H2 ECONOMICS (MACRO)

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Chapter 5: Key Economic Indicators

- **Macroeconomic Aims**

Internal	External
Low Inflation	Health BoP
Low Unemployment	Favourable E/R
Economic Growth	

- **Circular Flow of Income and Expenditure**

Income generates expenditure; Expenditure creates income.

> National Output = National Income
> = National Expenditure

- **Measures of National Income**

> **Gross Domestic Product (GDP)** refers to the total money value of all final goods and services provided within the geographical boundary of the country within a specific time period.
>
> GDP at constant prices mean GDP based on the price of a base year.

> **Gross National Income (GNI)** refers to the total money value of all final goods and services provided by factors owned by residents.

Real national income is national income after accounting for inflation.

- **Standard of Living**

Standard of Living (SoL) refers to the level of economic welfare and social well-being of an individual or household. It includes material and non-material SoL.

Material SoL is widely measured by **real per capita GNI** because it considers changes in price over time and population size.

Limitations include change in income distribution, externalities incurred and purchasing power parity (for international).

- **Alternative Measures of SoL**

Measure of Economic Welfare (MEW)

Mew = GNI – capital depreciation – regrettables + allowance for leisure + non-marketed activities + public amenities + private durable goods.

It is a better measurement of SoL that is adjusted for leisure, environmental degradation, income distribution and other economically unsustainable costs.

Human Development Index (HDI)

HDI = real GDP per capita + knowledge (measured by adult literacy rate and mean years of schooling) + health (measured by life expectancy and infant morality rate).

Example: To what extent does a GDP growth indicate an improvement in living standards?

Introduction

- Definition of GDP (growth)
- Definition of SoL

Thesis
- GDP ↑ → Y ↑ → C ↑ → satisfaction ↑ → mSoL ↑
- GDP ↑ → real output ↑ → mSoL ↑

AT1 – Limitations of GDP
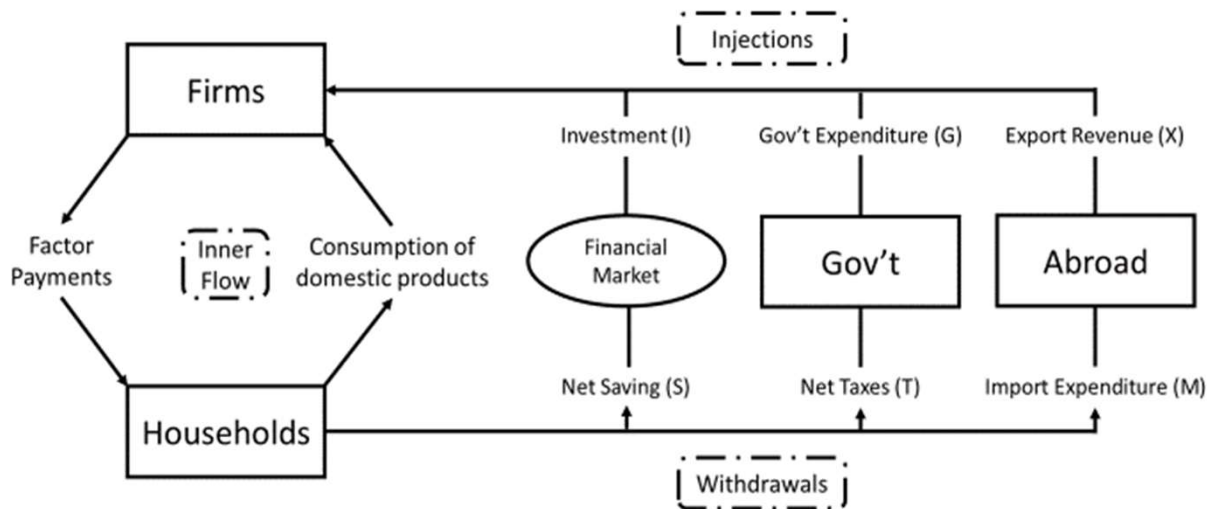
- Population change (real GDP per capita)
- Income inequality (Gini-coefficient)
- Composition of GDP

AT2 – nSoL

- Negative externalities (pollution, traffic congestion)
- Leisure time

Chapter 6: National Income and Employment Determination

THE CIRCULAR FLOW OF INCOME

Firms

Injections

Investment (I)   Gov't Expenditure (G)   Export Revenue (X)

Factor Payments

Inner Flow

Consumption of domestic products

Financial Market

Gov't

Abroad

Net Saving (S)   Net Taxes (T)   Import Expenditure (M)

Households

Withdrawals

- **Circular Flow of Income and Expenditure**

  National Output = National Income
  = National Expenditure

  Total Injections = Total Withdrawals

- **Aggregate Demand**

Aggregate Demand (AD) is the total value of domestically-produced final goods and services demanded by households, firms, the government and foreign countries at each price level in a given time period.

$$AD = C + I + G + (X - M)$$

- **Determinants of AD**

A change in income will cause a ==movement along the AD curve==; A change in non-income determinants will cause ==shifts in AD curve==.

Non-income determinants of C
- Future expectations (economic outlook)
- Change in interest rates (i/r $\downarrow$ → C $\uparrow$)
- Change in disposable income (e.g. tax $\downarrow$)
- Lifestyle (e.g. Asian vs US)

Non-income determinants of I
- Business expectations (econs outlook)
- Change in interest rates (i/r $\downarrow$ → I $\uparrow$)
- Gov't policies (e.g. corporate tax $\downarrow$)

G here does not include state benefits and transfer payments and is assumed to be autonomous.

Non-income determinants of (X – M)
- Relative prices (P $\downarrow$ → X $\uparrow$ and M $\downarrow$)
- Relative quality (Q $\uparrow$ → X $\uparrow$ and M $\downarrow$)
- Exchange rates (e/r $\uparrow$ → X $\downarrow$ and M $\uparrow$)

Three important non-income determinants of AD are ==economic outlook==, ==interest rate== and ==change in foreign incomes==.

Example
A tsunami shifts AD to the left:
- **C** - wealth $\downarrow$ → PP $\downarrow$ → C $\downarrow$
  - income $\downarrow$ → induced C $\downarrow$
  - negative outlook → save $\uparrow$ → C $\downarrow$
- **I** - negative outlook → I $\downarrow$
- **X** - tourism $\downarrow$ → X $\downarrow$
- **M** - need for import $\uparrow$ → M $\uparrow$

- **Aggregate Supply**

Aggregate Supply (AS) is the total value of final goods and services firms in an economy would like to produce at different general price levels.

Determinants of SRAS
- Change in input price/cost of production
- Short-term supply shocks

Determinants of SRAS and LRAS
- Capital stock (productive capacity)
- Labour force
- Change in productivity
- Long-term destruction or loss of factors of production

- **The Multiplier Effect**

The multiplier effect occurs based on the principle that income generates expenditure and expenditure creates income. Assume that there is an initial increase in national income of $100, the marginal propensity to consume domestically produced goods (MPCd) is 0.6, and there is a lot of spare capacity. Referring to the table below, the $100 is received as income by consumers and they will spend $60 on domestically produced goods, and $40 becomes withdrawals. Then the $60 is again received as income by other consumers and $36 will be consumed and $24 becomes withdrawals... The process will end when total withdrawals equal initial injections and total change in nation income, $\Delta NY = \frac{1}{1-MP_d} \times \Delta J$.

ΔNY	ΔC_d	ΔW
100	60	40
60	36	24
...	...	...
250	150	100
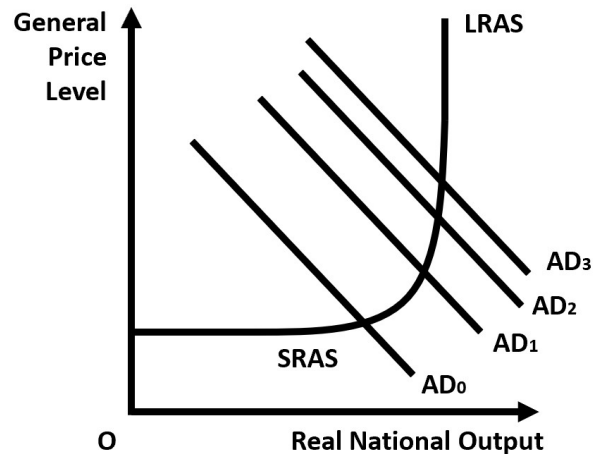
- **Magnitude of Change in NY**

Three factors that determine the magnitude of change in national income are: size of initial change in AD, size of multiplier and state of economy.

Determinants of size of multiplier
- MPS - lifestyle, expectations and income
- MPT - income tax rate
- MPM - reliance on imports (Singapore is largely reliant on imports hence have a high MPM, small multiplier.)

- **Impact of AD on Standard of Living**

C	C ↑ → satisfaction ↑ → mSoL ↑
I	I ↑ → capital goods ↑ → productive capacity ↑ → future mSoL ↑ (opportunity cost)
G	infrastructure ↑ → future nSoL ↑ service ↑ → current nSoL ↑
M	variety ↑ → SoL ↑

Things to add on … …

Chapter 7: Inflation

- **Inflation**

Inflation is defined as a ==sustained increase== in the ==general price level== of an economy.

Deflation is defined as a sustained decrease in the general price level of an economy.

The **inflation rate (i/r)** in a particular year is given by the percentage change in the price index over the previous year.

- **Causes of Inflation**

Demand-pull Inflation

All resources are ==near or at full employment==. When there is an ==increase in autonomous AD==, due to a ==lack of spare capacity==, ==the output cannot be increased sufficiently to meet the increase in demand==, which gives an ==upwards pressure== on prices and causes demand-pull inflation.

Cost-push Inflation

When there is a decrease in SRAS caused by an increase in cost of production, firms will respond partly by raising prices and passing on the costs to consumers, and partly by cutting back on production.

Cost of production may increase due to:
- Import price push (due to inflation overseas)
- Exchange rate depreciation
- Wage push
- Supply-side shocks
- Increase in structural rigidities
- Profit push.

- **Effects of Inflation**

Inflation has effects on both the internal stability (investment, resource allocation and equity) and external stability (healthy BoP and external value of currency). Low inflation maintains purchasing power.

Effects on Economic Growth

When there is severe inflation, rather than invest in capital equipment, businessees and individual savers may purchase non-productive wealth (gold) as hedges against inflation.

However, if the inflation rate is low, it indicates a ==positive economic outlook==. The rate of returns on investments will increase, hence it will stimulate investments.

Effects on Resource Allocation

Resources may be diverted to goods whose price are rising faster than others, resulting in allocative inefficiency.

Effects on Welfare

Households on fixed income or low wages are more adversely affected as their nominal income will not increase as much as the general price level.

- **Redistributive Effects of Inflation**

During inflation, fixed nominal income receivers will suffer, while flexible income receivers will benefit; Savers will suffer, while debtors and creditors will benefit.
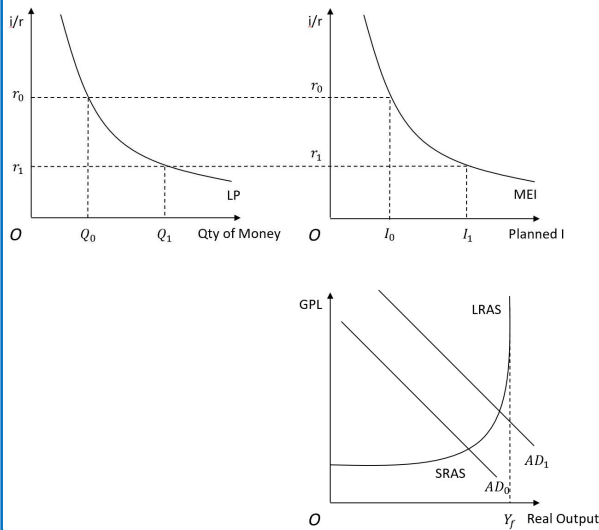
Things to add on … …

Chapter 8: Monetary Policy (Interest Rate)

- **Interest Rate Monetary Policy**

Interest rate monetary policy works via a change in money supply to influence interest rates, which then affect consumption and investment spending.

- **Indirect Transmission Mechanism**

money SS $\uparrow$ $\rightarrow$ interest rate $\downarrow$ along the liquidity preference curve $\rightarrow$ investment $\uparrow$ $\rightarrow$ AD $\uparrow$ $\rightarrow$ NY $\uparrow$

- **Direct Transmission Mechanism**

When money supply increases, quantity of money supplied exceeds quantity of money demanded. People are therefore holding more cash than they require. They will then use some of the excess money to purchase financial assets, goods and services or physical assets. This leads to an increase in the demand for financial and physical assets, hence leading to an increase in consumption and hence an increase in aggregate demand.

- **Impacts of Monetary Policy**

- i/r $\downarrow$ $\rightarrow$ C $\uparrow$, I $\uparrow$ $\rightarrow$ AD $\uparrow$
- i/r $\uparrow$ $\rightarrow$ "hot money" inflow $\rightarrow$ SS of home currency $\uparrow$ $\rightarrow$ e/r $\downarrow$
- i/r $\downarrow$ $\rightarrow$ I $\uparrow$ $\rightarrow$ productive capacity $\uparrow$ $\rightarrow$ LRAS $\uparrow$

Limitations of Monetary Policy
- Interest-elasticity of demand for money (liquidity preference)
- Interest-elasticity of MEI
- Business expectations

Things to add on … …

Chapter 9: Unemployment

- **Unemployment**

Unemployment refers to the number of people of the legal working age who are <mark>willing</mark> and <mark>able</mark> to work but are unable to find suitable employment.

Full employment does not mean zero unemployment.

- **Types of Unemployment**

Frictional Unemployment

Frictional unemployment arises because it takes time for workers to be matched with suitable jobs. Since both employers and employees do not have perfect information, there is a <mark>time lag</mark> before job seekers find the right job. Therefore frictional unemployment arises.

Structural Unemployment

Structural unemployment refers to unemployment that results from a <mark>mismatch of skills</mark> and jobs due to a <mark>change in the structure of the economy</mark>. This can be caused by changes in pattern of demand or conditions of supply.

Singapore is moving away from <mark>low-skill labour-intensive manufacturing industry</mark> to <mark>high-skill high-technology industries</mark> such as aerospace, biomedical and info-communication technology. Moreover, manufacturing tends to be <mark>capital-intensive</mark>, relying more on <mark>automation</mark>. In the service sector, there is increasing demand for <mark>high-skilled labour</mark> such as allied healthcare, financial services and tourism.

A fairly significant proportion of the workforce may not have sufficient skills level to be employed in such growing industries. About 20% of the workforce have below secondary education. This <mark>mismatch of skills</mark> results in <mark>labour occupational immobility</mark>, leading to structural unemployment in Singapore.

Cyclical Unemployment

Global recession → X ↓ → AD ↓ → real output ↓ → DD for labour ↓ → cyclical unemployment ↑ (illustrated using AD-AS diagram)

In Singapore, the external sector is large, making it more significant.

Seasonal Unemployment

Seasonal unemployment refers to unemployment that results from seasonal fluctuations in the level of economic activity (annual weather cycle/traditions and customs). Such employment is both regular and predictable.

- **Policies to Reduce Unemployment**

Frictional Unemployment

- Providing job-related information
- Career advisory services

e.g. setting up career centres in Community Development Councils, organising job fairs and introducing an online Jobs Bank.

Structural Unemployment

- Supply-side policies

e.g. skills training programmes (SkillsFuture), providing fundings for educational institutions such as polytechiques to conduct part-time courses for working adults, incentives to employers (absentees payroll) to encourage firms to send their workers for training.

Cyclical Unemployment

- Expansionary fiscal policy: G $\uparrow$ or T $\downarrow$ $\rightarrow$ disposable income $\uparrow$ $\rightarrow$ C, G $\uparrow$ $\rightarrow$ AD $\uparrow$ $\rightarrow$ NY $\uparrow$ $\rightarrow$ real output $\uparrow$ $\rightarrow$ DD for labour $\uparrow$ $\rightarrow$ cyclical unemployment $\downarrow$ (illustrated using AD-AS diagram)

e.g. During the 2008-2009 global recession, the Singapore government implemented a $20.5 million Resilience Package including spending on public works and infrastructure such as MRT and HDB Upgrading Projects.

- Exchange rate policy: e/r $\downarrow$ $\rightarrow$ (X-M) $\uparrow$ $\rightarrow$ AD $\uparrow$ $\rightarrow$ NY $\uparrow$ $\rightarrow$ real output $\uparrow$ $\rightarrow$ DD for labour $\uparrow$ $\rightarrow$ cyclical unemployment $\downarrow$

e.g. During the 2008-2009 global recession, MAS adjusted the centre of the SGD trading band downwards, thus effectively allowing the Singapore Dollar to depreciate.

Things to add on … …

Things to add on … …

Chapter 12: Exchange Rate Policy

- **Exchange Rate**

The **Foreign Exchange Rate** (e/r) of a currency refers to the exchange value of its currency (its price) <mark>in terms of other currencies</mark>. It is determined by the supply of and demand for the currency in the foreign exchange (FOREX) market.
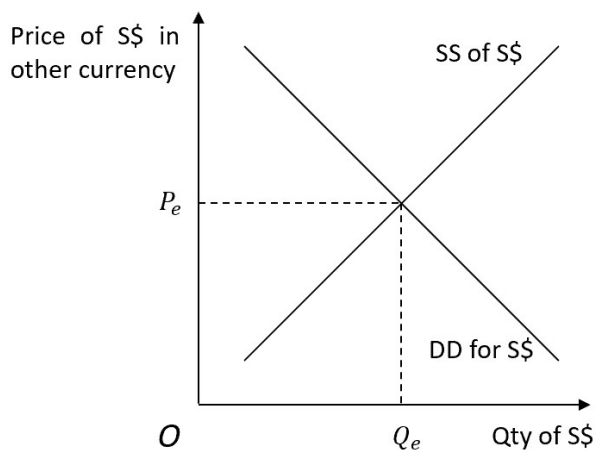
- **Change in Exchange Rate**

Appreciation is the increase in the external value of a currency in terms of other currencies in the FOREX market caused by market force.

Depreciation is the reduction in the external value of a currency in terms of other currencies in the FOREX market caused by market force.

- **Impact of Changes in Exchange Rate**

National Income and Employment

When <mark>Marshall-Lerner condition</mark> is fulfilled (i.e. $|\text{PED}_X + \text{PED}_M| > 1$):
- e/r $\uparrow \rightarrow P_X \uparrow$ in foreign currency $\rightarrow$ DD for exports $\downarrow \rightarrow$ X revenue $\downarrow$
- e/r $\uparrow \rightarrow P_M \downarrow$ in domestic currency $\rightarrow$ quantity demanded for imports $\uparrow \rightarrow$ M expenditure $\uparrow$ (assuming demand for imports is price inelastic)
$\rightarrow$ (X-M) $\downarrow \rightarrow$ AD $\downarrow \rightarrow$ NY $\downarrow$, emp. $\downarrow$

Inflation

When e/r increases, if the economy is near or at full employment, as there is a fall in AD (as explained earlier), demand-pull inflation will be reduced.

As import price becomes cheaper, cost of production decreases, SRAS decreases, reducing cost-push inflation.

International Competitiveness

e/r $\uparrow \rightarrow P_X \uparrow$ in foreign currency $\rightarrow$ competitiveness $\downarrow$

Foreign Direct Investment

If there is a gradual appreciation due to strong economic fundamentals, there will be <mark>higher expectations of economic growth and hence profitability</mark> and <mark>higher rate of returns when profits are converted back to the foreigners' home currency</mark>. Therefore it can attract more foreign direct investment and improve BoP.

- **Devaluation of Exchange Rate**

Selling S\$ in the FOREX market $\rightarrow$ SS of S\$ $\uparrow \rightarrow$ e/r $\downarrow \rightarrow P_X \downarrow$ in foreign currency, $P_M \uparrow$ in domestic currency $\rightarrow$ DD for exports $\uparrow$, quantity demanded for imports $\downarrow \rightarrow$ (X-M) $\uparrow$ assuming ML condition is fulfilled $\rightarrow$ AD $\uparrow$, BoP improved $\rightarrow$ NY $\uparrow$, emp. $\uparrow$

Evaluation
- If the ML condition is not fulfilled, BoP might be worsen. In short term, when there is a contract, demand for X and M may be price inelastic, leading to a fall in (X-M). This is called **J-curve effect**.
- S'pore is largely dependent on imports. Devaluation may cause import price push inflation.

Contextualised Exchange Rate Policy

- **Causes of Appreciation of S$**

Appreciation of S$ is due to an increase in DD for S$ or a decrease in supply of S$.

1) Increase in DD

- *Relatively lower price level (inflation rate) compared with trading partners:*

P_X ↓ → competitiveness of X ↑ → DD for S$ ↑

P_M ↑ → competitiveness of M ↓ → SS of S$ ↓

Overall, S$ will appreciate.

- *Higher economic growth in other countries:*

economic growth rate ↑ → purchasing power of trading partners ↑ → DD for Singapore exports ↑ → DD for S$ ↑

- *Higher domestic interest rate:*

i/r in UK ↑ → "hot money" inflow to UK → DD for UK£ ↑

- *Expected future appreciation:*

future rate of returns ↑ → DD for US$ ↑

2) Fall in SS

- *Economic recession or relatively lower economic growth:*

NY ↓ → purchasing power of households ↓ → DD for imports ↓ → SS of S$ ↓

- Negative economic outlook in foreign countries:

negative economic outlook → capital outflow ↓ → SS of UK£ ↓

- Decline in business confidence:

business confidence ↓ → firms venturing abroad ↓ → DD for foreign assets ↓ → SS of S$ ↓

- **Why E/R Policy is Appropriate for S'pore**

1) S'pore is a ==small and open economy== that ==heavily depends on trade==.

2) S'pore is an ==interest rate taker==.

3) Effect of i/r monetary policy is limited due to ==small domestic demand==.

Things to add on … …

Chapter 13: Fiscal Policy

- **Fiscal Policy**

> **Fiscal Policy** is the discretionary management of <mark>government spending</mark> and/or <mark>taxation</mark> designed to influence the level of <mark>aggregate demand</mark> and hence <mark>economic activity</mark>.

When government spending is less than government revenue, **budget surplus** occurs; when government spending is more than government revenue, **budget deficit** occurs.

Non-discretionary fiscal tools help to stabilise the economy by influencing AD without the government having to take any deliberate action. It includes progressive tax structure, unemployment compensation and family assistance programme.

- **Workings of Fiscal Policy**

An **expansionary fiscal policy** is implemented by <mark>increasing government spending</mark> and/or <mark>reducing taxation</mark> (personal income tax).

> *How does expansionary fiscal policy work?*
>
> - G $\uparrow$ $\to$ AD $\uparrow$
> - transfer payment $\uparrow$ $\to$ disposable income $\uparrow$ $\to$ C $\uparrow$ $\to$ AD $\uparrow$
> - T $\downarrow$ $\to$ disposable income $\uparrow$ $\to$ C $\uparrow$ $\to$ AD $\uparrow$
>
> Hence, AD $\uparrow$ $\to$ NY $\uparrow$ more than proportionate (via multiplier process)

Increasing government spending is <mark>more expansionary</mark> than reducing taxation, because the whole increase in G leads to increase in AD, while only a portion of decrease in T leads to increase in consumption (the remaining as savings).

A **contractionary fiscal policy** is implemented by reducing government spending and/or increasing taxation.

- **Limitations of Fiscal Policy**

| **Crowding-out Effect** |
|---|
| Crowding-out effect happens when gov't competes with private sector for funds $\to$ i/r $\uparrow$ $\to$ I $\downarrow$ $\to$ AD $\downarrow$ |
| **Time Lag** |
| Possible time lags include recognition lag, administrative lag and operational lag. |
| **Government Debt** |
| An expansionary fiscal policy could lead to higher government debt, which could dampen investor confidence and increase tax burden of future generations, leading to a debt crisis. The negative outlook could result in a sharp fall in investment and consumption, dragging the economy into a recession. |

- **Tradeoffs**

Contractionary fiscal policy will worsen unemployment and recession where there is a cost-push inflation.

> *Things to add on … …*

Chapter 14: Aggregate Supply-Side Policy

- ## Aggregate Supply

There are **Long Run Aggregate Supply** (LRAS) and **Short Run Aggregate Supply** (SRAS). LRAS is determined by the ==quantity and quality of factors input== and the ==state of technology==. SRAS is determined by ==structural rigidities== and ==cost of production (CoP)==..
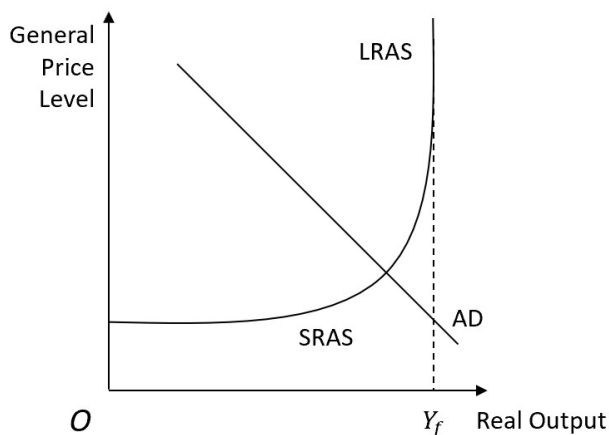
- ## Market-oriented Supply-side Policy

By ==promoting competition and enterprise== and ==reducing structural rigidities and market imperfections==, market-oriented supply-side policies allow the market to work more efficiently.

Pro-competition Policy

Promoting greater competition helps to ==make prices more flexible== and ==increase market efficiency==, thus reducing cost-push factors. This will ==lower CoP== and ==reduce structural rigidities==, thus SRAS increases.

Examples include pro-competition/anti-monopoly legislation, privatization, corporisation, deregulation, outsourcing and free trade and free capital movements.

Improving Information Flow

Government can improve information flow through publication and dissemination of labour market information and statistics, industry trends and training opportunities via job portals (e.g. myskillsfuture.sg).

- ## Interventionalist Policy

Interventionalist policies are ==direct interventions== by government to influence economic activities or behaviour of firms and individuals.

Career Services

Government can directly provide job matching and career services by Workforce Singapore at Community Development Councils (CDCs).

Skills Training

Skills Training Programmes help to improve the skills and productivity of the workforce, making workers more employable and enhancing their occupational mobility, so that they can take up jobs in the expanding sectors of the economy.

For example, the SkillsFuture initiative provides grants and subsidised training to upgrade the skills of PMETs in Singapore.

- ## Limitations of Supply-side Policy

1. SS policy is not adequate when the root cause is a lack of demand.

2. SS policy (e.g. skills training) may take a long time before their effects are seen.

3. Improving information flow does not address the attitude problem.

4. Interventionalist policies may result in government failure.

Chapter 15: Free Trade and Globalisation (Appendix: Effects of Globalisation)

Effect on	Trade in Goods and Services	Capital Flows	Labour Flows
Economic Growth	• X ↑ → AD ↑ → NY ↑ → actual growth • EV: M ↑ > X ↑ → AD ↓ • EV: Developing countries tend to lose as they face unfavorable terms of trade and protectionism policies.	• FDI ↑ → AD ↑ → NY ↑ → actual growth • FDI ↑ → LRAS ↑ → potential growth • Transfer of ideas and technology from developed to developing countries → LRAS ↑ → potential growth • EV: Capital flow during negative outlook may slower economic growth.	• Foreign talent ↑ → quality of labour force ↑ → LRAS ↑ → potential growth • Low-skilled labour ↑ → price of labour ↓ → CoP ↓ → SRAS ↑ → NY ↑ → actual growth
Employment	• NY ↑ → employment ↑ • EV: competition from M ↑ → domestic production ↓ → employment ↓ • EV: Developed countries lose CA in low-skilled production and low-skilled labour loses their jobs, which leads to structural unemployment.	• FDI ↑ → MNCs set up in developing countries → employment ↑ • EV: As developed countries outsource their production abroad, domestic low-skilled labour may lose their jobs leading to structural unemployment.	• EV: Foreign talent replaces domestic labour, leading to unemployment of mid-high-skilled labour. • EV: Domestic low-skilled labour is replaced by cheap foreign labour, leading to structural unemployment.
Balance of Payment	• Developed countries may see an improvement in BoT while developing countries may see an worsening in BoT.	• Developed countries may see a capital outflow while developing countries may see a capital inflow. • Flow of hot money ↑ → instability	• Net inflow of current transfers in developing countries • Net outflow of current transfers in developed countries

Price Stability	• Cost of imported input ↓ → SRAS ↑ → P ↓ • EV: (X-M) ↑ → AD ↑ → DD-pull inflation	• LRAS ↑ → P ↓ • EV: I ↑ → AD ↑ → DD-pull inflation • EV: There may be bottlenecks such as labour skills/land, causing inflationary pressure.	• Labour cost ↓ → SRAS ↑ → P ↓
SoL / Welfare	• NY ↑ → C ↑ → satisfaction ↑ → mSoL ↑ • Variety ↑ → consumer welfare ↑ • Competition ↑ → incentive to R&D ↑ → quality ↑ → consumer welfare ↑	• NY ↑ → C ↑ → satisfaction ↑ → mSoL ↑ • EV: Pollution ↑ → nmSoL ↓ • EV: Poor working condition → nmSoL ↓	• EV: Increased foreign labour may cause overcrowding and social problems (e.g. higher crime rates), lowering non-material SoL.
Efficiency	• Specialisation leads to allocative efficiency. • Concentration in production leads to EoS and higher productive efficiency.	• Efficiency is gained in allocating capital goods to where they can generate highest returns. • Transfer of technology → productive efficiency ↑	• Efficiency is gained in allocating labour to where there is labour shortage. • Foreign talent increases productivity and productive efficiency. • EV: Dependence on foreign labour may prevent domestic firms from upgrading their labour skills.
Equity	• Wider income gap depending on whether the industry has CA or not. • Unemployment ↑ → equity ↓	• Wages of low-skilled labour may be exploited by MNCs, lowering equity.	• Foreign labour push down wages of low-skilled labour, causing greater income disparity.

Chapter 15: Free Trade and Globalisation

- **Comparative Advantage**

A country has comparative advantage (CA) over another country in the production of a good if it can produce it at a lower opportunity cost.

Factors affecting CA includes resource endowments, productivity and technology.

Explanation of CA

Assuming that USA and Vietnam have 5 units of input to produce rice and computers. The amount of output they can produce is shown in the table below:

Unit of output	Rice	Laptop
USA	50	10
Vietnam	20	2

The opportunity cost ratio for USA is 1 unit of rice to 0.2 unit of laptop; the opportunity cost ratio for Vietnam is 1 unit of rice to 0.1 unit of laptop. Therefore, Vietnam has a lower opportunity cost to produce 1 unit of rice and should specialise in rice production, while USA should specialise in laptop production. The terms of trade must lie between the two opportunity cost ratios.

Assuming that there are constant returning to scale and the resources are homogenous, the PPF of USA and Vietnam can be illustrated in the figure below and gains of trade can be observed.

Consumption Possibility Curve
Terms of trade: 1 unit of rice to 0.15 unit of laptop
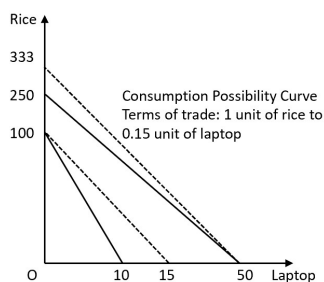
- **Patterns of Trade**

International trade is the transaction in goods and services between countries. A country's patterns of trade is influenced by supply and demand factors.

Supply factors include comparative advantage, fragmentation of supply chain with off-shoring and outsourcing and transport costs. Demand factors include consumer tastes and preferences (e.g. sashimi → salmon), trade agreements and restrictions, changes in income and national interests.

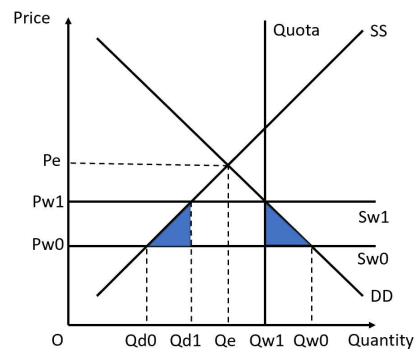- **Trade Policies**

Protectionism

Protective tariffs are taxes on imported goods to protect producers from foreign competition by raising the price of imports. It can be specific or ad valorem.
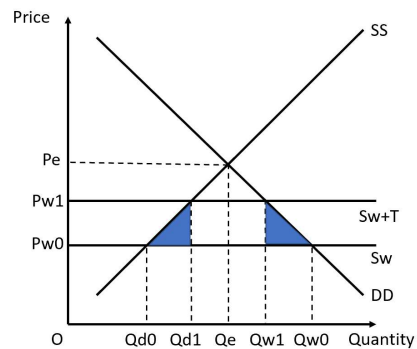
Non-tariff barriers (NTBs) include import quotas, devaluation, export subsidies and technical and administrative barriers.

Cases for protectionism

Infant industry argument
- Small domestic firms w/o EoS cannot survive in the competition with large MNCs → protect
- Expenditure switching effect: M more expensive than C → M ↓, C ↑ → AD ↑ more than prop. → NY ↑, unemployment ↓, BOP improves
- EV: conflict between economic growth and inflation

Senile industry argument
- Modernisation of old firms/retrain of workers → structural unemployment ↓
- EV: short-term effect (LR inefficiency)

Balance of payment argument
- BoP improves
- EV: short term effect as root causes are not addressed

Cases against protectionism

Lower global output
- Concern for small and open economies (trade war)

Retaliation
- Tariff could be added back → X ↓ → AD ↓ more than prop.

Higher prices, reduced variety and welfare loss
- Can be explained using the diagram

Inefficiency
- incentive to reduce cost ↓ → X-inefficiency
- P ↑ → allocative inefficiency
- resources are diverted to less efficient production → allocative inefficiency
- Incentive to R&D on production process → dynamic inefficiency

Free Trade Agreement

Free trade agreements (FTAs) aim to lower trade barriers and promote international trade as well as capital flows between countries.

- **Globalisation**

Globalisation refers to the increasing integration of national economies in terms of financial flows, movements of factors of production, ideas, and changes in information and technology.

The effects of globalisation are listed in the document *Chapter 15 Summary (Appendix)*.

Things to add on … …