EG is fuelled by high consumption. This is especially due to the cyclical nature of EG and how it influences the BOP.

Policy options to manage a BOP deficit

Expenditure reduction

Contractionary FP/MP:

$NY \downarrow \rightarrow GPL \downarrow \rightarrow X$
 competitiveness $\uparrow \rightarrow Dd_x \uparrow \rightarrow (X-M) \uparrow \rightarrow$ BOP improves
 (Dependent on YED_M)

Contractionary MP:

$AE \downarrow \rightarrow i/r \uparrow \rightarrow$ SR K flows \rightarrow improves capital and financial account \rightarrow BOP improves

Expenditure switching

Enhancing X competitiveness

1. Switching to import substitutes
2. Increasing foreign demand for domestic exports.

$i/r \downarrow \rightarrow X$ competitiveness $\uparrow \rightarrow (X-M) \uparrow \rightarrow$ BOP improves

Supply-side policies

1. Raising productivity and efficiency in the export sector

2. Greater investment in new K, R&D etc. leading to a faster pace of innovation and development of new products in export markets.

3. Non-price competition – improving quality/design of exports, marketing etc.

Direct policies

Protectionism

Reducing import expenditures, increasing export revenues

Consequences

Internal		External		
Deficit $(X-M) \downarrow \rightarrow AE \downarrow$ Output \downarrow , employment \downarrow , $NY \downarrow$ if the economy is operating below Y_f Reduces inflationary pressures if the economy is operating above Y_f	Surplus $(X-M) \uparrow \rightarrow AE \uparrow$ Demand-pull inflation if the economy is operating at Y_f	Deficit Net outflow of money \rightarrow downward pressures on xcr	Surplus Net inflow of money \rightarrow upward pressures on xcr	Short run
		Deficit Depletion of foreign reserves in the LR \rightarrow national debt incurred to finance deficit	Surplus Necessarily means that there are trade deficits elsewhere in the international economy. Trade partners may retaliate by imposing trade restrictions	Long run

SUMMARY OF SINGAPORE ECONOMY

CONCEPTS COVERED

MACROECONOMIC OVERVIEW

TRADE

FISCAL POLICY

MONETARY POLICY

MACROECONOMIC OVERVIEW

	Economic growth	Inflation	Employment	Balance of payments	Exchange rate
Aims	High, sustained economic growth	Mild inflation	Low unemployment	BOP equilibrium	Modest, gradual appreciation of the SGD
Statistics	GDP: <u>SGD 59.4b</u> ¹ (2Q09) Growth: <u>0.6%</u> ² (3Q09)	CPI (2004=100) 2007: <u>103.5</u> ¹ 2008: <u>110.3</u> ¹	Unemployment: <u>3.4%</u> ² (Sep 2009)	<u>Surplus of SGD 38b</u> on the goods balance in 2008 (down from SGD 59b in 2007) ¹ <u>Foreign reserves: SGD 250b (USD 176b)</u> ³ (End 2008)	2008 Averages ³ 1 USD : 1.414 SGD
Remarks	Singapore focuses more on long run growth than on short run growth Policies in place are more on the <u>supply side</u> <ul style="list-style-type: none"> ▪ Attracting investments ▪ Increasing employability, education, or skills 	Mild inflation is good as it is a sign of economic growth Generally affected by <u>cost-push inflation</u> Especially vulnerable to import-led inflation (see exchange rate)	Singapore chiefly suffers from structural unemployment Result of moving up the value chain and tertiarization	Singapore's BOP runs a surplus (X>M) <ul style="list-style-type: none"> ▪ We tend to export more high-value goods For major exports/imports, see below Singapore's capital and financial account is always negative	Singapore's exchange rate regime is a <u>managed float</u> . (Read more under "Monetary Policy") The MAS policy on a modest and gradual increase of our exchange rate is in place to <u>make imports cheaper</u> in light of our <u>dependence on imports</u> for raw materials (cost of production of our subsequent exports are thus cheaper) – case in point: granite/sand ban) The exchange rate is kept high to <u>avoid imported inflation</u> . Note also that we are able to do this due to our tendency not to compete on price.

TRADE

Note that Singapore is a free port, and imposes no tariffs on goods/services entering the country. FTAs, therefore are signed on terms unrelated to tariffs (on Singapore's side of the agreements).

Major Exports

Refined petroleum, industrial machines, electronic components and parts

Major Imports

Crude petroleum, iron and steel, industrial machines, electronic components and parts

Top trading partners

	USA	Malaysia	China	Indonesia	Japan	Taiwan	Thailand
2008 Export volume ¹ (billions SGD)	33.4	57.6	43.8	50.3	23.4	13.4	18.6
2008 Import volume ¹ (billions SGD)	52.8	53.8	47.5	24.8	36.5	23.2	15.9

Other partners: Australia, India, Vietnam, Myanmar

Free Trade Agreements (as of 2007)

Aside from being part of AFTA (ASEAN Free Trade Area), Singapore has also established FTAs with the following countries and blocs: Korea, Australia, Jordan, India, Japan, New Zealand, Panama, EFTA (consisting of Switzerland, Iceland, Liechtenstein and Norway), Chile and Brunei (with New Zealand, under the Trans-Pacific SEP) and the United States.

ASEAN itself maintains a FTA with Korea, and negotiations are still under way between ASEAN and China for the realization of ACFTA by 2010, after the signing of a framework agreement between the two parties in late 2001.

Also, there are ongoing negotiations between Singapore and various countries for the establishment of FTAs. These include Canada, China, the Gulf Cooperation Council (comprising of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE), Mexico, Pakistan, Peru and Ukraine.

Add to these negotiations under way between ASEAN and various countries, including Australia, New Zealand, India and Japan.

For more information on the various FTAs, head over to Singapore's [FTA Website](#).

FISCAL POLICY

Singapore does not conduct fiscal policy on the demand side due the following

- Small, open economy – are price takers
- Overall high MPW – multiplier is small
 - High MPM – Imports amount to 175% of our GDP (in 2008)
 - High MPS – The gross domestic savings (GDS) rate was 50.5% in 2006
 - Low MPT – have to maintain competitiveness, attract investments
 - Not a welfare state, no need for large tax revenues
 - Corporate taxes: kept low (lowered from 20% to 18% in 2007)
 - Attract foreign investment
 - Encourage local enterprise
 - Income taxes: kept low
 - Prevent brain drain
 - Attract foreign expatriates

Singapore's FP is directed primarily towards long term economic growth

- The private sector as the engine of growth, with the government providing a stable, conducive environment for the private sector to thrive
- A focus on enhancing economic competitiveness, attracting foreign investments (see next point)
- Hence, in addition to low corporate taxes, we have tax incentives for MNCs to take root locally

Government expenditure is thus spent on supply-side policies

- Improving existing infrastructure
- Expanding our labour force and our citizens' employability
 - WIS, retraining etc.

Hence, having a prudent FP, Singapore allows other macroeconomic tools (like the exchange rate policy) to be able to focus on their primary goals without needing to balance these goals against requirements for deficit financing.

MONETARY POLICY

Our main conduct of monetary policy is through our exchange rate policy

- Singapore is a price taker
- Wants to allow free capital flows (recall theory of the impossible trinity)
 - Forgoes the control of interest rates
 - Domestic interest rates are thus determined by foreign interest rates
 - And also by investor expectations of futures in the SGD

Singapore's Exchange Rate Policy

The S\$NEER is managed against a basket of currencies of our major trading partners and competitors

- Different currencies given different weights
- Based on extent of trade dependence with that country
- This basket is periodically revised to take into account changing trade patterns

The exchange rate regime is a managed float

- Allowed to fluctuate within an undisclosed policy band
- Should the exchange rate move out of the band, MAS intervenes by selling or buying forex
- This gives us the flexibility to cope with periods of uncertainty

The MAS maintains the SGD at a gradual appreciation

- Contributes to low and stable inflation
 - (X-M) decreases, reducing demand-pull inflation
 - Prices of imported RMs decrease, lowering COP and reducing cost-push inflation
 - Prices of imports decrease in general, reduces imported inflation
- Contributes to economic growth
 - 1) Investments
 - A low and stable inflation rate provides certainty in long term planning
 - A gradual appreciation of the SGD enhances the value of K assets
 - Thus, investments increase, which constitutes a direct injection to AD, increasing NY
 - Investments also help to increase the AS in the long run, allowing Singapore to achieve non-inflationary economic growth
 - 2) Export earnings
 - In the long run, exports are more competitive compared to exports of other countries which experience higher inflation rates

ETC.

Singapore's Gini coefficient is rather high, at .468 in 2006.

It might also be worth noting that in Singapore, SMEs contribute to 46% of the GDP and employ 63% of the workforce. (A SME in Singapore must employ not more than 200 employees, having fixed asset investments of less than S\$15m.)

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