H2 Economics (Macroeconomics)

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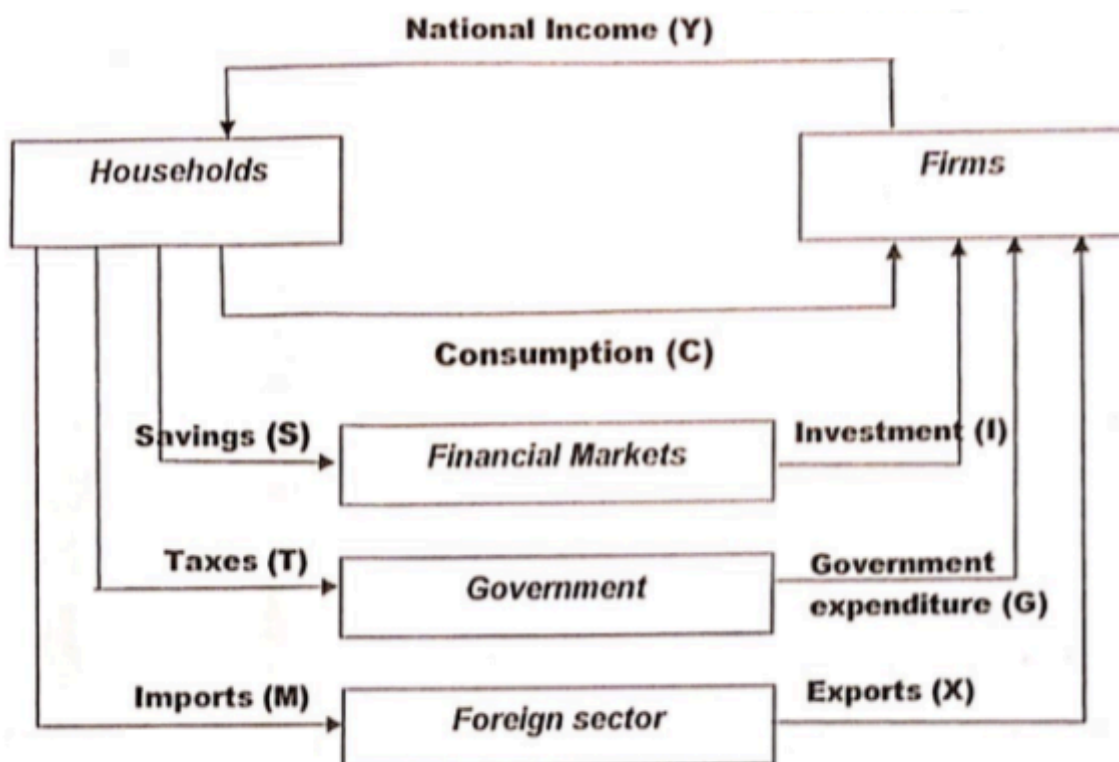# Contents

Theme 3: National Economy

Global (external) changes

Domestic (internal) changes

Macroeconomic condition of an Economy

Living standards	Economic Performance
- Material aspects - Non-material aspects	- Economic growth - Price stability - Unemployment - Balance of payments

Trade-related Policies

Macroeconomic Policies

Demand management

Fiscal policy

Monetary policy

Interest rate policy

Exchange rate policy

Supply-side policies

Issues faced by governments:
- Slow growth/Recession
- Unsustainable/Inequitable growth
- Price instability (excessive inflation/deflation)
- High unemployment
- Unfavourable balance of payments

3.1 Introduction to Macroeconomics

Circular Flow of Income

National income level (GDP): total expenditure of consumers, firms, govt, foreigners on G&S
Expenditure = Total value of output = National Income = GDP

Injections (J)	Withdrawals (W)
Any payment of income to domestic firms that do not arise from domestic household consumption • **investment** (I) • **government expenditure** (G) • **export revenue** (X) Injections increase circular flow income, lead to increase in national income	Any part of households' income that is not spent on domestic G&S • **savings** (S) • **taxation** (T) • **import expenditure** (M) Withdrawals decrease circular flow income, lead to decrease in national income - MPC: % of additional Y spent on consumption - MPS: % of additional Y spent on saving - MPT: % of additional Y spent on tax - MPM: % of additional Y spent on imports - MPW = MPS + MPT + MPM = 1 – MPC

Multiplier indicates no. of times income changes relative to initial change in injection
$$k = \Delta Y / \Delta J = 1 / (1 - MPC) = 1/MPW$$
By circular flow of income, expenditure creates income and income generates more expenditure

Multiplier effect

Circular flow of income represents sources of spending flow & uses of income generated by the spending flow

Assume I ↑ $1000, MPC=0.6

1. **Round 1:**
   Firms pay out $1000 more as <u>factor income</u> to households who provide factor service
   Households <u>spend a portion</u> of it i.e. $600 on consumption; the rest goes to <u>S, T, M</u>. Increase in consumption encourages firms to produce more in Round 2

2. **Round 2:**
   Factor income paid out by firms increases by $600
   Households spend a portion of it i.e. $360 on consumption; the rest goes to S, T, M

3. Process continues until <u>total injections = total withdrawals</u>
   NY increase by a total of $2500 → 2.5 times the initial increase in investment

4. Smaller MPW → smaller combined effect of savings, taxes and imports → more of the initial increase in injection will be spent on consumption → larger multiplier effect → larger overall increase in NY through multiplier effect

<u>Size of leakages</u> affects multiplier size k
- High leakages: large % of every additional unit of income earned leaves circular flow of income, less channelled back to create income for next groups of households → smaller additional increases in RNY
- Singapore: lack natural resources so high reliance on imports & compulsory saving of workers' monthly salary through Central Provident Fund (CPF) → high level of withdrawals (high MPM and MPS) → small k
- *For every additional dollar injected into economy, large % leaves circular flow of income, leaving less to be channelled back to create income for next group of households
- Weaker multiplier effect ⇒ fiscal and monetary policy less effective

Aggregate Demand and Aggregate Supply

Aggregate demand (AD): quantity of <u>domestically-produced</u> G&S that <u>households, firms, government, foreigners</u> are w/a to buy at each price level
1. **Consumption (C)**
2. **Investment (I)**
3. **Government spending (G)**
4. **Net exports (X – M)**

AD = C + I + G + (X – M)

<table>
<tr>
<td>C</td>
<td>

<u>Income</u> ↑ purchasing power ↑ C ↑
Disposable income: income excluding <u>personal income tax</u> and including <u>transfer payments</u>
Disposable income = income earnt – direct taxes + transfers
Disposable income ↑ purchasing power ↑ C ↑
<u>Expect future prices</u> to increase → buy now while prices low & purchasing power of income high to maximise utility → C ↑
<u>Expect future income</u> to decrease → increase precautionary saving
<u>Interest rate</u> is cost of credit

<u>Borrowers</u>: i/r ↑ higher explicit cost of borrowing → less incentive to borrow to finance spending → C ↓
<u>Savers</u>: i/r ↑ higher earnings from bank savings → when consume and not save money in banks, incur higher opportunity cost in terms of interest income forgone → less incentive to consume → C ↓

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<tr>
<td>I</td>
<td>
Investment:
expenditure on production of capital goods and net additions to stocks of goods

<div align="center">
interest rate
(movement along MEI)   non-interest rate factors
(shift of MEI)
</div>

<u>Interest rate</u> is explicit cost of credit when taking loans
i/r decrease from r_0 to r_1 → at I_0, eRORI > cost of borrowing → to capture positive net eRORI, firms incentivised to ↑ I from I_0 to I_1 where eRORI = cost of borrowing

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	● <u>Optimistic</u> about future market conditions → firms revise eRORI, higher eRORI relative to cost of borrowing → MEI shift upwards At I_0, eRORI > cost of borrowing → to capture positive net eRORI, firms incentivised to ↑ I from I_0 to I_1 where eRORI = cost of borrowing ● <u>Corporate tax rate</u> ↓ → expect ↑ in after-tax profits → MEI shift upwards → I ↑
G	**Government expenditure**: current spending and capital spending by govt on provision of G&S (autonomous in short run, independent of NY) ● For macroeconomic stabilisation ● For sustained and sustainable growth ● For social objectives
X – M	**Net exports**: difference b/w export expenditure & import revenue $$TR_X - TE_M$$ ● **Foreign & domestic income**: TR_X depends on foreign income TE_M depends on domestic income (MPM) ● **Relative prices**: Relative inflation rate [refer to *Macroeconomic Issues – Balance of Payment*] Relative exchange rate [refer to *Macroeconomic Issues – Balance of Payment*] ● **Tastes and preferences** ● **Govt policies**: Tariffs reduce M, increase C

Broadly, AD is affected by GEE factors

G	Govt policies	● Fiscal policy ● Monetary policy
E	Expectations	● Expect future incomes ● Expect future prices ● Expect future economic outlook
E	External ec envt	● Relative inflation rates ● Movements in exchange rate ● Changes in tastes and preferences ● Economic performance of trading partners

Aggregate supply (AS): quantity of domestically-produced G&S that firms are w/a to supply at each general price level.

Why the shape?
- **Horizontal** range: unemployment of resources
  Workers willing to work at prevailing wage, firms able to obtain resources to expand production without paying high prices for FOP → RNY can be increased without changes in GPL
- **Upward sloping** range: structural rigidities
  Firms have to hire less suitable FOP to increase production → unit cost of production increase → increase in RNY is possible only when accompanied by increase in GPL
- **Vertical** range: full employment of resources
  Productive capacity of economy (Y_f: max possible output given current resources) → attempts to stimulate aggregate demand will only push up GPL with no effect on RNY

Determinants

Determinant	Explanation
1. SRAS (shift upwards / downwards): **uCOP**	● Input prices: Price of essential FOP ↑ uCOP ↑ to protect profit margins, firms w/a to supply same o/p only at higher prices → AS ↓ (shift upwards) Technology → increase productivity → uCOP ↓ → AS ↑ (shift downwards) increase productivity → uCOP ↓ → SRAS ↑ (shift downwards) ● Govt indirect taxes & subsidies: Tax: uCOP ↑ Subsidy: uCOP ↓
2. LRAS (shift leftwards / rightwards): **Q&Q of FOP**	↑ quantity of FOP 1) Labour: increase legal working age / working population size e.g. foreign labour → increase labour force 2) Land: discover new sources of energy, minerals, land etc. 3) Capital: increase qty of machinery, equipment ↑ quality of FOP 1) Labour: better education or training, better knowledge/skills → increase labour productivity 2) Land: better land fertility / utilisation of land 3) Capital: better tech and innovation with more efficient capital stock → new tech produces more o/p with same input → increase potential o/p

Adjustment process

AD increase	
National income: ● AD increase ● Firms faced with <u>unplanned disinvestment</u> (unplanned fall in inventories) as firms draw down stocks to meet unanticipated increase in AD → <u>increase o/p</u> in next production cycle to restore inventories to optimal level ● Firms enter factor mkt to <u>demand for more FOP</u> (incl labour), pay out <u>more factor income</u> ● Through <u>multiplier effect</u> (spending creates income, income generates more spending), AD increase further from AD_0 to AD_1 ● RNY increase from Y_0 to Y_1 Inflation: ● Firms demand more FOP, increased competition for FOP, <u>bid up factor prices</u> (holding SS of FOP constant) ● <u>Increase in uCOP</u> → to protect profits, firms pass on part of higher costs by raising prices of final G&S ● GPL increase from P_0 to P_1 Employment: ● Since firms demand for more FOP, including labour, employment increase / unemployment decrease	

If AD decrease, use <u>reverse multiplier effect</u>

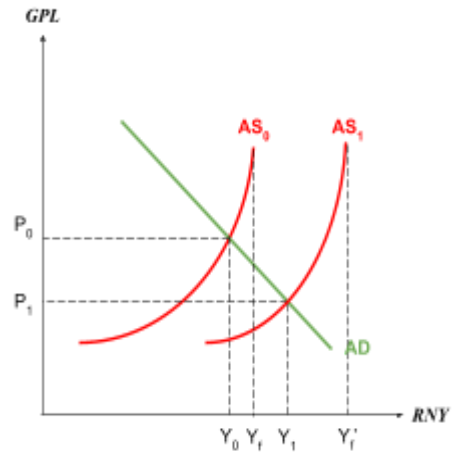| SRAS increase	
National income: ● Firms experience decrease in uCOP → profits increase → firms incentivised to increase o/p Inflation: ● Firms facing market competition pressure pass on part of cost savings to consumers, lower prices of final G&S from P_0 to P_1 Employment: ● Firms increase o/p, hire more FOP incl labour	

LRAS increase
National income: ● Productive capacity expand → more FOP for firms to utilise to step up production Inflation: ● Productive capacity expand → more spare capacity, firms can increase o/p without intensifying competition for FOP

Extent of change in RNY and GPL depends on
● Availability of spare capacity
  ○ Larger spare capacity: firms increase o/p without having to bid up prices of FOP → no sharp increase in GPL
  ○ Smaller spare capacity (ec operate close to full capacity): firms compete intensely for limited FOP to increase o/p to meet rising AD → sharp increase in GPL
● Leakages (which affects increase in AD)

3.2 Macroeconomic Objectives and Policies

Standard of Living and Macroeconomics Indicators
Standard of living: level of economic welfare and social well-being of individual or household
- Material aspect: quantity of G&S consumed
- Non-material aspect: qualitative aspects of welfare

Nominal and real concepts
- **Nominal**: measured using prices prevailing in current year → not adjusted for inflation
- **Real**: measured using prices that prevailed during some fixed base year → adjusted for inflation to remove price effect

$$\text{Real XXX} = \text{Nominal XXX} - \text{Inflation rate}$$

Per capita: divided by population count

Index numbers: used to make comparisons between years & measure magnitude of change over time
- Use a base year to compare to other years - value assigned to base year is 100

Key economic indicators
Used to measure macroeconomic performance

Indicator	Definition
Gross Domestic Product (GDP)	Total value of all final G&S produced within geographical boundaries of a country (*domestic* production), in a given period of time **Real GDP**: value of GDP adjusted for inflation **Real GDP per capita**: value of real GDP divided by population of country
Gross National Income (GNI)	Sum of gross factor incomes received by residents of country (*national* production) $$\text{GNI} = \text{GDP} + \text{net primary income from abroad}$$
Unemployment rate	% of unemployed persons in labour force
Productivity **Labour productivity**	Real output per unit of factor input used Real output per unit of labour input used
Consumer Price Index (CPI)	Weighted average of prices of specified basket of G&S commonly purchased by a typical household (indicator to measure inflation)
Inflation rate	Rate at which general price level increases Can be measured using purchasing power parity (PPP), general price level $$\text{Inflation rate} = \text{\% increase in CPI}$$
Balance of trade	Difference b/w export revenue & import expenditure $$TR_X - TE_M$$
Exchange rate	Price of a currency, in terms of other currency **Appreciation** of A against B: increase in price of A in terms of B **Depreciation** of A against B: decrease in price of A in terms of B

Indicator	Definition
Human Development Index (HDI)	Composite index: combine multiple indicators to provide more holistic measurement ● life expectancy ● education level ● per capita income indicators e.g. per capita GNI (PPP)
Gini coefficient	Degree of variation to measure extent of distribution of income within a country from a perfect equal distribution Lorenz curve: measures distribution of income and wealth Gini coefficient = A/(A+B) varies between 0 and 1 0 is perfect equality, 1 is perfect inequality

Indicators for SOL
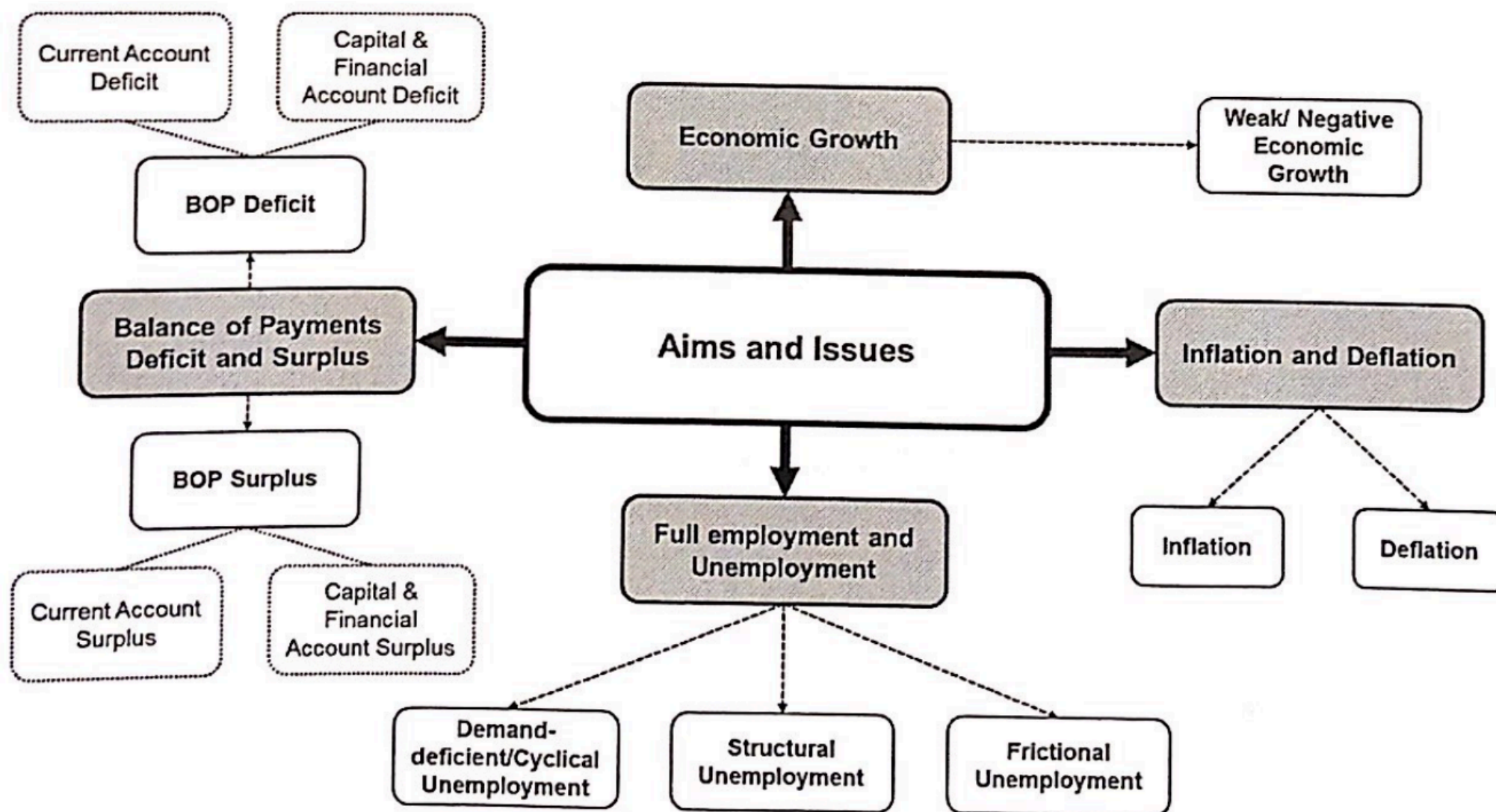
Comparison over time and space

Indicator	Explanation	Limitations
Real GDP per capita [over time]	Material SOL ● Increase in real GDP per capita → more G&S produced, more needs and wants satisfied → derive higher level of utility Non-material SOL (proxy) ● National income of country rises → govt collect more tax revenue → more govt spending towards social development e.g. income redistribution	● GDP stats do not distinguish between type of output ● Inclusion of previously-excluded productive activities ● National income data does not adequately reflect non-material aspect of SOL e.g. faster pace of life, urban congestion, envt degradation
Real GDP per capita (PPP) [over space]	GDP converted to ● per capita: account for population differences ● PPP exchange rate: account for differences in cost of living across countries	● Countries differ in composition of national output ● Countries differ in terms of method, accuracy, reliability of data collection ● Countries differ in non-material aspect of SOL, not captured by national income statistics
Inflation rate	Material SOL Assuming no change in income, erode purchasing power, less w/a to able to purchase G&S ⇒ mSOL fall	Inflation rate typically calculated as a weighted average across a basket of G&S → households have diverse spending patterns, so impact of inflation depends on composition of a person's consumption basket.
Unemployment rate	Material SOL Unemployment → absence of employment opportunities directly → lower income, lower purchasing power, less w/a to purchase G&S ⇒ mSOL Non-material SOL Stable employment → less likely to engage in criminal activities driven by economic desperation → safer ⇒ nmSOL ↑	Only measures no. of people without jobs but do not consider the quality of those jobs → people may be employed but in low-paying positions that do not provide high mSOL

Gini coefficient	Material SOL Gini coefficient closer to 0: more even distribution of income / wealth → larger proportion of population benefit from ec growth → significant number of people have access to G&S ⇒ mSOL ↕	Does not provide information about the absolute levels of income / wealth

Composite indices
over time & space
	Combine two or more indicators to provide more holistic measurement
	● **Human Development Index (HDI)**: provides composite measure of three key dimensions of human development:
	  ○ living long and healthy life (measured by life expectancy)
	  ○ access to education (measured by adult literacy and gross enrollment in education)
	  ○ ability to maintain decent standard of living (measured by purchasing power parity, PPP, income)
	● Green Growth Indicators
	● Happy Planet Index
	● World Happiness Index
		Evaluation
		1) To fully assess SOL, need to consider non-material aspects of SOL:
		  ● A more holistic indicator for measuring SOL is Human Development Index (HDI) [explain it]
		
		2) Accuracy and reliability of data:
		  ● in many countries, obtaining complete and precise information for these calculations can be challenging
		  ● SG: developed country with high level of statistical sophistication and data availability → more accurate assess changes in mSOL

Typical evaluation:

To evaluate, while … provides valuable information about material living standards, it should be used in conjunction with other indicators, such as Human Development Index which combines economic indicators (such as GDP) with non-economic indicators (such as life expectancy and literacy rate) in order to gain a comprehensive assessment of living standards in terms of economic, social, and environmental impacts.

Macroeconomic Issues

Current Account Deficit

Capital & Financial Account Deficit

BOP Deficit

Economic Growth

Weak/ Negative Economic Growth

Balance of Payments Deficit and Surplus

Aims and Issues

Inflation and Deflation

BOP Surplus

Current Account Surplus

Capital & Financial Account Surplus

Full employment and Unemployment

Inflation

Deflation

Demand-deficient/Cyclical Unemployment

Structural Unemployment

Frictional Unemployment

Govt microeconomic aims

Equity	Equitable distribution of income whereby economic growth widens income gap. Govt tries to redistribute income using taxes e.g. progressive income tax
Efficiency	Goods and services produced at minimum cost so that consumers and firms can enjoy max benefits, i.e. productive, allocative, dynamic efficiencies

Govt macroeconomic aims

Internal	1. **Sustainable economic growth** 2. **Low inflation** 3. **Low unemployment**
External	1. **Healthy balance of payment (BOP)** 2. **Stable exchange rate**

Policies
1. **Fiscal policy**
2. **Monetary policy**
3. **Exchange rate policy**
4. **Supply-side policy**
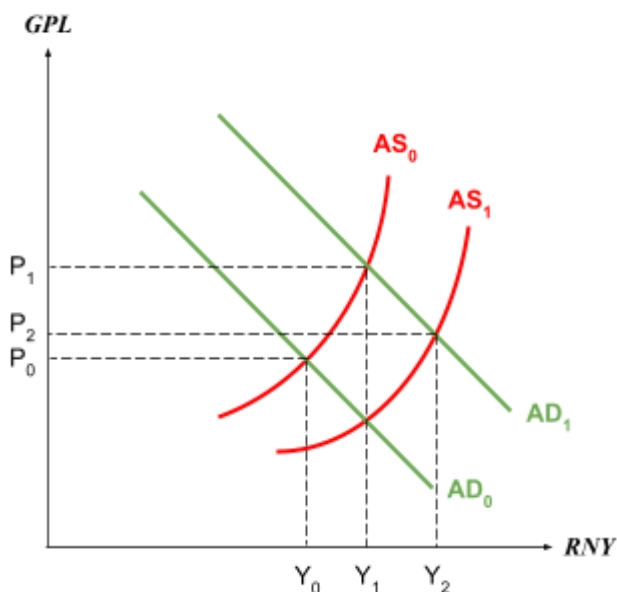
ECONOMIC GROWTH

Economic growth: sustained increase in real national output brought about by increase in productive capacity

Recession: fall in real GDP for at least two consecutive quarters

Actual growth: RNY increase
→ AD increase / SRAS increase

Potential growth: <u>productive capacity</u> expand
→ LRAS increase

Sustained growth: actual + potential growth

- Actual growth only: amount of FOP decreases, limit ability of economy to increase national o/p + shortage bid up prices, *sharp* increase in GPL
- Coupled with potential growth: level of economic activity increases so that extra capacity created is put into use → <u>continuous increase</u> in RNY & relieve inflationary pressure → <u>sustained non-inflationary growth</u>

Inclusive growth: <u>sustained</u> growth + <u>broad-based</u>, creates productive employment opportunities for majority of population
- Economic progress fairly distributed across society
- Low Gini coefficient, low income inequality

Sustainable growth: <u>sustained</u> growth + does not cause other significant <u>economic problems</u> for <u>future generations</u>
- Natural resource conservation and management: with higher growth rate and technological advancements, more renewable sources of energy are now more affordable → switch to use renewable sources of energy e.g. solar energy
- Current rapid growth exhaust scarce resources / envt degradation → undermine future growth

Benefits

Decrease in DD-deficient u/e **Higher consumption** ● Increase in real GDP > increase in population → real GDP/capita ↑ → … ⇒ <u>mSOL ↑</u> **Income redistribution** ● More tax revenue collected → redistribute from rich to poor (progressive income tax system) through transfer payments to low-income households → close income gap ⇒ reduce <u>income inequality</u>	**Govt spending on merit goods** ● Y ↑ govt <u>tax revenue</u> ↑ increase spending on merit goods e.g. healthcare services → access to better healthcare services, enjoy healthier lifestyle ⇒ <u>nmSOL ↑</u> **Virtuous cycle of savings and investment** ● Ec growth → higher savings → source of funds for investment → I ↑ ● Ec growth → rising DD and o/p, firms make more profits, higher eRORI → I ↑ ⇒ <u>AD ↑</u>

Costs

| **Demand-pull inflation**
 ● Purchasing power ↓ less w/a purchase G&S to satisfy needs and wants ⇒ <u>mSOL ↓</u>

 BOT worsen
 ● Higher Y, greater purchasing power, more w/a to purchase G&S incl imports

 Investment comes at trade-off with current consumption
 ● Investment diverts resources away from production of C goods towards K goods
 ● SR: current consumption ↓ ⇒ <u>mSOL ↓</u>
 ● LR: I adds to capital stock, increase qty of FOP → productive capacity expand → higher potential Y ⇒ future <u>mSOL ↑</u>
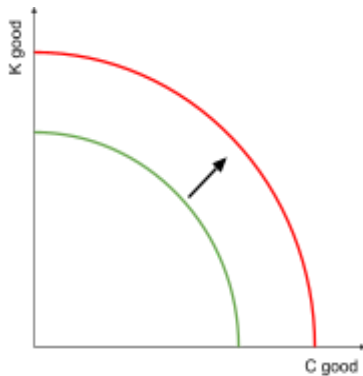
  | **Tech-driven growth**
 ● Change in skills and knowledge required
 ● DD for <u>high-skilled workers</u> ↑ → wage ↑
 ● DD for <u>low-skilled workers</u> ↓ → wage ↓
 ● Skills no longer relevant → <u>structural u/e</u> ⇒ <u>widen income gap</u> b/w employed & unemployed

 Environmental degradation
 ● Ec growth due to <u>industrialisation</u> / greater <u>consumption</u> levels → pollution → damage environment & health of population ⇒ <u>nmSOL ↓</u>
 ● Limit rate of improvement in Q&Q of FOP → limit potential growth ⇒ <u>limit future SOL</u> |

Internal price stability: stable GPL
External price stability: stable exchange rate

Inflation: increase in GPL
Deflation: decrease in GPL
Disinflation: decrease in rate of inflation
Stagflation: high unemployment + rapid inflation + depressed RNY

Consumer Price Index
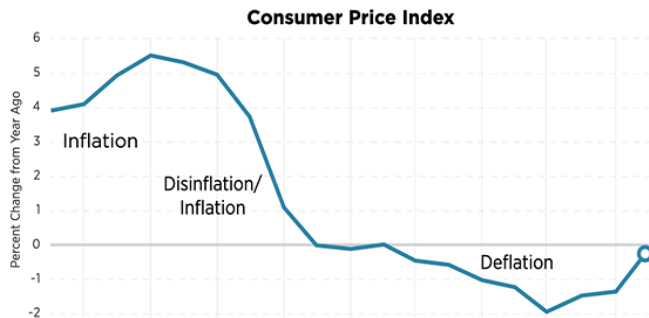
Inflation rate = Δ CPI / Δ t x 100%
Consumer Price Index (CPI): indicator that measures change in GPL
(index number – relative to base year)

Value of money
- Internal VOM: dependent on inflation rate
- External VOM: dependent on exchange rate

Causes of inflation
Demand-pull inflation: AD increase
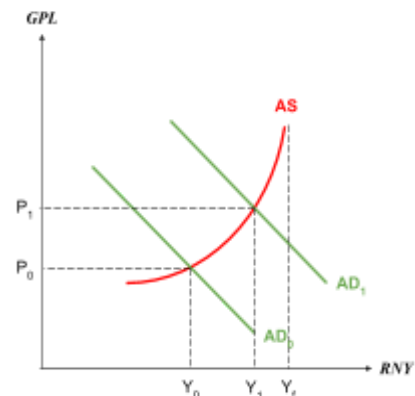
Cost-push inflation: SRAS decrease

Causes of deflation
- AD fall → RNY fall, u/e rise
- SRAS/LRAS rise → RNY rise, u/e fall

Costs (high and unexpected inflation)

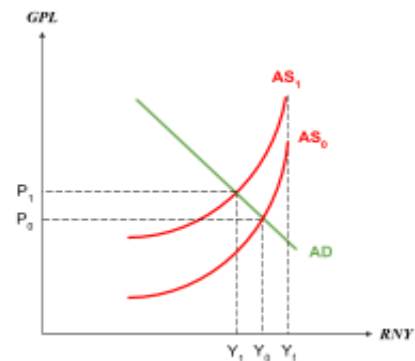| Erode purchasing power, discourage savings	Economic growth*
- Less able to apportion income between current consumption (C) and future consumption (S) - Unable to plan consumption, may need to spend all current income for fear of loss in purchasing power of savings over time - Less savings (funding of investment) → I fall **BOT*** - Relative inflation rate ↑ exports are less price competitive … ⇒ worsen BOT	- Difficult for firms to <u>predict future streams of revenue and cost</u>, lower business confidence → revise eRORI downwards → … I ↓ ⇒ AD ↓ (actual growth) AS ↑ limited (potential growth) - Inflation rate > nominal i/r → <u>-ve real i/r</u>, households' <u>savings</u> fall in real terms → withdraw savings, hold wealth in other forms → less funds available for firms' investment → … I ↓ ⇒ AD ↓ AS ↑ at slower rate **ER** - Currency DD ↓ SS ↑ ⇒ ER depreciate

Redistribution of income → inequity	Inflationary spiral

● Debtors (borrow) gain ⇔ creditors (lend) lose
  ○ Debtors: assume nominal i/r same, i/r paid fall in real terms - amt that they repay has lower purchasing power than amt borrowed
  ○ Creditors: receive repayment of loans that are lower in real terms - amt repaid has lower purchasing power than amt loaned out
● Variable income earners gain ⇔ fixed income earners lose
  ○ Fixed income earners: real income fall, as nominal wages allow them to consumes less G&S → lower mSOL
  ○ Variable income earners: wages tied to price of o/p (salesmen earning commission) / strong bargaining power in negotiating wage increments → maintain mSOL
● Govt gain ⇔ taxpayers lose
  ○ Inflation pushes taxpayers into higher tax brackets, when money income rises but real income may not have increases
  ○ Pay greater proportion of income in taxes -> experience slower rate of increase in disposable income / profits
	● Trade unions push up wages → spiral
	● Policy to address the spiral: limit power of trade unions
	
	Significance of issue
	- Magnitude & duration
	- Relative inflation rate
	- Root cause
	- Current ec condition, govt ec priorities
	- Ec characteristics of SG

Benefits (deflation)

BOT improve

Costs (deflation)

Economic growth, u/e	Decline in investment
Deflationary spiral* ● GPL ↓ increase value of money, csr expect price to continue falling → postpone spending in anticipation of further fall in prices → C ↓ ● Real value of debt increase → reduce spending and investment → C ↓ I ↓ ⇒ AD ↓ ● LR: I ↓ ⇒ limit potential growth	● Create uncertainty for firms & reluctant to borrow during deflation due to redistribution effects that cause them to pay off loans with increasing real value → I fall **Redistribution of income → inequity** ● [Reversed]

UNEMPLOYMENT

Labour force: all those who are w/a to work at current wage rate

Unemployment: situation where labour force of legal working age who are without jobs but available for work, willing to work, actively seeking work at current wage rate

Causes

Structural unemployment:
- Change in structure of economy → change in skills and knowledge required to perform jobs
- Transition impeded by occupational / geographical immobility (workers unable to upgrade skills to stay relevant / move to placed where their skills are still in demand)
- ⇒ mismatch b/w skills of unemployed workers & skills required by employers

Long-term and large magnitude

Demand-deficient unemployment:
- Cyclical unemployment: AD fall → firms cut back production, reduce (derived) DD for FOP incl labour → reverse multiplier effect → unemployment

Short-term and large magnitude

Frictional unemployment:
- Imperfect information in labour market: workers not fully informed about job opportunities & employers not fully informed about labour available → takes time for job-seekers to be matched with suitable jobs

Short-term and small magnitude

Real-wage unemployment:
Real wages forced above eqm wages → excess supply of labour (unemployed)
- Minimum wage legislation
- Union bargaining
- Efficiency-wage theory: asymmetric information [refer to micro notes]

Costs

Forgone output ● Produce within PPC ● Under-utilise resources → society incurs opportunity cost, loss of ec welfare ● Smaller o/p means fewer needs and wants can be satisfied → lower csr utility **Decline in investment, potential growth** ● Csr income fall, so C ↓ AD ↓ Firms profits fall, so I ↓ AD ↓ ● DD-deficient u/e falls further ● I ↓ AS increase at slower rate, limit potential growth **Rising inequality and social costs** ● Wide disparity in material welfare ● Unemployed indv get restless and unhappy → crime, social unrest	**Erosion of skills (hysteresis)** ● Long-term unemployment → miss out on on-the-job training opportunities → work skills erode / obsolete → productivity decline ● PPC shift inwards → mSOL fall & undermine potential growth **Worsen govt budget position** Budget position = tax revenue (T) – govt expenditure (G) ● Unemployed pay no income tax → T fall ● Higher expenditure on unemployment benefits → G rise ● ⇒ worsen budget position → debt → borrow …

Balance of payments: record of international transactions (receipts + payments) b/w residents of the economy & non-residents

1. **Current account (CA)**
   - Goods and service account (BOT)
     BOT deficit: $TR_X < TE_M$
     BOT surplus: $TR_X > TE_M$
   - Primary income balance: net income flows from employment and investment
     e.g. expatriate workers
   - Secondary income balance: net flows from transfers
     e.g. donation to humanitarian relief

2. **Capital and financial account (KA)**
   Currency flows b/w countries (intl)
   - Short-term capital flows: hot money, investors seek out assets with highest rate of returns
   - Long-term capital flows: portfolio investments / direct investments

Causes of BOT deficit
Relative inflation rates
- Scenario: the country is experiencing high rate of inflation, while other countries have zero rate of inflation
- Exports: P_X ↑, assume $|PED_X| > 1$, MTP ↓ in $Qdd_X \rightarrow \underline{TR_X \downarrow}$
- Imports: P_M same, increase in price of domestically-produced G&S induce locals to switch to imports $\rightarrow DD_M \uparrow \rightarrow \underline{TE_M \uparrow}$

- TRX ↓ + TEM ↑ ⇒ BOT worsen

Relative exchange rates
- Scenario: the country's currency appreciates against foreign currencies
- Exports: P_X ↑ in *foreign currency terms* → Qdd_X ↓
- Imports: P_M ↓ in *domestic currency terms* → Qdd_M ↑
- Assume Marshall-Lerner condition ($|PED_X| + |PED_M| > 1$), price changes in exports and imports induce *large enough* changes in Qdd in opposite direction to cause $\underline{TR_X}$ to fall relative to $\underline{TE_M}$
- TR_X ↓ + TE_M ↑ ⇒ BOT worsen

Emergence of low-cost competitors / international competitiveness
- Exports: *relative* P_X ↑, assume XED > 1 (closer substitutability), $\underline{TR_X \downarrow}$ to large extent
- Imports: P_M ↓, Qdd_M ↑, assume $|PED_M| > 1$, MTP ↑ in $Qdd_M \rightarrow \underline{TE_M \uparrow}$
- TR_X ↓ + TE_M ↑ ⇒ BOT worsen

Relative growth rates
- Major trading partners enter recession → foreign incomes fall, less w/a to purchase G&S → TR_X ↓ ⇒ BOT worsen

Extent depends by YED for exports

Causes of KA deficit

short-term capital flow (hot money)
Relative interest rates
- i/r falls relative to other countries
- <u>Yields</u> on <u>assets</u> fall → investors decrease holdings of assets, move funds in search of assets with highest expected rate of returns
- Capital inflow ↓ capital outflow ↑ ⇒ <u>net capital outflow</u> ⇒ worsen KA position

Anticipation of exchange rate movement
- Speculators expect central bank to devaluate currency (assets denominated in currency lose value along with currency) → sell assets, convert currency holdings into other currency to avoid exchange losses
- Capital inflow ↓ capital outflow ↑ ⇒ net capital outflow ⇒ worsen KA position

long-term capital flow
Business confidence and expectations
- Firms pessimistic abt future market conditions → decrease in eRORI → reduce firms' willingness to invest

Govt policies
- E.g. impose foreign workers' levy / increase corporate taxes → decrease eRORI → reduce firms' willingness to invest

Benefits (BOT deficit)

Inflation   • X–M ↓ AD ↓ ⇒ if economy initially overheating, relieve inflationary pressure

Costs (BOT deficit)

Economic growth, u/e
 • X–M ↓ AD ↓
 	
 Undermine ER stability
 • BOT deficit → net outflow of currency → excess SS of currency in forex
 • Vice versa
	Deficit financing*
	 • Suppose any surpluses in other items of CA insufficient to offset BOT deficit → overall CA deficit
	 • Finance CA deficit by:
	   ○ running down reserves: not sustainable
	   ○ external borrowing: interests, profit, dividends paid out to foreigners → give foreigners greater claim on country's assets and resources → in future, leave resident households with less factor income to spend on G&S to satisfy needs and wants ⇒ <u>current mSOL ↑ future mSOL ↓</u>

Benefits (BOT surplus)

Economic growth, u/e
- X–M ↑ AD ↑
- Fixed capital formation, I ↑ LRAS ↑ ⇒ non-inflationary growth

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Costs (BOT surplus)

Inflation - DD-pull inflation if economy operating near full-employment o/p level **Automatic correction of BOT position** - BOT surplus → net currency inflow → … currency appreciate → worsen BOT position **Inflation** - Currency appreciate → reduce price of imported FOP, uCOP ↓ SRAS ↓ ⇒ moderate inflation arising from initial improvement in BOT position	**Retaliation [globalisation]** - BOT is zero-sum game: one country's BOT surplus is another country's BOT deficit (BOT must balance for the world as a whole) → impossible for all countries to run BOT surpluses simultaneously - Ctries with BOT deficits may be forced to resort to import controls → volume of trade fall → limit efficiency gains from CA

Exchange rate: price of the currency on foreign exchange (forex) market in terms of other currencies
- DD by foreigners to purchase exports / assets of Singapore (investments) → represented by TR_X
- SS by locals to exchange for foreign currencies to purchase imports / assets abroad (investments) → represented by TE_M

Factors
Relative interest rate
- i/r fall → yield on assets falls relative to other countries → speculators decrease holdings of assets, move funds in search of assets with highest expected rate of returns
- Capital inflow ↓ outflow ↑ ⇒ net capital outflow
- Excess SS at original exchange rate ⇒ depreciate

Relative inflation rate
- High inflation → TR_X ↓ DD for currency ↓ + TE_M ↑ SS for currency ↑
- ⇒ depreciate

BOT deficit:
net currency outflow → excess supply → downward pressure on ER ⇒ depreciate
BOT surplus:
net currency inflow → excess demand → upward pressure on ER ⇒ appreciate
---

Exchange rate systems
1. **Free float**
ER determined by market forces of DD & SS in forex market

2. **Fixed exchange rate system**
ER based on predetermined rate against a specific foreign currency set by govt (**peg**)
→ buy / sell domestic currency to maintain peg

Current ER coincides with peg. Suppose DD for currency fall from D_0 to D_1 → excess supply at ER_0 → downward pressure on ER → depreciate from R_0 to R_1 w/o govt intervention
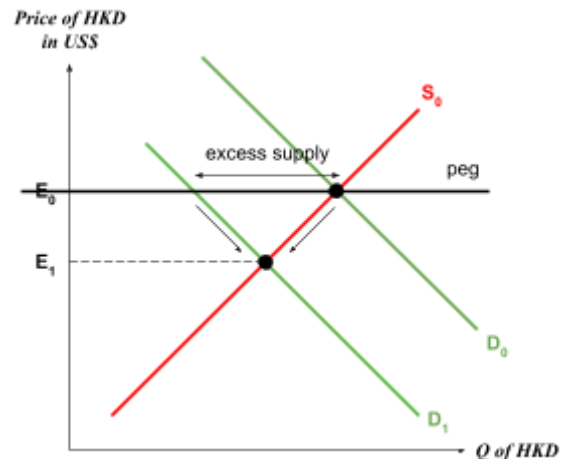
Counter depreciation
- To maintain peg, use reserves to buy up excess supply of currency → SS ↓
- **Reserves:** foreign reserves are limited + govt has limited power to borrow foreign currencies → run out reserves → mkt forces prevail → devaluation

Counter appreciation
- To maintain peg, sell its currency and buy up foreign currency → SS ↑
- **Reserves:** accumulate foreign reserves → enhance central bank's ability to manage ER
- Reduce foreign exchange risks faced by foreign firms → improve business confidence → FDI ↑

Devaluation: official decrease of value of currency by monetary authority (adjust peg down)
Revaluation: official increase of value of currency by monetary authority (adjust peg up)

3. **Managed float** e.g. SGD
Allow currency to float + intervene to ensure ER kept within the band

Stable ER (external price stability)

FDI	Trade/current account
● Prospective foreign investors better ascertain costs of investment + foreign firms enjoy stable stream of profits when converted back into home country → raise investor confidence, FDI rise ● Improve financial KA of BOP ● I ↑ AD ↑ AS ↑	● Price of exports and imports remain stable ● X: Foreign consumers aware of predictable prices of exports → encourage them to purchase exports / enter long-term sales contracts

Benefits (depreciation)　　　　　　　　Costs (depreciation)

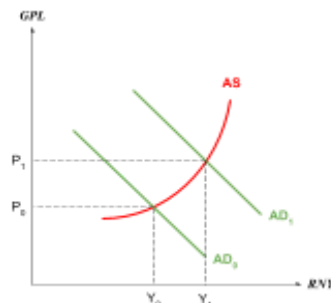| Automatic correction of CA deficit	Inflation
[Fixed ER system] ● Currency depreciate, P_X fall in foreign currency terms, P_M rise in domestic currency terms … BOT position improve, correct BOT deficit	● P_M in domestic currency terms ↑ ● Input prices (esp countries w high reliance on imports for raw materials) ↑ uCOP ↑ SRAS ↓ ⇒ cost-push inflation **Increase size of external debt** ● Loans denominated in foreign currency terms now cost more to repay in domestic currency → increase debt burden ⇒ mSOL ↓ **Financial crisis** ● Speculative attacks on currency: investors anticipate central bank to run out of reserves to maintain peg → bring out funds before actual devaluation …

Macroeconomic Policies

FISCAL POLICY

Expansionary fiscal policy:	**Contractionary fiscal policy**:
increase govt spending / decrease taxes → AD ↑	decrease govt spending / increase taxes → AD ↓ (slowdown ↑ in AD)
● Objective: <u>boost actual growth</u>, <u>reduce DD-deficient u/e</u> ● How it works: 　○ G ↑ (govt spending on final G&S) 　○ C ↑ (personal income tax rebates / transfer payments) 　○ I ↑ (cut in corporate tax rate) General limitations for DD-management policies ● Size of multiplier ● Relative share of AD components ● Time lag 　○ recognition lag: longer for fiscal policy than monetary policy 　○ implementation lag 　○ impact lag ● Trade-off with other macro goals ● Economic outlook (expectation of future income / profits) Limitations ● Fiscal sustainability	● Objective: <u>reduce demand-pull inflation</u> ● How it works: 　○ G ↓ (govt spending on final G&S) 　○ C ↓ (rise in personal income tax) 　○ I ↓ (rise in corporate tax rate) Limitations ● Politically unpopular
Supply-side effects Aimed at raising economic competitiveness & promoting potential growth ● Infrastructure development ● Human capital development ● Continuing education and training (CET)	**Manage widening income gap** ● <u>Progressive taxes and transfers</u>: 　- High-income hhs: fall into higher tax brackets, face higher income tax rates → disposable income ↓ 　- Low-income hhs: transfer payments → disposable income ↑ ● <u>GST Voucher</u>: help low income households, in the form of cash, annual top up of Medisave accounts, rebate on utilities bill
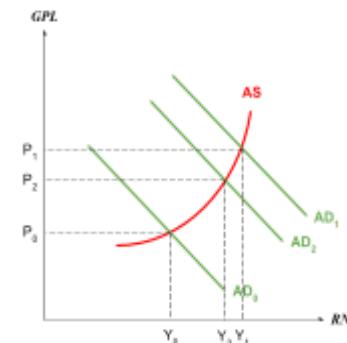
MONETARY POLICY

Interest rate **Expansionary monetary policy**: decrease i/r by increasing money supply → AD ↑ ● Objective: <u>boost actual growth</u>, <u>reduce DD-deficient u/e</u> ● How it works: C ↑ I ↑ X–M ↑	Interest rate **Contractionary monetary policy**: increase i/r by decreasing money supply → AD ↓ ● Objective: <u>reduce demand-pull inflation</u> ● How it works: C ↓ I ↓ X–M ↓

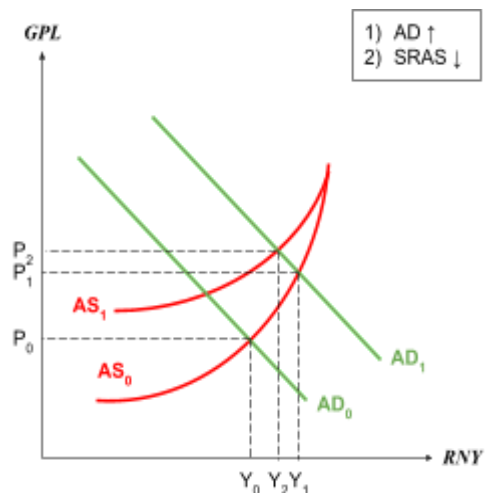|	

Limitations
● Ec outlook
  ○ C: csr expect Y to decrease, less willing to take on loans to finance consumption despite lower i/r → ineffective in increasing C
  ○ I: eRORI ↓ even though COB ↓ so net eRORI relatively unchanged → ineffective in increasing I
● Interest elasticity of C and I
  ○ Households and firms rely on their own sources of funds e.g. MNCs reply on head offices for funding rather than loans in host country to finance investment & households have ample savings to draw from to finance purchases → C ↑ I ↑ less
● Time lag: determined by central bank, independent of policy process → shorter time lag
● <u>Liquidity trap</u>: cut i/r, households choose to simply hold on to excess holdings of money instead of purchasing bonds → no more room for further i/r cut
  ○ <u>Negative interest rate policy (NIRP)</u>: savers have to pay interest → encourage C ↑ I ↑ ⇒ AD ↑
      Eval: -ve i/r reduces yields on holding the country's assets relative to those of other countries → currency depreciate → cost-push inflation
      Eval: to maintain profits, banks pass on higher costs to customers via banking fees → households & firms withdraw deposits, hoard money to avoid fees → SS of loanable funds ↓ → i/r ↑ ⇒ ineffective in boosting AD
	Limitations
	● Ec outlook
	  ○ C: csr expect Y to continue increasing, still willing to take on loans to finance consumption despite higher i/r → ineffective in discouraging C
	  ○ I: eRORI ↑ even through COB ↑ so net eRORI relatively unchanged → ineffective in discouraging I
	● Interest elasticity
	● Time lag
	
	  ○ <u>Quantitative easing (QE)</u>: central bank buy assets e.g. govt bonds → inject bank reserves into economy → increase money SS → lower i/r ⇒ AD ↑
	      Eval: weak ec outlook
	      Eval: DD for assets ↑ price ↑ → asset price inflation → asset bubbles → housing less affordable ⇒ equity

Exchange rate
Expansionary monetary policy:
managed depreciation by selling domestic currency (SS ↑)
● Objective: AD ↑ ⇒ <u>boost actual growth</u>, <u>reduce DD-deficient u/e</u>
● How it works:
   ○ Currency depreciate … ML, X–M ↑ C_d ↑
   ○ Import prices in domestic currency terms rise (esp FOP), uCOP ↑ SRAS ↓
	Exchange rate
	Contractionary monetary policy:
	managed appreciation by buying domestic currency (SS ↓)
	● Objective: AD ↓ ⇒ <u>reduce demand-pull inflation</u>
	● How it works:
	   ○ Currency appreciate … ML, X–M ↓ AD ↓
	   ○ Import prices in domestic currency terms fall (esp FOP), uCOP ↓ SRAS ↑

(Left graph labels: GPL, RNY; box: 1) AD ↑ 2) SRAS ↓; P_2, P_2, P_1, P_0; AS_1, AS_0, AD_1, AD_0; Y_0 Y_2 Y_1)

(Right graph labels: GPL, RNY; box: 1) slowdown AD ↑ 2) SRAS ↑; P_1, P_2, P_0; AS_0, AS_1, AD_1, AD_2, AD_0; Y_0 Y_2 Y_1)

Limitations ● Accumulate foreign reserves ● Trade-off: DD-pull & cost-push inflation → sharp ↑ in GPL ● Trade-off: ER instability → capital flight ● Retaliation ○ International competitors move to protect competitiveness of their own exports → competitive devaluation among competitors ⇒ policy ineffective in stimulating exports and actual growth	Limitations ● Require use of foreign reserves

| Monetary policy trilemma	Singapore
Only two out of the three objectives can be mutually consistent, policymakers must decide which one to give up 1. K-flow 2. ER 3. i/r Why there exists a trilemma ● Scenario: country wishes to allow free K flow, maintain ER, so central bank has to allow i/r to move to a level consistent with ER ● If US raise i/r, to maintain SGD-USD ER, SG has to raise i/r to maintain relative i/r (move in tandem with US i/r) to avert capital outflow to maintain ER (if not, SG i/r relatively lower, net capital outflow → ER depreciate) → unable to set i/r independent of US	1. Why ER ● Lack natural resources → reliant on imported FOP → susceptible to imported inflation (input price ↑ SRAS ↓ GPL ↑) → ER policy directly targets **imported inflation** ● Export oriented → X is largest component of AD → ER working through X is highly effective in managing **demand-pull inflation** 2. Why not i/r ● Monetary trilemma: SG promotes itself as international financial centre that emphasises open and free K flows → impossible for MAS to independently determine the domestic interest rates[1] ● I is interest inelastic: open to foreign investment → MNCs dominate investment spending in SG, rely on funding from head offices rather than on local financial market → investment decisions are less dependent on SG i/r ● C is interest inelastic: most savings locked up in CPF → cannot be freed up to be spent at will ● Small size of C as % of GDP: small domestic market → less susceptible to DD-pull inflation from domestic sources ● Small k size: high withdrawals / leakages 3. **MAS** operates managed float regime for SGD

Table under Singapore point 3:

Basket	managed against trade-weighted basket of currencies of major trading partners and competitors
Band	if exceed, MAS buy / sell foreign exchange
Crawl	modestly and gradually appreciating

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[1] if increase i/r, net inflow of hot money to seek higher interest returns → due to relatively small domestic sources of loanable funds, SS of loanable funds increase → downward pressure on i/r until comparable to foreign i/r

| SUPPLY-SIDE POLICY |
|---|

Cost-cutting measures

- Objective: SRAS ↑ ⇒ RNY, u/e, combat inflation
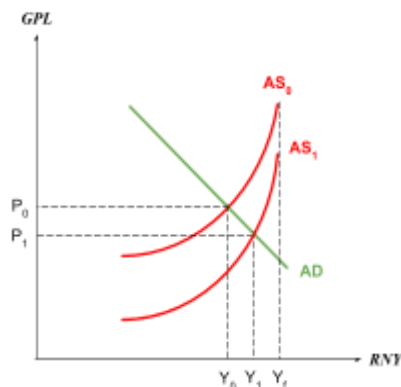
- How it works:
  - Decrease uCOP
    - **EG**: Jobs Support Scheme: provide wage support for employers to retain local employees during period of ec uncertainty → labour cost fall, uCOP fall
    - **EG**: flexible wage system: when wages are flexible downwards, wages can fall in times of falling labour demand → pay out less wages
    - Reduction in national minimum wages
    - Cut in rental of govt-owned commercial properties, utilities rebates

Enhance long-run growth potential

- Objective: SR&LRAS ↑
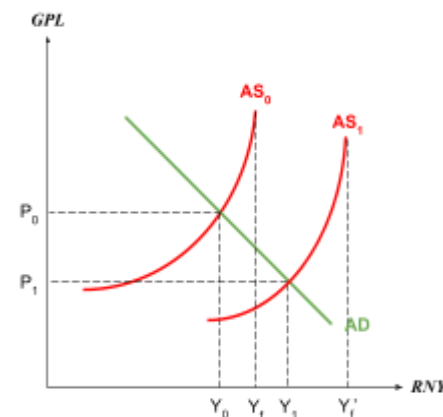
- How it works:
  - Interventionist policies
    - Infrastructure development: increase quantity of capital
    - Human capital development: encourage firms to send workers for training → increase productivity
      EG: SkillsFuture: encourage upskilling and retraining [also allows workers to equip themselves with relevant new skills → enhance occupational mobility]
    - Promote innovation: grants, subsidies, tax incentives to encourage R&D
      - Process innovation → price competitiveness
      - Product innovation → non-price competitiveness
        Eval: does not unfairly disadvantage any country, no retaliation
    - Raise retirement age: larger qty of labour
    - Relax restrictions on foreign workers: increase Q&Q of labour

	○ Market-oriented policies
	  ■ <u>Fiscal reforms</u>: remove policies that impede mobility of factor inputs
	  EG: housing regulations, unaffordable for job seekers from other parts of country to move into cities to take on jobs (geographical mobility) → price ceiling on rent
	  EG: occupational licensing, impose strict regulations on who can enter regulated occupations (occupational mobility)
	  ■ <u>Deregulation</u>: lower barriers to entry, introduce greater market competition → force firms to cut X-inefficiency, stimulate dynamic efficiency to offer competitive prices and products → raise productivity
	  ■ <u>Trade liberalisation</u>: expose domestic producers to competition from imports → …
	  ■ <u>Privatisation</u>: private sector more efficient than public sector, reduce X-inefficiency, profit incentive to reduce costs
	  ■ <u>Removal of bureaucratic red tape</u>: improve ease of business & lower business costs → I rise
	
	Limitations
	● Long gestation period, not intended as short-run policy → require complementary short-term gap measure
	● Receptiveness of workers towards training
	● Outcome of R&D is uncertain
	● Govt spending may have to be financed by borrowing …

| BOT POLICY	

Expenditure-switching: (M fall C rise X rise)
get domestic csr to switch to domestically-produced goods, away from imports OR
get foreign csr to switch to exports, away from goods produced at home
● Devaluation
● Import restrictions e.g. tariffs, non-tariff barriers on imports
● Export subsidies and promotion
● SS-side policies to boost export competitiveness
 	
Evaluation
● Ineffective in short term, as Marshall-Lerner condition does not hold in short term [J-curve effect]
   ○ tastes and preferences take time to adapt
   ○ consumers need time to source for substitutes
   ○ takes time for price changes to pass through supply chain
   → DD price inelastic in short-run ⇒ BOT worsen before any eventual improvement
	Expenditure-reducing: (M fall)
	get domestic csr to cut down spending on all G&S
	● Contractionary DD-management policy: AD fall RNY fall less purchasing power, less w/a to purchase G&S incl imports → TEM fall ⇒ improve BOT position
	
	Evaluation
	● k size
	● PED_X, XED between imports and domestically-produced substitutes
	● Trade-offs

Govt budget position: fiscal sustainability

Fiscal sustainability: ability of govt to maintain public finances at a credible and serviceable position over the long term
- Govt budget position = tax revenue (T) – govt spending (G)
- Singapore:
  - govt spending: social development, security, ec development
  - govt revenue sources: corporate income tax, personal income tax, GST, NIRC (Net Investment Returns Contribution)

If govt borrows to finance budget deficit, leads to …
- **Crowding out effect**:
  - govt borrow money from private sector, increase DD for loanable funds → drive up i/r
  - raise COB relative to eRORI → C fall I fall (*crowd out private investment*), weaken rise in AD
  - OR i/r rise, hot money inflow rise outflow fall -> DD rise SS fall of currency → currency appreciate, X-M fall worsen BOT position → *crowd out external demand*, weaken rise in AD ⇒ EFP ineffective

  - Eval: crowding-out effect is weak in deep recession, as households, firms reluctant to demand for loans to finance higher levels of C and I given bleak ec outlook ⇒ G ↑ > C ↓ I ↓ ⇒ EFP effective
  - Eval: SG govt has large fiscal reserves + budget surplus, able to increase govt expenditure w/o having to resort to borrowing

- **Severe macro instability**:
  - <u>Capital flight</u>: investors concerned with financial fisk of size of debt → choose to bring funds out of country → net capital outflow → downward pressure on ER, sudden and substantial depreciation of ER → financial crisis
  - <u>Sovereign debt defaults</u>: govt unable to pay interest to creditors, need bail out → forced to undertake <u>austerity measures</u> (cut spending & increase taxes to improve budget position, but could hurt growth & social unrest)
  - Regardless of way to finance deficit, <u>intergenerational transfer of welfare</u>: in future, govt will either have less reserves to spend, or tax revenues must be diverted to pay for resulting debt and interest incurred -> less resources available in future for govt to spend on social and developmental needs-> future SOL / potential growth
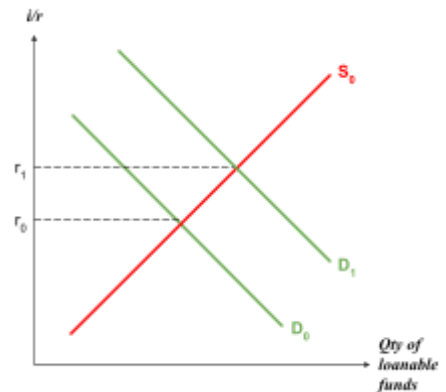
3.3 Globalisation and the International Economy

	G&S	K	labour
trade	✓		
FTA	✓	✓	
globalisation	✓	✓	✓

Trade policies
- Expenditure-reducing/switching policies
- FTA
- Protectionist policies: tariff, non-tariff measures

Globalisation
**Globalisation**: movement of <u>G&S</u>, <u>capital</u>, <u>labour</u>, <u>technology</u> across borders
- **Foreign direct investment** (FDI): movement of money flows that results in acquisition of capital e.g. new plants and equipment, or ownership of production facilities in foreign country
  - Movement of K
  - Movement of L
  - Movement of tech (tech transfer)
- Indicator of globalisation: **trade-to-GDP ratio** = X+M/GDP x 100%
  → measures openness of economy

Causes of globalisation

1. **Theory of Comparative Advantage***	**Comparative advantage**: produce good at <u>lower opportunity cost</u> than other country
	Law of Comparative Advantage: trade mutually beneficial to all countries if they <u>specialise</u> in production of goods in which they have <u>comparative advantage</u>
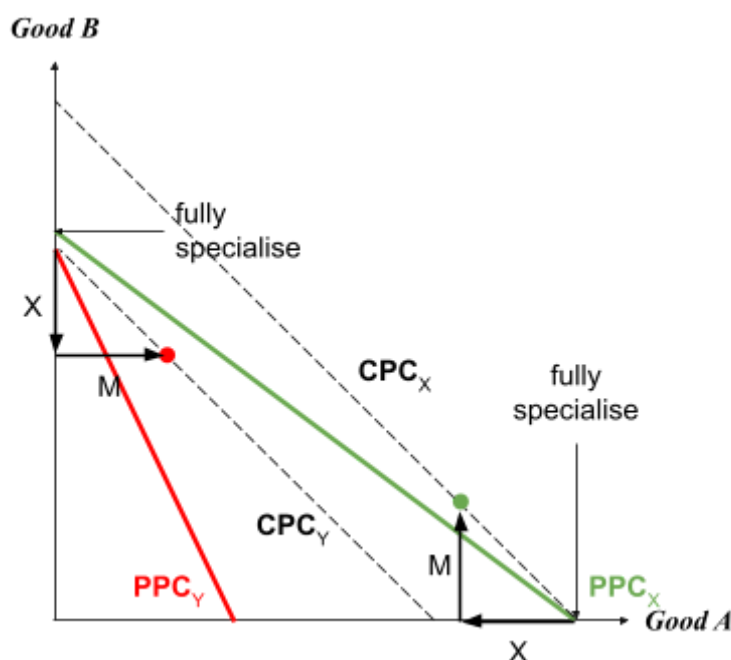
1) Country X: <u>opp cost</u> of producing additional unit of A is lower → <u>CA</u> in production of A
   Country Y: opp cost of producing additional unit of B is lower → CA in production of B
2) Country X <u>fully specialise</u> in production of A
   Country Y fully specialise in production of B
3) <u>Trade</u> with each other for goods which it does not have CA in
4) <u>Consumption</u> outside PPC is possible

Short explanation: (underlying economic intuition)
● Trade occurs because nations have <u>diff resource endowments and tech capabilities</u> → diff opp costs in production of diff types of goods
● A country can benefit by <u>specialising</u> in production of good which it can produce at lower opp cost, use the good to exchange for other goods which it can produce at higher opp cost (but which other countries can produce at lower opp cost)
● Trade allows countries to increase <u>productivity of resources</u> through specialisation based on their comparative advantage

Sources of CA (why opp costs differ?)
1) **Differences in factor endowments**
   Differences in climate and resource endowment → countries specialise in producing goods that require FOP for which they have relative abundant supply → produce at lower opp cost → trade to obtain G&S that they produce at high opp cost

   Static
   ● Land: fertile land → CA in land-intensive industries
   ● Labour: abundant labour → CA in labour-intensive industries
   ● Climate: esp agriculture
   ● Geographical location: e.g. SG is port hub → CA in port services

   Dynamic
   ● Resource depletion / discovery of new resources
   ● Demographics:
     ○ high labour productivity → CA in value-added knowledge-based industries e.g. high tech goods
     ○ low labour productivity → CA in labour-intensive industries e.g. textiles
   ● Capital accumulation due to FDI inflow → factor Q&Q improve → PPC shift outward
     ○ opp cost of producing K goods fall below that of other countries → acquire CA
     ○ opp cost of producing C goods rise above that of other countries → lose CA

Consumer goods

PPC₀   PPC₁

Capital goods

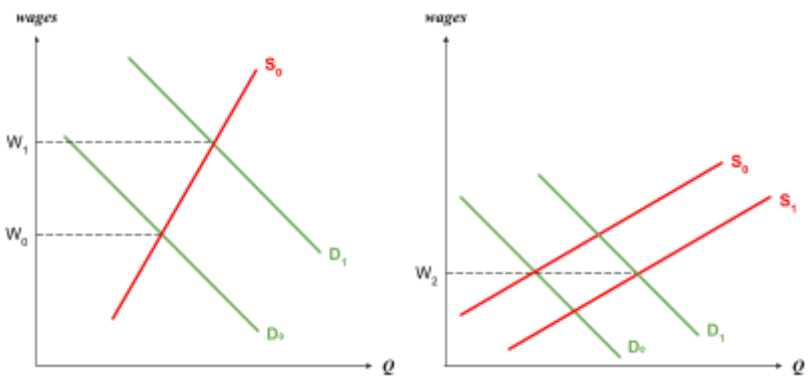|		

		2) **Differences in technology**
		   ● Access to new tech → cost savings → acquire CA
		
		3) **Economies of scale**
		   ● Trade allows small countries to produce at higher o/p level → reap iEOS → lower uCOP → lower opp cost → acquire CA
		   ● (Without which, domestic markets too small to exploit iEOS → prohibitively expensive to become self-sufficient as they have to produce everything at high average cost)

2.	**Technological innovations**	**Transport technology** ● If transport costs high, wipe out gains from trade → choose to be self-sufficient instead ● Lower transport cost → retain gains from trade based on CA w ctries further away → increase willingness to trade to reap the gains ● ⇒ stimulate expansion of world trade - globalisation **Production technology** ● High costs incurred in acquiring machinery spread over larger o/p → reap iEOS ● LRAC fall over large range of o/p, MES occurs at higher o/p level → cheaper for many of the manufactured goods to be produced in a few key regions in the world to reap iEOS, rather than to have all countries producing the goods in small quantities for domestic consumption
3.	**Economic policies**	**Trade policies**: dismantle trade restrictions → reap full benefits of specialisation and trade ● trade negotiations (multilateral / bilateral FTA) ● countries' unilateral decision to reduce trade benefits

Benefits & costs of TRADE & K-FLOWS

Ec agent	Benefit	Cost
Consumers	**Higher consumption possibilities** ● Expand consumption possibilities beyond PPC (production possibilities) → satisfy more needs and wants ⇒ <u>higher mSOL</u> **Greater consumer choice** ● Import of large varieties of G&S catering to diff T&P of csr becomes possible ⇒ <u>increase csr utility</u> Increased competition from foreign firms ● Prevention of monopolies ● Promotes X-efficiency among firms → lower prices, higher quality products	

Producers	**Foreign markets**
	● Higher revenue through exports
	  ○ Access larger csr base, DD rise TR rise
	● Lower costs
	  ○ Expand scale of production to produce for overseas markets → reap iEOS, esp. if fixed costs are high but domestic market is small → AC fall **[productive efficiency]**
	  ○ Access cheaper FOP - lower import tariffs → MC fall
		MNCs' activities
		● <u>Crowd out domestic firms</u>: large MNCs better able to reap iEOS → … smaller domestic firms cannot compete, exit industry → dominated by MNCs & MNCs offer more generous remuneration and better career prospects, compete for resources, affect growth of domestic firms
		● <u>Footloose</u>: no commitment to country, pull out when profit declines / other countries offer better investment conditions → lose I → …

Govt	**Export**	**Hasten pace of structural change**
	• Increased access to foreign markets → DD_X ↑ ⇒ $\underline{TR_X}$ ↑	• Removal of trade barriers exposes firms to competition from abroad → csr switch to foreign suppliers who produce products at lower price → domestic firms operating at higher uCOP cannot match competitor's price → DD fall, shut down if TR<TC
	Investment	• $\underline{Structural\ unemployment}$: influx of cheap imports → erode CA in labour-intensive manufacturing, inefficient firms cannot compete → shut down, displaced workers lack occupational mobility
	• Increased capital flow → higher investment by foreign firms	
	• LT capital flows: firms set up production facility in other countries, add to I in AD, AS	
	⇒ sustained, non-inflationary growth	• $\underline{Worsen\ BOT}$: erode CA ⇒ TR_X ↓
		• $\underline{Widen\ income\ gap}$: DD for high skill rise, DD for low skilled workers fall → income gap b/w skilled & unskilled ⇒ equity
	Competition and resultant efficiency gains	Eval: weed out inefficient firms → free up scarce resources to be diverted to efficient sectors
	• Lower uCOP ⇒ $\underline{SRAS}$ ↑	
		Vulnerable to external economic shocks
	Tariff reduction on imported FOP	• $\underline{External\ DD\ shock}$ (recession): foreign markets experience recession → Y ↓ DD_X ↓ ⇒ TR_X ↓
	• Removal of tariffs on imported FOP & firms source FOP from more efficient producers globally → uCOP ↓ ⇒ $\underline{SRAS}$ ↑	• $\underline{External\ SS\ shock}$ (imported inflation): foreign suppliers experience inflation, price of FOP ↑ uCOP↑ ⇒ SRAS ↓
		Volatility of short-term capital flows
		• Flow of hot money ⇒ $\underline{ER\ instability}$
		E.g. Asian financial crisis

	Society	**Evaluation of benefits:**

Society

Productive efficiency
- [refer to above]

Dynamic efficiency
- Exposed to greater competition → R&D to protect market share
  - Process innovation: increase productivity, lower uCOP, pass on cost savings to consumers by lowering prices [price]
  - Product innovation: better quality products [non-price]

Allocative efficiency
- Markets more contestable, DD for each incumbent firm falls & more price elastic → weaken power due to exposure to competition → reduce ability to charge price mark-up above MC

x-inefficiency
- Increase contestability → each firm earns lower revenue → greater incentive to check complacency, produce on LRAC to maintain profits, avoid losses

Evaluation of benefits:
- Size of domestic market:
  - Large domestic market: consumption driven economy → rely less on globalisation
  - Small domestic market: need globalisation to access global market → boost growth (allows for export-driven economy)
- Stage of ec development
  - Availability of domestic capital: high Y, more savings, more funds to invest ⇔ developing economy, lower Y, little domestic sources of funds for investment → need foreign sources of investment
  - Technology gap: globalisation provides tech (esp developing countries, more dependent on foreign firms for tech transfer
- Countervailing forces / measures: mitigate -ve impacts through govt policies

Benefits & costs of L-FLOWS

| Developed countries	Developing countries
Brain gain ● Net labour inflow ⇒ LRAS ↑ ● Strengthen CA in high value-added G&S	**Brain drain** ● Labour find opportunities limited in home country → move to work abroad, net labour outflow → Q&Q of labour fall ⇒ LRAS ↓
Widening income gap <table><tr><td>High-skilled labour</td><td>DD ↑ large - CA in high value-added G&S SS price inelastic - jobs require specialised skills so long time to train ⇒ wages ↑ large</td></tr><tr><td>Low-skilled labour</td><td>DD ↑ little - DD ↓ as low value-added activities relocated to developing economies + DD ↑ due to Y ↑ SS ↑ - inflow of low-skilled migrant workers from developing economies SS price elastic ⇒ wages stagnate</td></tr></table> *high-skilled labour*　　　*low-skilled labour*	**Remittance** ● from population working abroad ⇒ improve current account balance ⇒ $Y \uparrow C \uparrow$

Free trade

Free trade: movement of <u>G&S</u>, <u>capital</u> across borders
(Trade is a subset of globalisation.)

Protectionism

Tariffs: taxes on imports
Objectives:
● protect domestic industries from foreign competition
● raise govt revenue
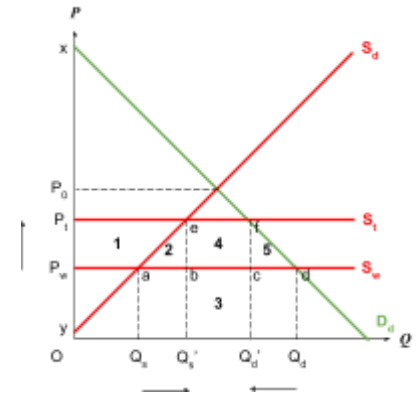
HOW IT WORKS
● Tariff adds to foreign producer's uCOP → SS decrease, shift upwards by amt of tariff
● Domestic producers only need to match higher price of P_t instead of P_w
● Domestic production increases from Qs to Qs', domestic consumption falls from Qd to Qd'
  ○ Price increase, raise MR of domestic producers, units of o/p that can be produced only at higher MC become profitable → Qss increase
  ○ Price increase, lower purchasing power, csr less w/a to purchase the good → Qdd decrease
● At P_t, smaller shortage of Qs'Qd' units than QsQd → import less: Qs'Qd' units instead of QsQd units
● $TR_{foreign}$ decrease from Qs ac Qd to Qs'bcQd' ⇒ TE_M decrease
● Govt tax revenue = bcfe

Explanation of DWL
● **Area 2**: efficiency loss on production side
  <u>Extra costs</u> (higher opp cost due to lack of CA) of producing QsQs' at home, rather than importing it from foreign countries that can produce the good at lower opp cost. If QsQs' is still imported, the country only pays Pw. By producing at home, cost is given by area under domestic SS curve (=MC). → difference b/w MC and Sw
● **Area 5**: loss of csr surplus due to under-consumption

Non-tariff measures
● **Import quota**: limit on <u>qty of imports</u> → restrict amount of foreign competition faced by domestic industries

  ○ Price increase from P_w to P_1
    Qdd decrease from Q_d to Q_1
    Qss increase by Q_qQ_1
  ○ Consumer surplus decrease, producer revenue increase
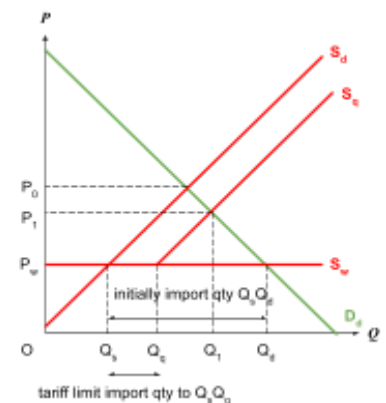
● **Subsidy**: given to domestic producers to lower uCOP → charge lower price → compete with imported substitutes more effectively
● **Export subsidy**: given to domestic producers to lower uCOP → charge lower price → exports more price competitive → TR_X ↑ assuming DD_X price elastic
● **Regulatory barriers**: impose stringent regulations / standards / certifications that foreign products must meet in order to enter domestic market → create additional hurdles for foreign competitors
● **Embargoes and sanctions**: <u>complete ban</u> on certain imports/exports, due to political / economic / security reasons

For	Evaluation

Improve BOT position (Expenditure-switching policy)
● Tariffs raise import prices, induce csr to switch to domestically-produced goods → TE_M ↓
 	
And also improve govt budget position through tax revenue collected form tariffs
	● **"Beggar-thy-neighbour" policy**
	  ○ Import less → trading partner's TR_X ↓ AD ↓ RNY ↓ → less purchasing power, less w/a to purchase G&S incl imports → country's own DD_X ↓ TR_X ↓ ⇒ BOT may not improve
	  ○ Retaliate with protectionist measures → tit-for-tat retaliation, trade war
	  should opt for SS-side policies / expenditure-reducing policies instead
	● Tariffs on imported FOP: undermine price competitiveness of X → X ↓
	● Does not address **root cause** of prolonged BOT deficit: loss of CA
	  → should use SS-side policy to raise productivity, create new areas of CA

Protect domestic employment ● Raise price of import, divert demand towards domestic production → raise DD-deficient u/e	● "Beggar-thy-neighbour" policy

Develop infant industries
● <mark>Infant industry</mark>: industry with <u>potential CA</u> (as deemed by govt) but too young / undeveloped to realise its potential, esp faced with more established foreign competition
● Keep out foreign competition, give domestic firms larger share of home market, expand scale of production, <u>reap iEOS</u> → develop genuine CA → able to compete with foreign competitors w/o protection (remove protection)
	● Difficult to determine which industries have that potential CA → waste resources
	● **Breed inefficiency**
	  ○ Tariff creates deadweight loss ⇒ <u>allocative inefficiency</u>
	  ○ Domestic firms shielded from competition → less impetus to engage in R&D ⇒ <u>dynamic inefficiency</u>
	  ○ less impetus to keep costs low ⇒ <u>X-inefficiency</u>

Protect sunset industries ● <mark>Sunset industry</mark>: an industry in decline ● Old established industry no longer competitive → require temporary protection → lessen impact of mass structural u/e (delay restructuring, more time for workers to be retrained, seek other jobs)	● Hinder restructuring of economy, by preventing it from growing through development of new sectors → removal of protection allows for quick development of new industry
Protection against dumping ● <mark>Dumping</mark>: sell goods in foreign market at price below MC of domestic producers ● SR: charge low prices → drive out local competition, gain monopoly power ● LR: charge higher prices → increase profits	● Domestic producers may falsely accuse foreign firms of "dumping" when they cannot match their lower prices, which may actually be so due to them being more efficient

Diversification (resilience) ● Protectionism to develop new industries → diversity economy away from narrow concentration on a few industries, remain self-sufficient (even if no CA) ● Import restriction: [infant industry argument] ● Export restriction: developing economies diversity economy towards higher value-added activities, away from narrow specialisation in primary product industries ○ Reduce cost of industrial o/p → promote downstream industries ○ Establish higher value-added industry → $TR_x \uparrow$	

Against
● **Lower world o/p and consumption**: prevents countries from benefiting from specialisation and trade → decline in trade → lower o/p → lower consumption levels
● **Higher prices and loss in welfare**: protectionism i.e. tariffs → raise prices → lower csr welfare
● **Greater inefficiency**: lower consumption breeds complacency → protected industry dependent on protectionist measures → disincentive to improve efficiency → greater allocative and productive inefficiencies
● **Reduced consumer choice**: amounts of imports decrease → lower choices available → lower csr welfare

Economic co-operation
Free trade agreement (FTA): international treaties b/w trading partners to promote trade by reducing barriers to trade in G&S and investment

Generic benefits & costs: refer to globalisation
Specific ones:

Benefits	Evaluation
Increased access to foreign markets ● Increase X and I … anchor on goals ● Allow firms to enjoy larger profits **Protection and promotion of investments in overseas markets** ● Investment income from higher investments in overseas market improve primary income balance → improve current account balance **Stability** ● Sign more FTAs with many diff countries to diversify trading partners ● If one trading partner experience recession, fall back on other trading partners for exports [diagram]	● FTA negotiations take many years to complete → not intended as quick fix ● FTAs unable to offer stability when external DD & SS shocks occur at global level

Exercises

Using AD-AS analysis, explain the possible relationships between inflation and unemployment. [10]

R1: Inverse relationship
Explain inverse relationship between DD-pull inflation and cyclical unemployment
- As AD rises close to the vertical portion of the AS curve, cyclical unemployment is reduced. However, if the AD continues to shift rightwards, there will be DD-pull inflation even as cyclical unemployment falls. Thus, there is an inverse relationship between DD-pull inflation and unemployment

Explain inverse relationship between DD-pull inflation and structural unemployment
- As AD falls, cyclical unemployment is likely to rise. If the unemployed is unable to find suitable jobs that match their ability (ie. mismatch of skills or occupational immobility), these group of unemployed may persist, leading to a rise in structural unemployment. This is particularly so if the fall in AD is due to a loss of comparative advantage

R2: Direct relationship
Explain direct relationship between cost-push inflation and cyclical unemployment
- When there is cost-push inflation, the horizontal portion of the AS curve shifts upwards, resulting in a rise in GPL
- Economies with little natural resources and poor economic structure may face domestic cost pressures coming from rising rentals or face imported cost pressures if it is highly reliant on imported raw materials
- As the GPL rises, firms cut production resulting in unemployment.
- Thus, there is a positive relationship between inflation and unemployment.

Explain the direct relationship between cost-push inflation and structural unemployment
- As output falls due to a rise in the cost of production, the unemployment may become structural if there is occupational immobility.
- The inability of the unemployed to retrain themselves, or find themselves ill-equipped to take up jobs in other industries will lead to structural unemployment

R3: No relationship
Explain no relationship between inflation and frictional unemployment
- Frictional unemployment is voluntary and is not directly dependent on the state of economy.
- It is affected by the level of information in the economy on job opportunities. Improved knowledge of available job opportunities will help alleviate the temporary loss of jobs as such workers are able to transit between jobs faster. Hence, there is no relationship between inflation and this particular type of unemployment

ACJC 2023 Q5(a)

Explain why countries use different monetary policy tools to address rising inflation. [10]

- "Different monetary policy tools" to address rising inflation: Interest Rate and Exchange Rate. The choice of monetary policy tool will depend on the nature of a country's economy: Large vs small and open
- Context: U.S. and Singapore
- R1: Explain why the U.S. chooses to use interest rate policy and explain how an increase in interest rate helps to address rising inflation.
- R2: Explain why Singapore chooses to use exchange rate policy + explain how an appreciation of the exchange rate helps to address rising inflation.

ACJC 2023 Q5(b)

Discuss the factors that MAS would consider when deciding whether to further tighten Singapore's exchange rate. [15]

- "Factors" and "Consider": Decision Making Framework to be used. Factors to discuss will be on the benefits, costs, and constraints of a further appreciation of SGD.
- Context: Singapore
- R1: Explain the benefit of a further appreciation.
- R2: Explain the cost of a further appreciation.

ASRJC 2023 Q4(b)

Discuss the extent to which these statistics are useful in determining the change in Singapore's standard of living in 2021. [15]

- R1: Explain how real GDP growth rate is useful in determining change in standard of living in Singapore in 2021 + limitations.
- R2: Explain how inflation and unemployment rate is useful in determining change in standard of living in Singapore in 2021 + limitations.

ASRJC 2023 Q5(a)

Explain two reasons why governments want to maintain fiscal sustainability over the long term. [10]

- Define fiscal sustainability
- R1: Allows for expansionary fiscal policy → sustained growth
- R2: Spend on providing goods to citizens → material SOL

*anchor on goals

JPJC 2023 Q5(a)

> Explain two ways a government can achieve inclusive growth. [10]

- Define inclusive growth
- R1: Provide grants to firms to encourage digital transformation, innovation, R&D
- R2: Upskilling and retraining of workers

NJC 2023 Q4(b)
Singapore's economy grew 3.6% in 2022, driven by the lifting of COVID-19 border restrictions and the return of international visitors. However, the economic growth rate in 2022 was slower than 2021's 8.9% growth rate.
Discuss whether trade-off between macroeconomic goals is the main factor the Singapore government should consider when implementing policies aimed to increase the economic growth rate. [15]

- Propose one policy to increase economic growth rate
- R1: Govt need to consider trade-off
- R2: Govt should also consider other factors e.g. budget constraints, size of multiplier, time period (short vs long run), effectiveness – FRESH

RI 2023 Q5(b)
DIscuss the factors that determine the choice of policies that a government would use to reduce unemployment. [15]

- R1: root cause of unemployment. SSP for structural vs. DD-management policy for cyclical unemployment (explain)
- R2: openness of the economy in dealing with cyclical unemployment. ER policy for small and open economy like SG vs. IR policy for countries with large domestic C like US (explain)

RVHS 2023 Q6(a)
Explain two reasons why governments will be concerned with current account deficits. [10]

- R1: Governments will be concerned about current account deficits because of the negative impacts on the countries' macroeconomic goals – X-M fall so AD fall
- R2: Governments will be concerned about current account deficits because there can be detrimental effects on exchange rate – A sustained current account deficit can put downward pressure on a country's currency → currency depreciate → imported inflation

TMJC 2023 Q6(a)
Explain how globalisation leads to non-sustainable and non-inclusive growth. [10]

- How globalisation leads to sustained growth

- R1: Explain why sustained growth that is generated may be non-sustainable – greater production of G&S → faster depletion of resources + firms choose to produce using methods that are of lower cost, which may tend to be more pollutive
- R2: Explain why sustained growth that is generated may be non-inclusive – countries lose comparative advantage in the production of a particular good → demand for workers in those industries would fall, while demand for workers in expanding industries would increase → widen income gap → income inequality

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YIJC 2023 Q6(b)

Discuss whether a gain in a country's comparative advantage would always lead to positive impacts on its economy. [15]

- R1: Explain the possible positive impacts gain in CA would bring about to an economy – anchor on economic performance and bring in relevant examples to illustrate with the use of economic concepts such as AD-AS framework.
  (1) Balance of Trade: Export revenue increases
  (2) Employment level increases due to greater production
  (3) Economic growth (Actual and potential)
- R2: Explain the possible negative impacts gain in CA would bring about to an economy – anchor on economic performance and bring in relevant examples to illustrate with the use of economic concepts such as AD-AS framework.
  (1) Balance of Trade: Export revenue increases, greater surplus at the expense of other countries, leads to retaliation/protectionism from other countries
  (2) Employment: Structural unemployment due to rapidly declining of sunset industries
  (3) Economic growth: non inclusive or unsustainable
  (4) Price instability: due to over heated economy leading to demand pull inflation

2022 A level P2
US i/r and impact on countries

Globalisation

Question	Approach
Protectionism - types, purpose	
FTA	Mention both trade & capital flow
Costs and benefits of globalisation	
Comparative advantage	Dynamic (why changing CA), Sources of CA