Introduction to Macroeconomics: Key Economic Indicators and Standard of Living

Gross Domestic Product (GDP): GDP is the total value of all final goods and services produced in a given country in a given period of time, usually a year.

- **Product approach**: Sum up the monetary value of all final goods and services produced in the country, or the value added at each stage of production
- **Income approach**: Sum up all wages (given to workers – labour), rent (given to landlord – land), interest (given to capital owner – capital), and profit (given to entrepreneurs – entrepreneurship).
- **Expenditure approach**: Sum up all expenditure on final output. GDP = C + I + G + (X – M).

Product = Expenditure, since value of all goods and services is by definition the amount to be spent to buy them.

Expenditure = Income, since what buyers spend is equal to what the seller receives.

Gross National Product (GNP): GNP is the total value of all final goods and services produced by domestic factors of production during a given period of time. GNP is equal to GDP plus net factor income from abroad (NFIA). NFIA refers to the income earned by locally owned factors of production situated abroad minus the income earned by foreign owned factors of production situated domestically.

Inflation rate: The inflation rate is the percentage change in price level from year to year.

Consumer Price Index (CPI): CPI measures the change in the price of a fixed basket of goods and services commonly purchased by a typical household over a period of time.

Unemployment rate: Unemployment rate is the percentage of unemployed persons out of the labour force. In Singapore, unemployed persons refer to those aged 15 or older who are without work but are available for work and are actively searching for a job.

Balance of Payment (BOP): BOP consists of the current account, financial account and capital account.

- Current account: Balance of Trade (BOT)
- Capital/Financial account: FDI (capital investment), FPI (hot money)

Standard of Living (SOL): SOL can be split into material and non-material SOL. **Material SOL** refers to the amount of goods and services available for consumption by the average individual in an economy in a given period of time. **Non-material SOL** refers to the qualitative aspect of welfare such as leisure time and health.

Material SOL (intertemporal): Measured by **real GDP per capita**. Requires nominal GDP, inflation rate and population growth figures. Real GDP takes into account the effect of inflation and reflects changes

in the amount of goods and services available for consumption in the economy. If real GDP growth outpaces population growth, the amount of goods and services available to the average individual in the economy has increased and this implies an increase in material SOL.

Limitations of real GDP per capita as a measurement of SOL:

- Measuring national output
    - Exclusion of non-market economic activity (e.g. unpaid housework)
    - Non-inclusion of underground economy (e.g. drug trafficking, private home tuition)
- Measuring material SOL
    - Composition of GDP (e.g. capital vs consumer goods, national defence spending)
    - Income distribution/inequality
- Measuring non-material SOL
    - Increased access to healthcare
    - Leisure hours not priced
    - External costs unaccounted for (e.g. environmental harm)

Material SOL (international): Measured by **purchasing power parity (PPP) adjusted GDP per capita**. Requires real GDP figures, PPP exchange rate, population size. Each country measures its real GDP in its own currency, but it needs to be converted to a common currency for comparison. The market exchange rate cannot be used as it is inaccurate, because it does not take into account the cost of living between both countries. Instead the PPP exchange rate is used, where a given amount of one currency will buy the same amount of goods and services when converted into another country's currency. The PPP exchange rate was calculated based on the prices of a fixed basket of goods and services in the different currencies. Population size is required because per capita figures are of concern.

Limitations of PPP adjusted GDP per capita as a measurement of SOL:

- Measuring national output
    - Differences in transaction records (e.g. self consumption, barter trade in LEDC vs marketed in MEDC)
    - Differences in size of underground economy
- Measuring material SOL
    - Consumption patterns (e.g. increased expenditure on coats in Germany vs reduced expenditure on coats in Singapore)
- Measuring non-material SOL
    - Not measured at all

Non-material SOL: Leisure hours, crime rates, life expectancy (access to healthcare) etc.

Human Development Index (HDI): Combined measure of life expectancy, access to education, and PPP adjusted GDP per capita.

Aggregate Demand and Aggregate Supply: Income and Employment Determination

Circular Flow of Income

- (J) **Injections**: Injections refer to any payment of income to domestic producers that do not arise from domestic household consumption. Injections are additions to circular flow of income. J = I + G + X.
- (W) **Withdrawals**: Withdrawals refer to any part of household income that is not spent on domestically produced goods and services. Withdrawals are reductions to circular flow of income. W = S + T + M.

The economy is in equilibrium when **planned injections = planned withdrawals**.

Aggregate Demand (AD): AD = C+ I + G + (X – M). AD **slopes downwards**:

- **Wealth effect**: When GPL rises, purchasing power decreases. Real income decreases. Reduction in C.
- **Interest rate effect**: When GPL rises, dd(money) to maintain same material SOL increases. Assuming supply of loanable funds constant, this leads to increase in interest rate (the cost of borrowing money). Thus C falls, I falls.
- **International substitution effect**: When GPL rises relative to foreign countries, P(x) has risen so X falls (assuming PED(x) > 1), and P(m) is now relatively lower, so M increases. (X – M) falls.

Shifts in AD:

- Change in C
    - Spending on final goods and services, e.g. perishables/durables/services
    - Autonomous
        - Wealth: value of assets owned (e.g. value of house)
        - Expectations of change in real income (e.g. prices rise)
        - Distribution of income (e.g. redistribution will increase consumption)
        - Interest rate (e.g. fall in cost of borrowing)
        - Taste and attitudes (e.g. prudence)
    - Induced
        - Income
- Change in I
    - Fixed capital formation and accumulating inventories
    - Autonomous
        - Marginal Efficiency of Investment (MEI) theory: A firm only invests if it makes a profit, when expected rate of return from the investment is greater than or equal to the cost of investment which is the interest rate.
        - Business confidence and expectations

        - Cost and availability of capital goods
        - Government policies (e.g. corporate tax impacts post-tax profits)
        - Changes in technology (e.g. advancement increases investment)
    - Induced
        - Rate of change of income (e.g. larger increase in income means increase in production is higher so this means more investment required)
- Change in G
    - Autonomous (does not depend on national income)
- Change in X – M
    - Autonomous (Exports) and Induced (Imports)
    - Relative inflation rate
    - Relative income
    - Relative productivity growth
    - Exchange rate

Aggregate Supply (AS):

- **Horizontal Keynesian range**: Spare capacity. Production can be increased by employing more resources without having higher costs.
- **Upward sloping intermediate range**: Resources increasingly scarce. To increase production, firms compete with each other over FoPs and so bid up their prices, which are passed on to consumers.
- **Vertical classical range**: Full employment. Production cannot be increased.

Shifts in AS:

- Change in CoP
    - Factor prices (e.g. oil, raw materials, wages)
    - Expected rate of inflation (e.g. if inflation > 0, then AS falls as producers want to sell in future instead of currently)
    - Government policies (e.g. subsidies/tax)
    - Quality of labour (increase in productivity > increase in wages)
    - Technology (increase in productivity)
- Change in productive capacity
    - Quality of labour (increase in productivity)
    - Quantity of factor resources
    - Government policies (e.g. subsidies on training and upgrading skills, SkillsFuture, Workfare Training Scheme)
    - Technology (achieve larger output from same amount of factor inputs)

Multiplier Effect (brief):

Trigger	An increase (decrease) in AD triggers the (reverse) multiplier effect.
Principle	It is based on the principle that (loss in) one person's spending is another person's (loss in) income, and increased (decreased) income stimulates (reduces) further spending.
Induced consumption	This leads to many rounds of (fall in) induced consumption by households,
Mechanism	Because to increase (decrease) production in response to increase (decrease) in AD, firms employ more (less) factors of production, including labour, and in pay households more (less) factor income • a portion of which is spent on domestically produced goods and services, while the remainder is withdrawn from circular flow in either savings, taxation or import spending. • OR • thus a fall in induced consumption which is smaller each round due to presence of withdrawals in the form of savings, taxation or import spending.
Result	Thus real national income increases (decreases) by more than proportionately.

Multiplier effect (detailed):

State	The multiplier effect states that when initial autonomous AD increases (decreases), real national income increases (decreases) by more than proportionately.
Principle	It is based on the principle that one person's (loss in) spending is another person's (loss in) income, and increased (decreased) income stimulates (reduces) further spending.
Trigger	Increase (decrease) in C, I, G or (X – M), where appropriate, thus increasing (decreasing) autonomous AD from AD1 to AD2, which causes real national income to increase (decrease) from Y1 to Y2.
Induced consumption	Increase (decrease) in real national income stimulates (reduces) induced consumption, thus shifting AD2 to AD3. Many rounds of (fall in) induced consumption follow.
Mechanism	Due to the presence of withdrawals from circular flow of income (savings, tax, import spending), each successive round of (fall in) induced consumption is a fraction of the previous addition (reduction) to circular flow.
End	Multiplier effect stops when the total increase (decrease) in withdrawals is equal to

	the initial increase (decrease) in autonomous AD.
Result	AD has shifted right (left) to ADfinal, and real national income has increased (decreased) to Yfinal. Since YfinalY1 > AD2AD1, real national income has increased (decreased) by more than proportionately to increase (decrease) in AD.
Assumptions	1. For full multiplier effects, economy must have significant spare capacity (horizontal Keynesian range). a. Intermediate upward sloping range: Economy has reduced spare capacity, firms compete with each other for factor resources, in the process pushing factor prices high, cost is passed on to consumers. Increase in GPL has dampening effect on multiplier as this reduces real income/purchasing power, so consumption falls. b. OR c. Firms no longer compete as much for resources as production falls, so factor prices fall and this is passed on to consumers as fall in GPL, which dampens reverse multiplier since fall in GPL increases purchasing power, so consumption increases. d. Vertical classical range: Economy is operating at full employment. Only GPL increases, no increased output. 2. Constant technology 3. Constant GPL and interest rates.

Limitations of multiplier:

- Much smaller in reality
    - Upward sloping intermediate range (dampens multiplier effect)
- Takes time
    - Time required for each successive round of spending
- Multiplier is small in Singapore
    - MPS is high: compulsory saving schemes such as CPF
    - MPM is high: heavily dependent on imported goods
    - MPT is relatively low: to attract FDI and talent

Macroeconomic Aims and Issues

Macro goal: Internal stability

- Sustained economic growth
    - Actual growth
    - Potential growth
- Low unemployment
- Low and stable inflation
    - Price stability

Macro goal: External stability

- Healthy BOP
    - No chronic surplus or deficit (preventing deficit ore important)

Micro goal: Efficiency

- Allocative efficiency
    - MSB = MSC, maximization of society's welfare
- Productive efficiency

Micro goal: Equity

- Income distribution

Economic growth: Economic growth is an increase in the annual GDP.

Actual growth: Increase in national output, measured by percentage change in real GDP.

Potential growth: Increase in the productive capacity of economy, measured by change in full employment level of national income.

Consequences of positive economic growth:

- Benefits
    - Higher current and future SOL
        - Actual growth → Increased households' income → Increased savings → Increase supply of loanable funds → Fall in interest rate → Increase investment (MEI theory) → Increase capital deepening/accumulation → Increase productive capacity
        - Increase income → Access to better quality healthcare and education → Increase QOL
    - Fall in cyclical (demand-deficient) unemployment
        - Increased production of goods and services → Increased dd (labour) since it is a derived demand
    - Easier redistribution of income to the poor
        - Progressive personal income tax system → Increased tax revenues → Transfer payments more possible
- Costs
    - Demand-pull inflation
        - AD rises excessively as economy approaches full employment level of output
        - See costs of high and unstable inflation.
    - Income inequality
        - Rich tend to benefit more from economic growth
        - Lower social mobility
    - Environmental costs
        - Negative externalities of production or consumption of goods (e.g. haze, lead poisoning)

Causes of weak economic growth:

- Demand factors (Small AD/Falling AD)
    - Low rate of investment
        - Economic growth needs replacement of obsolete capital and capital deepening
        - But lack of investment funds, due to low savings rate
        - Lack of investor confidence
        - High interest rate
    - External shocks
        - Fall in export revenue

    - Political situation
        - Law enforcement and low crime rates lowers business costs → Promotes investment
- Supply factors
    - Lack of natural resources
    - Lack of human capital
        - Quantity
        - Quality: education and training → well-educated, trained, motivated
    - Lack of technological advancement
        - Process innovation → Fall in unit cost and increased productive capacity
        - Possibly due to uncertainties involved in R&D

Consequences of negative economic growth:

- Fall in output and increased cyclical unemployment
- Lower savings and consumption
- Lower rate of investment and long-term growth (opposite of positive economic growth argument above)

Inflation: Inflation refers to the situation where there is a sustained increase in the General Price Level (GPL) over time. Inflation rate is calculated as a percentage change in the CPI over time.

Causes of inflation:

- Demand-pull
    - Persistent rises in AD
    - Increase AD → Firms increase production → Competition for scarce resources → Bid up factor prices → Higher inflationary pressures
- Cost-push
    - Persistent fall in AS (upward shifts of AS)
        - Wage-push inflation
            - Increase in wages > Increase in productivity → Increased unit cost
        - Increased input/factor prices
            - FoP prices increase → Increase CoP
        - Import-induced inflation
            - Higher import prices or depreciation
            - Affects both FoP and hence CoP, and affects final goods and services (More expensive in domestic currency)
        - Profits-push inflation
            - With market power, push increases in prices of FoP to consumers
        - Tax-push inflation
            - Increased CoP (e.g. GST)
        - Structural inflation
            - Prices in expanding sectors increase due to immobility of labour or other FoP
- In real world, may be difficult to distinguish root cause of inflation as demand-pull and cost-push interact with each other.

Benefits of low and stable inflation:

- Promotes actual economic growth and fall in unemployment
    - Households expect prices to rise in future → Incentive to consume now → Increase C → Increase AD
    - Firms expect sales to rise in future → Increase I → Increase AD
    - Increase AD → Actual growth + Fall in cyclical unemployment
- Promotes investment and in turn potential economic growth
    - Certain about value of savings → Increased incentive to save → Increase SS of loanable funds → Decrease in interest rate → Increase I (MEI theory) → Increase AS in LR because increased capital accumulation
- International competitiveness and improvement in BOP
    - Inflation low relative to trading partners → Improves price competitiveness → Increased X (assuming PED(x) > 1)

- Decreases M (since P(m) now relatively higher in domestic currency)
- Hence (X – M) increases, BOT improves → Current account improves → Cet par, BOP impoves
- Appreciation may result

Costs of high and unstable inflation:

- Fall in SOL
  - Reduce purchasing power of money → Fall in real income
  - Expectation of price increases → Increase current AD → Aggravate inflationary pressures
- Hinders EG by creating uncertainty
  - Decrease savings → Increase interest rate → Decrease C and I
  - Long-term planning difficult → Decrease I
  - Fall in actual EG and potential EG
- Deterioration of BOP and depreciation
  - Fall in X (assume PED(x) > 1), M increases → Worsening BOP
  - Fall in DD and increase SS for currency → Depreciation
- Misallocation of resources
  - Cannot evaluate if increase in GPL is due to increase in price of own product → Mistakenly allocate resources
- Arbitrary redistribution of income
  - Fixed income VS variable income earners
  - Strong trade union VS weak trade union
  - Debtors VS Creditors
  - Financial assets VS real physical assets
- Shoe-leather costs and menu costs
  - Shoe-leather cost refers to the opp cost of time and effort spent in trying to reduce holdings of cash to counteract effects of inflation.
  - Menu cost refers to opp cost of using resources in revising price lists → Aggravates cost-push inflation

Unemployment: Unemployment refers to the situation where individuals who are available for work and are actively searching for work cannot find a job.

Causes (types) of unemployment:

- Frictional
    - Firms look for suitable workers and works for suitable firms
    - Result of imperfect information on available job opportunities
    - Always exists, because in dynamic economy, jobs are always being created and destroyed
- Structural
    - Long-term and chronic unemployment that results from immobility of labour: geographical and occupational (mismatch of skills)
- Cyclical (demand-deficient)
    - Fall in AD → Fall in demand for labour (derived demand) → Increased unemployment

Consequences of unemployment:

- Output loss
    - Unemployment is waste of scarce resources
    - Prolonged unemployment leads to hysteresis, where workers become deskilled and demoralized → Fall in productive capacity of economy
- Negative impact on government budget
    - Loss of tax revenue
    - Higher expenditure on unemployment benefits
- Social problems
    - Higher incidence of deviant behaviour

Balance of Payments (not much to summarise, see notes)

Macroeconomic Policies (Exchange Rate)

Macroeconomic Policies (Supply Side)

Macroeconomic Policies (Fiscal)

Macroeconomic Policies (Monetary)

International Trade

Law of Comparative Advantage: Countries would gain from trade if there are differences in the relative opportunity costs of producing specific goods among them. They benefit from exporting goods that they have a comparative advantage in, and importing goods in which they do not.

Assumptions of theory:

1. No transport costs or trade restrictions (free trade)
2. Labour is perfectly mobile within a country, and perfectly immobile between countries.
3. Constant opportunity costs of production.

In exam:

1. **Initial consumption/output table**
2. **Opp cost table**
3. **Table after specialization**
4. **Final consumption table after TOT**
5. **Benefit (increase output, increased consumption)**

In a scenario where 2 countries (say USA and China) produce 2 goods (say cloth and wheat) before specialization and devoted half her resources to the production of each good.

Then, for example:

	Wheat	Cloth
USA	100 units	60 units
China	5 units	10 units
Total	105 units	70 units

By comparing the opportunity cost of producing each good in each country, we obtain the table below:

	Wheat	Cloth
USA	1 unit of wheat to 0.6 units of cloth	1 unit of cloth to 1.67 units of wheat
China	1 unit of wheat to 2 units of cloth	1 unit of cloth to 0.5 units of wheat

Thus, we can see that for the production of 1 unit of wheat, USA gives up less cloth than China, thus, USA has comparative advantage in the production of wheat. Conversely, in the production of 1 unit of cloth, China gives up less wheat than USA. China thus has comparative advantage in cloth production.

Let's assume USA then transfers 10% of her resources from cloth production to wheat production, and China specializes completely in cloth production. Then the result is in the following table:

	Wheat	Cloth
USA	110 units	54 units
China	0 units	20 units
Total	110 units	74 units

Say the US now wants to import cloth and export wheat, and China wants to export cloth and import wheat. The two countries must decide on the ratio of wheat to cloth, which is called the terms of trade. The terms of trade must lie between the two opportunity costs of production of the two countries. US will not pay more than 1.67 units of wheat for each unit of cloth imported, otherwise it exceeds the opportunity cost of production of cloth and it would be cheaper to produce cloth domestically. Likewise, China will not accept less than 0.5 units of wheat for each unit of cloth she exports. Thus the terms of trade lie between 0.5 and 1.67 units of wheat for each unit of cloth traded.

Assume the TOT is 1 wheat: 1 cloth. Then the consumption after trading 10 units of wheat and 10 units of cloth is the following table:

	Wheat	Cloth
USA	100 units	64 units
China	10 units	10 units
Total	110 units	74 units

The total output is higher than before, and each country consumes more than it could without trade. Each country consumes beyond its production possibility curve (PPC).

Sources of Comparative Advantage:

- Differences in factor endowments
    - Abundance of supply of certain FoP → Lowers opportunity cost → Comparative advantage in those industries
- Differences in technology
    - Different intensities of R&D
    - Different rate of absorption of new technologies
- Dynamic Comparative Advantage
    - There can be changes in the CA of a country over time due to government policies
    - Development strategies
        - Import of capital goods → Boost capital endowment → CA in capital intensive industries
    - Tax relief and subsidies
        - R&D funding by government, tax relief on investment → promotes capital deepening and accumulation → Increase productivity of FoP → Gain in CA
    - Training and education

        - Upgrading schemes, increase skill of labour force → Gain CA in industries that require skilled labour

Limitations of theory of Comparative Advantage (factors that **limit free trade**):

- Artificial
    - **Protectionist policies** (tariff, quotas) → restriction on trade
- Natural
    - **High transport costs**
        - Assumption that no transport cost is invalid.
        - Transport cost can be high and lowers the gains from trade
    - **Lack of mobility of FoP**
        - Labour may not be as mobile: geographical and occupational immobility → structural unemployment (mismatch of skills on offer and on demand)
    - **Increasing CoP**
        - Assumption that opp costs remain constant is invalid.
        - Expansion of industry → resources become scarce, have to use less and less suitable FoP to produce good → Increasing opportunity cost → complete specialization is not possible, partial specialization at best.
    - Market imperfections
        - Large country → **Large market** → Many different goods and services → **Difficult to work out the relative opportunity costs** → Difficult to work out the comparative advantage

Advantages of trade:

- Microeconomic
    - Increased consumer welfare
        - Greater world output, higher consumption
        - Lower prices and higher quality (due to foreign competition)
        - More choice and increased satisfaction (due to more differentiated products and large variety catering to differing tastes)
    - Reduction in unit cost of production → Higher profits and lower prices
        - iEoS: Trade allows small countries to specialize in fewer goods and services and reap iEoS for those products → exporting it increases market size
        - eEoS: economies of concentration → lowered cost or increase R&D → dynamic efficiency
- Macroeconomic
    - Actual economic growth (increase AD and also reduce cyclical unemployment)
        - Environment for investment both domestic and foreign → Increase I
        - International market increases market for exports → Increase X
    - Transfer of technology and ideas → potential growth (increase AS)
        - Increase efficiency of production, increases productive capacity

- Lower inflation
  - Cheaper imported final goods and services → Lower CPI → Lower inflation rate
  - Cheaper raw materials → Fall in CoP → Increase AS → Fall in GPL
  - Increased competition → Firms strive to be cost efficient and lower prices
- Improvement in BOP
  - Increase X from international market → Increase net exports → Increase BOT → Improvement in current account, cet par
  - Increase FDI → improvement in financial account, cet par
- Dynamic gains
  - Increased investment from international trade results in increased rates of economic growth. Open economies grow faster than closed economies.
- Political links
  - Stronger political ties and strengthen cohesion

Disadvantages of trade:

- Microeconomic
  - Unfair competition and dumping
    - Dumping: selling of goods and services in overseas market below marginal cost of production → drive out rival producers in importing country → monopolise market/market domination
    - Subsidised production by government → Unfair competition
  - Import of harmful goods (e.g. demerit goods)
    - Alcohol, drugs, tobacco
    - Adverse effect on consumption habits and societal values
    - Demerit goods → Negative externalities of consumption
- Macroeconomic
  - Over-reliance → Vulnerability to external shocks
    - Fall in trading partner's income (recession) → Fall in their purchasing power/real income → Fall in demand for X → Fall in X revenue → Fall in (X – M) → Fall in AD → Fall in real NY
    - (X – M) large component means vulnerable to external shocks
    - Increased cyclical unemployment
  - Structural Unemployment
    - Specialisation → Occupational immobility of labour (workers lack specific skills required in growing industries)
  - Worsening BOP
    - M > X → Worsening current account
    - Capital outflow → Worsening financial account
  - Increase income inequality
    - Specialisation means that some industries grow faster than others

        - If growth industries are ones with capital intensive, high skill jobs, then increase DD for high skilled labour and decrease DD for low skill labour
        - So wages increase for high skilled labour much faster than for low-skilled labour, thus worsening income inequality

Protectionism: Protectionism refers to a policy of **sheltering domestic industries** from **foreign competition** through the imposition of **trade barriers on imports.**

Methods of protectionism:

- **Tariff** (most economic rigour)
    - Tax imposed on imported goods only
    - In diagram, should examine original and new:
        - Domestic production (increase)
        - Domestic consumption (decrease)
        - Extent of imports (decrease)
    - Consumption effect
        - Reduce consumption (expenditure reducing)
        - Reduce consumption of imports, and switch to domestically produced substitutes (expenditure switching)
        - Fall in consumer surplus
    - Production effect
        - Increased production
        - Increased revenue from increased quantity and higher price
        - Increased consumer surplus
    - Government revenue effect
        - Increased
    - Deadweight loss
        - Present when tariff is imposed
    - Limitations
        - Effectiveness of policy: Allocative inefficiency (deadweight welfare loss), dependent on PED of imports (if inelastic then increase price will lead to increase in M, which is counter to objective of policy), and whether foreign suppliers chose to absorb part or all of the tariff (by decreasing their price)
        - Adverse impacts: Tariff → Cuts M expenditure → Improves BOT → Exchange rate appreciates → Make exports less price competitive abroad → In LR, fall in X.
- Non-tariff barriers
    - Import quotas
    - Advantages
        - Greater certainty of protection than tariffs
    - Limitations
        - No government revenue – the increase in price (due to quantity restriction) is earned by both domestic and foreign suppliers.

- Export subsidies
    - Reduce COP → Sell more at the world price (for exports or import substituting goods)
- Foreign exchange controls
- Embargoes (ban)
- Trade agreements
    - Trade privileges tend to be restricted to only the parties involved
- International cartels (e.g. OPEC)
- New protectionist measures (non-explicit)
    - Discrimination against foreign firms
        - Preferential treatment for domestic producers
        - Bureaucracy in import regulations

Reasons for protectionism:

Infant industry (industries with potential CA) – subsidies are used

- Rationale (Problems if no protection)
    - Infant industry = industry that is in initial stages of development
    - Has small output → cannot cover the initial high start-up cost
    - Time needed to grow, expand to reap iEOS → lower COP → price goods more competitively
    - Government wants to support this industry because they think it has potential CA and can be a potentially efficient supply source. Without protection, this efficient source could remain inaccessible
- Limitations
    - Difficult to identify accurately which industries have potential CA (can acquire CA in the LR).
    - If incorrectly chosen, this leads to opportunity cost of funding export subsidies to compete with international competitors
    - Even if correctly chosen, difficult to decide when the industry is sufficiently established enough to compete on its own. Government provide subsidies → lack of incentive to be efficient → complacency and perpetually need government subsidies

Mature industry – use subsidies or tariff for instance

- Rationale
    - If left unprotected when CA is lost → massive structural unemployment
    - If temporarily protect industry → can slow down rise in structural unemployment → buy time to transfer resources into other economic sectors
- Limitations
    - Prolongs inefficient use of resources → Counter to theory of CA and is allocatively inefficient

- Beggar-thy-neighbour → Increased employment by protected country at expense of trading partners → encourage retaliation

Reduce BOP deficit – tariff or quotas

- Rationale
  - Importing too much so impose tariff/import quotas to reduce M to increase (X-M) to increase BOT and reduce BOP deficit
- Limitations
  - Whether tariffs work is dependent on PED and PES of imports and exports.
  - At best SR measure, does not solve root of problem of persistent BOP deficit (e.g. could be due to lack of price competitiveness arising from relatively higher inflation or relatively lower productivity gains)
  - Invite retaliation

Against unfair trade practice – subsidies or PD

- Rationale
  - Against dumping, because of the intent of dumping → drive out rival producers in importing country → monopolise the market → charge high prices
- Justification
  - Level of protection should only cover difference between the export price and the normal price paid in exporting country
- Limitations
  - Cannot be easily justified if firm is really dumping, or if it just has significantly more CA
  - Anti-dumping argument is often used to protect inefficient domestic industries

Diversification

- Rationale
  - Undesirable consequences of complete specialization and over-reliance on other countries
  - Structural rigidity if law of CA was strictly adhered to → Can lead to massive unemployment during decline in those few key industries
  - Greater diversity can reduce risk of structural rigidity
- Justification
  - For balanced economic growth, this is needed, although it does not align with the theory of CA
  - Since CA changes over time, this can lead to the country acquiring an industry in which it has CA and this is good

Against low wage foreign labour

- Rationale

    - Import goods instead of domestically produced import substitutes due to lower price → Local industries would close down → unemployment → Fall in material SOL
- Limitations
    - Outright rejection of theory of CA
    - Benefits from trade are lost

Recession stimulus - tariff

- Rationale
    - Avoid heavy unemployment
    - Impose tariff → Fall in M, increase domestic production → counter cyclical measure when trading partners are also in recession so need internal stimulus to recover
- Justification
    - Emergency SR counter cyclical recession stimulus measure

Government revenue - tariff

- Rationale
    - Source of government revenue (see tariff diagram), especially for low-income countries
- Limitations
    - PED or PES of goods must be price inelastic so that quantity does not fall significantly
    - Could result in retaliation

Retaliation against protectionism

- Rationale
    - Bargaining tool
- Limitations
    - Eliminate benefits of trade → Unhealthy and every country involved will lose out

Globalisation

Globalisation: Growing **economic interdependence** of countries worldwide, through:

1. **Increasing trade flows** (volume and variety of goods and services)
    a. Free trade is achieved through Free Trade Agreements (FTAs)
2. **Increasing flow of capital** (FDI)
3. **Increasing flow of labour**

Free trade:

- See International Trade notes above
- By joining FTAs, there is a change in trade pattern of a country, and that can either result in trade creation or trade diversion.
- **Trade creation** arises when **economic integration** leads to a **shift in trade** from a **higher cost producer** to a **lower cost member country**.
    - This shift represents a movement aligned with the theory of CA.
    - There are welfare gains because of **more efficient** resource allocation.
- **Trade diversion** arises when **economic integration** leads to a **shift in trade** from a **lower cost non-member country** to a **higher cost member country**.
    - This shift represents a movement away from the more efficient producer (against theory of CA).
    - There are welfare losses due to a **less efficient** resource allocation.

Free flow of capital and FDI:

- Foreign Direct Investment: movement of capital that involves foreign ownership and control of production facilities. Carried out by MNCs.

	Benefits	Costs
Recipient Country	(SR) FDI → Increase I → Increase AD → **Actual EG**, **fall in unemployment** (labour is derived demand) (SR) FDI → Improve FA of BOP → **Smaller BOP deficit** (LR) FDI → Increase k accumulation, technical and managerial expertise, new production techniques, fiercer competition → Increase quantity and quality of resources → Higher productivity → Increase prod cap → **Potential EG**	(Micro) **Negative externalities** in production (from lack of regulation) → More expensive but cleaner production methods close down → Increase allocative inefficiency (Micro) Too much competition with established MNC → Drive out local producers → **Market dominance** (Macro) FDI → Increase DD for currency → **Appreciation** → Exports **less price competitive** → Difficult to grow export sector
Source Country	(SR) Increase X (of capital goods and machinery) → Increase AD → **Actual EG, decrease unemployment** (LR) Increase Y of recipient country (due to EG) → Increase their M expenditure → **Increase X** of source country (LR) FDI → Interest and dividends back to source country → Improve CA → **Improve BOP**	(SR) **Worsening FA** (due to outflow of investments) **Increase M** (due to relatively capital abundant source country importing labour-intensive goods from relatively labour abundant recipient country) → Fall in AD, worsening BOP (CA) → **Unemployment** **Offshoring/outsourcing** → **Unemployment**

Free flow of labour (migration):

- Movement of labour = movement of a productive factor
    - From where it is abundant (low productivity) to where they are scarce (high productivity)
    - Move in response to differences in returns (wages in this case) as long as it is more than the cost of moving
- **Movement of labour is substitute for labour-intensive products**, and same for capital.

	Benefits	Costs
Recipient Country	Increase supply of labour → Decreased wages → Lower COP → Increase AS (downward) → **Actual EG**, lower GPL (**lower inflation**) Increase labour supply (and foreign talent or brain gain) → Increase quantity and quality of resources → Increase AS (outward) → **Actual and potential EG**, lower GPL (**lower inflation**)	Increase labour supply for unskilled jobs → Compete with locals → Fall in wages + Increase foreign talent → skilled workers retain their jobs still → **Income inequality worsens** Increase in **external cost** due to crowding, e.g. noise pollution, conflict, crime
Source Country	**Increased remittances** → Major contribution to GNP → Help families back home consume basics → Increase AD → Actual EG → **Increase material SOL** **Increase remittances** → Excess after consumption → Saved in banks → Funds for investment → I → (SR) Increase AD, (LR) Increase AS → Increase **actual and potential EG** **Increased remittances** → Increase CA → **Improve BOP**	**Increased remittances** → Increase DD for source country's currency → **Appreciation → Loss of price competitiveness** of exports **Brain drain** (emigration of highly educated people in search of better job opportunities in other countries) → Fall in quality and quantity of labour → **Fall in AS** (inward, upward)
World	**Increased efficiency**, because workers move to areas of higher productivity.	NIL

Globalisation in **Singapore's context**:

- Reliant on imported materials for production, large overseas export market
- Sign FTA → Increase X price competitiveness → Increase X
- Sign FTA → Lower cost inputs from overseas markets → Reduce COP and reduce tendency for imported inflation → X price competitiveness