

H2 Economics Chapter 7, 8, 9, 10 and 14 Notes

This document is intended as a **study guide** to provide a **structure** for studying the Chapter 7, 8, 9, 10 and 14 Notes.

1 Economic Growth

1.1 Desirable Economic Growth

Governments aim for high economic growth in order to increase the standard of living (SOL) of their country. Recall that improving SOL is the singular most important part of macroeconomics. Hence, economic growth is also sometimes considered as the primary macroeconomic aim.

Economic Growth is an increase in the real national output of a country over a period of time.

Actual Growth is the percentage annual increase in real national output actually produced.

Potential Growth is the rate of growth of full employment output and capacity of the economy to produce goods and services.

$$\text{Economic Growth} = (\text{Real GDP}_{\text{year 1}} - \text{Real GDP}_{\text{year 0}}) / \text{Real GDP}_{\text{year 0}}$$

Will this be able to continue after a long period of time?

Consider an economy experiencing a continuous increase in real national output without any increases in productive capacity. After a long period of time, the economy will be producing at its productive capacity, meaning that there can no longer be economic growth. To allow for further growth, the government aims to achieve Sustained Economic Growth.

Sustained Growth is economic growth with low inflation for a long period of time. This can be achieved when actual economic growth caused by an increase in AD^1 is slightly faster than the potential economic growth caused by an increase in LRAS.

¹ Actual Growth can be achieved via an increase in SRAS. However, it is typically achieved when AD increases.

Sustained Growth allows the government to continue to increase national output over a long period of time since the productive capacity of the economy continues to increase, allowing for future increases in the production of output.

Will this be able to continue forever?

This is not the best possible outcome. Governments aim for high economic growth as it causes a continual increase in SOL. However, since production results in negative externalities which decrease non-material SOL to increase material SOL, future generations will be subjected to the negative effects of global warming, air pollution and other phenomena which damage the environment, decreasing their SOL. Hence, governments aim for Sustainable Economic Growth.

Sustainable Growth is sustained growth which dictates that growth does not damage the environment or deplete natural resources excessively to avoid affecting future generations negatively.

Will this benefit everyone in society?

This is not ideal. Recall that the word “average” is used in the definition of SOL. If the benefits of economic growth are enjoyed by only the rich minority and the poor minority does not benefit, then it is inequitable. Hence, governments aim for inclusive economic growth.

Inclusive Growth is economic growth which everyone has the opportunity to participate in and the benefits of economic growth are equitably distributed among the people such that no particular segments of the population are excluded from the benefits.

“Equitable” is not the same as “Equal”. “Equal” refers to treating everyone the same, regardless of individual differences or circumstances. “Equitable” refers to fairness in the distribution of opportunities and treatment, after considering individual differences and circumstances. It is the ideal that meritocracy aims to achieve.

Hence, governments aim for **sustainable and inclusive economic growth**. However, it is important to note that all governance requires trade-offs. This ideal is not something that is achievable by all countries due to a multitude of reasons. As such, many countries simply aim for economic growth in general. Hence, let us consider if economic growth is good or bad.

1.2 Achieving Sustainable and Inclusive Growth

Sustainable Growth

With an increase in national income, households and firms also pay greater income tax and corporate tax to the government respectively. Hence, the government may have a greater budget and hence increased ability to invest in and use **renewable energy sources** to prevent **resource depletion**, and also mitigate the problem of **pollution**. Hence, **future generations** will not have to suffer the adverse consequences of such issues, thus the economic growth can be said to be more sustainable.

With an increase in national income, households purchase more goods and services from firms, increasing firms' profits. Hence, firms' may use their stored profits to invest in and start using **renewable energy sources** to be more attractive to younger consumers who prefer sustainably produced goods and services, as these consumers want to prevent **resource depletion** and mitigate the problem of **pollution**. Hence, **future generations** will not have to suffer the adverse consequences of such issues, thus the economic growth can be said to be more sustainable.

Inclusive Growth

This can be achieved when countries implement a progressive tax system where those earning higher income pay more taxes coupled with a subsidy system where the lower income would receive more subsidies compared to the higher income, narrowing income gaps. Hence, the poor majority would have increased purchasing power to spend on more goods and services to consume to satisfy their wants and needs, increasing material SOL. Additionally, the government may use the tax revenue from the minority rich to spend on public and merit goods such as public transport and healthcare. This ensures that even the poor majority is able to afford to travel more efficiently and obtain treatment for illnesses. This would improve the comfort of travelling and health, hence increasing non-material SOL.

With an increase in national income, households and firms also pay greater income tax and corporate tax to the government respectively. Hence, the government may have a greater budget and hence increased ability to invest in programmes to connect people to the **opportunities** that exist in the market, such that they **fulfil their potential**. (E.g. Skillsfuture)

1.3 Impact of Sustainable and Inclusive Growth

Effect of Sustainable Growth		Key Analysis/Technical Terms
Economic Growth	Sustainable Growth	Good: Less preoccupied with private consumption and more with clean environment, income to clean up present environmental problems from past growth, safer and cleaner methods of production • Ev: Costly, poorer countries cannot • Ev: Not commonly adopted, still will deplete non-renewable resources Bad: production generates pollution, use more resources, little focus on efficiency, non-renewable resources run out
	Inclusive Growth	Good: Personal Income Tax of the Rich, programmes to alleviate poverty, non-material SOL Bad: Different wages in Expanding/ sunrise Industries, sunset industries, lack of skills, structural unemployment, multiple sources of income, rent and dividends, rich get richer, little benefits of growth to the poor
Unemployment		Actual Growth: Derived demand, labour Potential Growth: new techniques and skills, labour-saving technology, demand for labour, structural unemployment
Inflation		Actual Growth: full employment, resources are used fully and efficiently, demand-pull inflation.

	Potential Growth: productive capacity, general price level increase moderately or even not at all
Balance of Trade	(1) Investment needed for both AG & PG, Imported machinery, import expenditure (2) incomes increase, import expenditure increase
Standard of Living	Actual Growth: Purchasing Power, Needs and Wants, Public and Merit goods, Health Potential Growth: Capital Goods, Consumer Goods, Current Consumption Leisure: Work harder and longer, additional part-time jobs, stress and anxiety, risk of being displaced
Efficiency (Points not vetted yet)	Actual Growth: Productive capacity, Productive Efficiency, PPC • Link with unemployment Potential Growth: Investment, technologically progressive, reduce the long run average cost of production, meet consumers' changing wants and needs, Dynamic Efficiency
Equity	Can be stated in inclusive growth points

Evaluation

- Depends on if the costs outweigh the benefits based on their relative significance
- You have to reconcile the costs and benefits in terms of the context of the question, using a criteria-based reasoned judgement

Effect of Inclusive Growth		Key Analysis/Technical Terms
Economic Growth	Actual Growth	Marginal Propensity to Consume, basic needs, larger multiplier, more than proportionate increase in output would be larger
	Potential Growth	Structural unemployment, Quality of labour, suited to their job role
Unemployment	Demand Deficient	Derived Demand, labour
	Structural	More opportunities, motivated to invest in education and upgrade skills, mismatch of skills
Inflation		Productivity, Cost of production, price competitive
Balance of Trade		Inflation
Standard of Living		(Under '1.3 Achieving Inclusive Growth')

1.4 Impact of Recession

Economic Recession is a sustained period (technically two consecutive quarters) of negative growth.

Effect	Key Analysis/Technical Terms
Economic Growth	Negative outlook and pessimism, households' and firms lose confidence in economy, save more and invest less, return on investment General Price level falls, expectation of future price falling, delay consumption, cheaper
Unemployment	Derived demand, labour

Inflation	Converse point
Balance of Trade	Converse point
Standard of Living	Purchasing Power, Needs and Wants
Efficiency (Points not vetted yet)	Converse point
Equity	Converse point
Government Budget	Income falls, Personal Income Tax falls, tax revenue, cyclical unemployment rises, unemployment benefits social welfare assistance rises, strain on government budget Link to non-material SOL

2 Inflation

2.1 Desirable Inflation

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

Disinflation is defined as a sustained increase in the general price level of an economy at a decreasing rate.

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

Why do we use the term “sustained”?

An increase in the general price level of an economy must occur over a certain period of time to be technically considered ‘inflation’.

Why do we use the term “general”

Prices of some goods may fall while prices of some goods may rise. If the weighted average of all these goods increases, then inflation occurs.

- An increase in prices of resources which are used in the production of many different goods (e.g. oil) is likely to increase the general price level as the cost of production for many goods will increase, causing an increase in retail prices for many goods.

The Issue with Inflation

Let's say I have 1000MR in 2024, and it is worth US\$210. And let's say 1000MR can buy 40 apples in both the US and Malaysia in 2024.

Prices of apples in Malaysia are predicted to double in 2025, so 1000 MR can only buy 20 apples. Prices of apples are predicted to stay the same in the US in 2025, so that US\$210 can still buy 40 apples. Therefore, if I have 1000MR in 2025, it is worth US\$105.

If I don't change my 1000MR to US\$210 in 2024, then I can only buy 20 apples in 2025. I will be worse off.

The issue with inflation is something governments aim to avoid completely. However, practically, it is impossible to achieve zero inflation, and hence governments aim to minimise the impact of the issue with inflation instead.

Low/Mild inflation² is usually an effect of sustained growth, which indicates that the economy is performing well. Governments hence aim for low inflation.

High/Galloping inflation³ causes rapid increases in prices. Typically, the average individual's income will not rise at an equally rapid rate, creating a fall in purchasing power and hence decreasing material standard of living. Governments tend to avoid high inflation.

Negative inflation (Deflation) usually implies that a recession or a depression is about to happen, and hence they result in the future lowering of material standard of living in such times. Governments tend to avoid deflation.

Inflation is measured using the general price level using the formula below:

$$\text{Inflation Rate} = (\text{GPL}_{\text{year 1}} - \text{GPL}_{\text{year 0}}) / \text{GPL}_{\text{year 0}}$$

Changes in the general price level can be calculated or predicted using price indices, which include CPI, PPI and the GDP deflator.

Consumer Price Index (CPI) is calculated by taking the weighted average of prices in a chosen basket of goods which are consumed by consumers

Producer Price Index (PPI) is calculated based on wholesale prices. It is not a measure of the economy's general price level, but it can predict how the general price level will change in the near future. (e.g. If wholesale prices increase, retailers will be inclined to increase prices to accommodate for the higher cost of obtaining stock.)

² This is not the same as **moderate inflation**, which is technically not as desirable because the rate of inflation is higher for moderate inflation.

³ Likewise, this is not the same as **hyperinflation**, which is far more severe. This occurred in post WWI Germany after the imposition of heavy reparations by France, when eggs cost 320 billion marks.

GDP deflator is the ratio of nominal GDP to real GDP. Theoretically, it should be very similar to CPI based on mathematical calculations.

2.2 Causes of Inflation

***Note:** 'causes of inflation', 'causes of an increase in inflation' and 'causes of an increase in rate of Inflation' are different phrasings which have the same meaning.

A sustained increase in the general price level can be caused either by a sustained increase in aggregate demand (AD) or a sustained decrease in aggregate supply (AS). Hence, in explaining inflation, you must explain an initial increase in general price level followed by an explanation of why it would be sustained.

General Question Answering Structure for AD Analysis relating to inflation

Step 1: How a **cause** affects the components of $AD = C + I + G + (X - M)$

- Try to cover 4 out of 5 components for maximum breadth. If you are slow, cover at least 1 internal (C, I, G) and 1 external component (X and/or M) in anticipation of part (b) requiring analysis relating to balance of payments
- One cause can affect multiple components of AD
- The list of causes for AD provided in the notes is not exhaustive

Step 2: How AD will change: Direction (& Magnitude), paired with illustration of the change

Step 3: What **effect** this has on Inflation (sustained increase or decrease in GPL)

Step 4: What are the **responses** to address this issue

General Question Answering Structure for all LRAS + SRAS Analysis

Step 1: How a **cause** affects QQT (Quantity of resources, Quality of resources, Technology)

Step 2: How LRAS will change: Direction (& Magnitude), paired with illustration of the change

Step 3: What **effect** this has on Inflation (sustained increase or decrease in GPL)

Step 4: What are the **responses** to address this issue

General Question Answering Structure for all SRAS-only Analysis

Step 1: How a **cause** affects cost of production

Step 2: How SRAS will change: Direction (& Magnitude), paired with illustration of the change

Step 3: What **effect** this has on Inflation (sustained increase or decrease in GPL)

Step 4: What are the **responses** to address this issue

Demand-pull Inflation (Root Cause is AD increase)

Since $AD = C + I + G + (X-M)$, any autonomous increase in these components when the economy is nearing its productive capacity will cause an increase in general price level.

When AD increases, sales will exceed production. Firms would face an unplanned fall in stocks, incentivising them to increase production by employing more factors of production. When AD increases in the intermediate range when there is spare capacity, firms can partly increase output and partly increase prices as they begin to face bottlenecks in production.

However, when AD continues to increase near full employment, when all resources are almost fully and efficiently employed, there is a shortage of factors of production causing prices of the factors of production to be bidded up while firms cannot increase production much. As such, firms mainly pass on the higher costs by raising retail prices to protect their profit margin as some consumers are willing to pay higher prices to obtain the goods with high demand. Hence, near Y_f , additional spending tends to be almost purely inflationary where prices increase without a significant increase in output. Therefore, demand-pull inflation occurs with a sustained increase in general price level given the economy is near or at full employment.

When illustrating demand-pull inflation, draw two increases in AD, i.e. from AD_0 to AD_1 , then from AD_1 to AD_2 . This is in order to better illustrate a sustained increase in general price level and to have clearer analysis.

Cost-push Inflation (Root Cause is COP increases)

Cause	Key Analysis/Technical Terms
Import Price Push	Increase in the cost of imported inputs. Ev: More significant in countries dependent on imported resources like Singapore
Currency depreciation	Weaker domestic currency, raw materials more expensive in terms of domestic currency.

Increase in Structural Rigidities	Inefficient reorganisation of resources, change in demand for goods and services in the economy, contractual agreements, inflexible wages, government policies, CPF contribution rates, cut down foreign labour supply
Wage Push	Trade unions demand higher wages in excess of productivity growth, wage-price spiral, higher wages → GPL increases → even greater nominal wages, maintain purchasing power.
Profits push	An increase in the monopoly power of firms, especially those which supply raw materials.
Temporary shocks	availability of factors of production, supply of resources.
Severe Shocks	QQT, Productive capacity

When firms face an increase in cost of production, they will respond partly by cutting back on production due to lower profitability causing real national output to decrease, and partly by passing the higher costs in terms of higher prices to consumers to maintain their profit margin by raising prices and hence, the general price level.

This leads to a reduction in consumers' real purchasing power, causing workers to bargain for higher wages. If firms accede to these demands, then SRAS will further decrease. Hence, there is a sustained decrease in SRAS causing a sustained increase in GPL. Therefore, cost push inflation occurs in Singapore due to labour shortages given Singapore is an efficient economy with a tight labour market.

When illustrating cost-push inflation, SRAS shifts upwards and not downwards (Firms need more money to produce the same output if cost of production increases).

Cost-push inflation generally causes prices to increase while output falls, a phenomenon known as **Stagflation**, whereby Recession and Inflation occur at the same time. Cost-push inflation is hence considered to be a more severe problem than demand-pull inflation

2.3 Impact of Inflation

Effect		Key Analysis/Technical Terms
Economic Growth	Actual Growth	<u>Severe Inflation</u> Uncertainty about future prices of inputs and outputs, profits sustaining current investment, increase in risk, deterred from investing, loss of possible increase in investment, AD increases less, lower actual growth and RNY, recession, Link to SOL and unemployment <u>Mild and hence anticipated inflation</u> Healthy growth of the economy, positive expectations about future prospects, expect demand increase, stimulates investment, returns on investment relatively predictable, firms make decisions to maximise profits, confidence in investing, link to SOL and unemployment
	Potential Growth	Rate of capital accumulation < rate of capital depreciation, lower increase in productive capacity, QQT of capital, potential growth
Unemployment		Derived Demand, Labour
Inflation		Diversion of effort towards speculation away from productive activity, hoarding of raw materials and products in anticipation of future price increases which exceed the

		inflation rate, supply falls, cost of production rise, worsen inflation
Balance of Trade		Domestic rate of inflation VS foreign rate, relatively constant exchange rate, price competitiveness of exports, $PED_x > 1$, imports are relatively cheaper substitutes for domestic goods, MPM or YED, Link to SOL using X-M. Flexible exchange rate system, domestic currency depreciates, same nominal income in domestic economy purchase less goods and services than in foreign economies. • Ev: people may shift away from using the domestic currency to using a currency which is more stable (e.g. the US\$), which is a process known as dollarisation.
Standard of Living	Material SOL	fixed income, low wages, real income falls, nominal income, general price level, purchasing power, satisfaction
	Non-material SOL	low income households to work harder and longer, work additional part-time jobs, rising high cost of living, leisure, stress and anxiety Shoe-Leather Cost: consumers do not want to hold large amounts of cash, frequent trips to the bank or ATM to withdraw cash because cash they hold quickly runs out, time wastage, less time for productive activities and leisure, fall in economic growth and SOL.

Efficiency	Allocative Efficiency	Distortions in relative prices, misallocation of resources, speculative activity or structural rigidities, prices rise at different rates, not reflecting long-term demand conditions, Resources diverted to goods whose prices are rising faster than others, long term demand not changed significantly
	Productive Efficiency	Menu Cost: Frequently adjust prices of goods and services in a fixed time period, price varies more significantly, resources wasted to reprint prices, increase in fixed COP E.g. costs for reprinting and re-issuing product catalogues, publicity material, bar codes and/or menus.
Equity		Fixed Nominal Income Receivers: Value of money decreases, real income falls, dollars of declining value, declining industries no strong aggressive unions - E.g. Pensions, annuities, landlords' rental payments, welfare and transfer income Flexible Nominal Income Receivers: Nominal incomes spurt ahead of the general price level, real income rise, expanding industries, vigorous trade unions - E.g. Business executives, profit receivers, product prices rise faster than resource prices, total revenue grows faster than cost of production. Income gap widens, poorer distribution of income, Link to SOL

Banking	Savers: Real value of savings decreases, rate of inflation exceeds the rate of interest Debtors & Creditors: interest rates are lower than inflation rate, real value of repayment higher than real value of loan, each dollar of loan money loaned in the past is now worth less than each dollar of repayment.
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Evaluative criteria for magnitude of effects of inflation:

1. **Extent** of inflation: The greater the extent of inflation, the greater its effect
2. Whether inflation is **anticipated** or not: The less anticipated inflation is, the greater its effect
3. Extent of inflation relative to inflation in **other countries**: The greater the extent of inflation relative to other countries, the greater its effect

The first two criteria are applicable to all points, while the third criterion is more applicable to the effects on external stability.

2.5 Causes of Deflation

Demand-side Deflation

When AD decreases, production exceeds sales. Firms face an unplanned fall in inventories, prompting a decrease in production by employing less factors of production. When AD falls, more spare capacity is created and there is a larger surplus of factors of production as unemployment increases. Hence, prices of the factors of production are bidden down. Firms would pass on the lower costs in terms of lower prices to consumers to be price competitive because consumers are only willing to pay lower prices to obtain the goods as demand is low. Hence, the general price level decreases.

Due to the reverse multiplier effect, the initial autonomous fall in expenditure leads to a fall in income which induces a further fall in expenditure. For example, assuming the marginal propensity to consume (MPC) is 0.6, if expenditure falls by \$100 million, income will fall equally much, causing a fall in consumption (C) of \$60 million. This will cause income to fall further by \$60 million since C is a component of $AD = C + I + G + (X - M)$. This causes consumption to fall even further by \$36 million in a continual process of mutually reinforcing decline in income and expenditure, causing the AD to continually fall until the total fall in withdrawals is equal to the initial fall in injections, resulting in a sustained decrease in the general price level.

Cost-side Deflation

When cost of production falls, firms' profitability increases assuming their revenue does not change, causing short run aggregate supply (SRAS) to increase. In the short term, when firms face a decrease in costs, they respond partly by increasing production due to higher profitability thus national output increases, and partly by passing the lower costs in terms of lower prices to consumers to be price competitive, decreasing general price level.

With higher productivity, the quality of resources increase so that in the long run, more output can be produced with the same amount of input suggesting an increase in the economy's ability to produce more in the future hence increasing the economy's productive capacity. This would increase the economy's full employment level of output and shift the economy's long run aggregate supply (LRAS) curve to the right. The decrease in GPL in the short run would thus continue and hence sustain into the long run.

2.5 Impact of Deflation

Effect		Key Analysis/Technical Terms
Economic Growth	Actual Growth	Expect GPL to fall further, C falls. Lower demand, firms lower prices, reinforcing expectations, output falls further Low output, I falls, unnecessary to increase production + loss of business confidence, I falls Deflationary spiral
	Potential Growth	I falls, QQT falls, Productive Capacity falls, negative potential growth
Unemployment		Derived demand, labour, unemployment, wages fall. Pessimistic about the future, expect wages to fall more, spend even less, link to EG
Inflation		Stated in Economic Growth Point
Balance of Trade		Converse point
Standard of Living		Converse point in the short run, but due to deflationary spiral in the long run, negative impact
Efficiency	Allocative Efficiency	Converse point
	Productive Efficiency	Same Point if deflation is inordinate
Equity		Converse point
Banking		Converse point

3 Unemployment

3.1 Desirable Unemployment

Governments aim for low unemployment in order to increase households' access to goods and services in their country so as to improve the standard of living (SOL) of their country.

Unemployment is defined as the number of people of the legal working age who are willing and able to work but are unable to find suitable employment.

Why do we use the term “legal working age”?

Child labour is unethical by modern standards. Since countries aim for low unemployment, if those under the legal working age were considered, countries would effectively be violating human rights. In Singapore, the legal working age is 15.

Why do we use the term “willing and able to work”?

There are groups of people in every country which do not want to work at the going wage rate. This includes university students, retirees, and stay-at-home parents. Once again, it would be unethical to force these people to work if they do not want to. And if they were to be considered unemployed, governments aiming for low unemployment would be violating free will.

Why do we use the term “unable to find”?

Those who are employed may be underemployed, meaning they are apparently employed but working below their productive capacity. On a Production Possibilities Curve (PPC), this would be illustrated the same way as unemployment, even though it is not considered unemployment technically. However, it may be the case that they are structurally unemployed.

$$\text{Unemployment Rate} = (\text{Number of Unemployed}) / (\text{Labour Force}) \times 100\%$$

$$\text{Natural Unemployment} = \text{Frictional Unemployment} + \text{Structural Unemployment}$$

$$\text{Labour Force Participation Rate} = (\text{Labour Force}) / (\text{Working Age Population}) \times 100\%$$

A few Common Mistakes

1. The government does not aim for *zero* unemployment as that would lead to a lack of spare capacity, resulting in high inflation.
2. An increase in employment does not necessarily reflect an increase in the labour force but rather a fall in unemployment. Instead, an increase in the population size or the number of people who are actively seeking jobs increases the labour force. Consequently, an increase in employment does not increase the productive capacity of an economy because the economy has the same ability to produce, only prior to the increase in employment, it did not make use of as much of its ability.

3.2 Causes of Unemployment

Demand-Deficient Unemployment

When AD decreases⁴, sales will fall below production. Firms would face an unplanned rise in stocks, incentivising them to decrease production by employing less factors of production such as labour. Hence, as the derived demand for labour increases, more workers get retrenched and unemployment rises. (Note: For questions asking only for causes of demand-deficient unemployment, the multiplier effect must be included in analysis because the analysis would be too short otherwise.)

Structural Unemployment⁵

Technological improvement may shift the economy towards greater production in certain industries such as production requiring high skill in tertiary sunrise industries while causing low-skilled production in industries like agriculture and low-skilled manufacturing to decline. There would be an increase in labour-saving technology like artificial intelligence, which would increase derived demand for high-skilled labour which can manufacture such technology, thus there would be job openings in these industries while there would be decreases in the derived demand for low-skilled workers thus resulting in retrenchment in the sunset industries. Since unemployed low-skilled workers do not have the skills required to gain meaningful employment in the sunrise industries due to skill immobility, there is a **mismatch of skills** as their skills are now **obsolete**, leading to an increase in structural unemployment.

⁴ A decrease in SRAS can result in demand-deficient unemployment, but it is typically caused by a fall in AD.

⁵ Structural Unemployment can also be a mismatch of high-skilled workers to low-skilled labour. Such a phenomenon exists in China as their high-skilled labour is overqualified for bricklaying jobs.

Countries which promote an attitude of lifelong learning may implement skill-upgrading programmes that low-skilled workers can continuously take part to learn the new skills to prevent them from being retrenched or to gain meaningful employment after they lost their jobs due to skill mismatch. For example, Singapore continues to push for usage of the SkillsFuture programme where workers can continuously upgrade their skills to be relevant and encourages broad-based education so that workers are not skill immobile.

When certain industries move to a different location, such as when a developed country moves their production to a developing country which may have lower opportunity costs of production, the workers of those industries in the developed country may then find themselves out of a job because their skills are no longer required in that economy and they do not have the skills to be employed in other industries. Due to geographical immobility of labour, such as attachments to their relatives in their home country, they may not be willing to move to a different location to work. Hence, they find themselves structurally unemployed.

Frictional Unemployment

Imperfect information results in a time lag before job seekers find the right job or firms hire the right candidate. As a result of imperfect information on the part of both job seekers and employers, qualified unemployed workers cannot immediately be matched up with existing job openings. For example, a fresh graduate who is a first-time job seeker may not have the resources or efficiency in finding the company that has the job that is available and suitable for him or her and may therefore be temporarily unemployed. Another example is when a company abstains from hiring because it believes there are not enough qualified individuals available for the job, when there may be qualified workers.

Frictional unemployment is inevitable in any free society. This is because at every moment, there is someone leaving their job and it is not feasible nor ethical to somehow have people continue to work. It is also unfeasible to restrict firms from releasing employees, or to immediately find graduates a job. However, As long as the time lag in finding employment is not too long, frictional unemployment does not present a serious problem⁶.

⁶ Frictional Unemployment is not frequently assessed for this reason. But if you are forced to write about it, you must be prepared to use examples to justify your point.

Real Wage Unemployment

When trade unions bargain for higher wages or if there is a minimum wage law in the country such that real wages are forced above the market clearing level, there will be an excess of labour supply over labour demand at the wage floor, thus resulting in a surplus of labour otherwise known as real wage unemployment where quantity of labour supplied exceeds quantity of labour demanded. Hence, many who are willing and able to be employed are unemployed.

Seasonal Unemployment

Seasonal unemployment refers to unemployment that results from seasonal fluctuations in the level of economic activity. Such unemployment is both regular and predictable. For our syllabus, knowledge of such a concept is, for the most part, enough.

3.3 Impacts of Unemployment

Effect		Key Analysis/Technical Terms
Economic Growth	Actual Growth	decreased chances of getting employed, shortage of high quality labour, labour prices rise, cost of production rises, SRAS falls
	Potential Growth	Prolonged unemployment, loss of motivation, erosion of skills, quality of labour, productivity, exit labour force completely due to loss of motivation, quantity of labour
Inflation		decreased chances of getting employed, shortage of high quality labour, labour prices rise, cost of production rises, SRAS falls
Balance of Trade		Link from inflation based on relative prices of exports and imports.
Standard of Living	Material SOL	Wages, purchasing power, consumption, satisfaction of needs and wants

	Non-Material SOL	Hardship and misery, mental health, crime, inability to afford healthcare, protests, violence, social unrest
Efficiency	Allocative Efficiency	Waste of scarce economic resources, producing within PPC, loss in production, welfare loss, less goods and services which could have been produced
Equity		Those who are structurally unemployed are usually working low-skilled jobs, and are already in the poor minority, and now earn no income. High-skilled labour are already rich, and their income vastly increases. Income gap widens.
Government Budget		Fall in personal income tax and corporate tax revenue, fall in consumption (C), fall in GST, unemployment benefits, budget deficit, reduce expenditure on public and merit goods, affecting non-material SOL

4 Balance of Payments

4.1 Desirable Balance of Payments

In Chapter 6, we learnt that the domestic economy exports and imports goods and services to and from the rest of the world. However, that is not the only way money flows around the world. Hence, in an increasingly globalised world, the balance of payments becomes an increasingly important macroeconomic indicator of an economy's performance.

Balance of Payments (BOP) is an accounting record of receipts and payments arising from all economic transactions between a country and the rest of the world (over a period of time, usually a year).

Balance of Trade (BOT) refers to the difference between Export Revenue (X) and Import Expenditure (M): $(X-M)$.

Governments aim to achieve a healthy BOT and BOP. Similar to Inflation, a perfectly balanced BOP of \$0 is ideal. However, this is practically impossible and hence the second best option is to achieve a slight surplus, as it minimises the negative impacts of persistent surpluses or deficits, which will be covered in a later section.

To determine whether a country's BOP is in surplus or deficit, we need to determine if there is more money flowing into or flowing out of the country. To determine this, We must classify different transactions as 'credits' or 'debits'.

Credits refer to inflows of money and increase in net assets abroad.

Debits refer to outflows of money and increase in net liabilities abroad.

Assets refer to things that could generate money or provide some other benefit in the future.

Liabilities refer to things that you owe to others or things that lose you money.

The BOP of any economy consists of two accounts: the Current Account (CA) and the Capital & Financial Account (KFA). Different transactions are recorded in each account.

The **Current Account (CA)** records a country's trade in goods and services with the rest of the world, income flows, and current transfers to and from other countries.

The **Capital & Financial Account (KFA)** records capital transfers, acquisition or disposal of non-produced, non-financial assets, international investments and transactions in financial assets and liabilities in both the short-term and the long-term.

The CA records the net inflow of money into a country, while the KFA records the net inflow of capital into a country, which is a net outflow of money since capital in a country is a liability. Hence, the net inflow of money is given by the difference between the CA and the KFA:

$$\text{BOP} = \text{CA} - \text{KFA}$$

Account	Components		Examples
Current Account	Balance of Trade ⁷	Visible Trade Balance	Goods
		Invisible Trade Balance	Services
	Net Income Flow from Abroad		Rent, Interest, Profits, Dividends
	Net Transfers (Unilateral Transfers)		Aid, Gifts, Donations, Remittances
Capital & Financial Account	Short-Term Capital/Financial Flows		Bank Deposits, Treasury Bills, Trade Credits, Bank Loans
	Long-Term Capital/Financial Flows		Foreign Direct Investment, Portfolio Investment (Financial Account) Debt Forgiveness, Acquisition and Disposal of other Assets (Capital Account)

⁷ While the Balance of Trade is the focus of our syllabus, knowledge of the remaining factors is required.

A Lesson in Specificity:

Every year that Cambridge sets a question about changes in Balance of Payments or Balance of Trade, they comment about the lack of specificity in students' answers. Let us make sure we do not make such mistakes.

Year	Balance of Payments (in billions)	
	Country A	Country B
2019	-17	17
2020	-9	11
2021	3	3
2022	12	-9
2023	15	-15

'Improvement' & 'Worsening':

Given that a healthy BOP is one which has a slight surplus, the BOP of a country can be said to be improving when it approaches a slight surplus. From 2019 to 2021, both countries' BOPs have improved. Conversely, the BOP of a country can be said to be worsening when it deviates from a slight surplus. From 2021 to 2023, both countries' BOPs have worsened.

'Increase' & 'Decrease':

From 2019 to 2021, Country A experiences a *decreasing deficit* while Country B experiences a *decreasing surplus*. From 2021 to 2023, Country A experiences an *increasing surplus* while country B experiences an *increasing deficit*.

Conclusion:

This demonstrates that 'improvement' can mean a decreasing deficit or a decreasing surplus, while 'worsening' can mean an increasing deficit or an increasing surplus. The terms 'improve' and 'worsen' are hence vague. If they are to be used, it is crucial to specify what they entail.

4.2 Causes of Balance of Payments Imbalances

Cause of BOT Imbalance	Key Analysis/Technical Terms
Relative Inflation Rates⁸	Exports relatively more expensive and imports relatively cheaper, D_M rise and Q_{DX} falls, PED_X and XED_M analysis, BOT decrease
Relative Incomes	National income relative to other countries would, import expenditure relative to export revenue. MPM/YED_M analysis, BOT decrease
Persistent overvaluation of the country's currency	Currency appreciates, MLC, exports less price competitive, imports more price competitive, BOT decrease
Changes in Terms of Trade (the quantity of imports that can be exchanged per unit of the country's exports, i.e. P_X/P_M .)	Export revenue relative import expenditure, assuming quantities remain relatively unchanged ($ PED < 1$), BOT decrease
Relative Productivity	Lower-skilled workforce, inferior technology, obsolescent capital, production inefficiencies, higher average cost, higher price compared to other countries, exports less price competitive, imports more price competitive. BOT decrease
Physical Destruction	Natural calamities, military conflicts, acts of terrorism, increase in imports for capital reconstruction, BOT decrease
Long-term changes in Trading Patterns	Consumer tastes, nature and quality of goods change, technological changes, less quality competitive or no longer in demand, BOT decrease

⁸ Relative Inflation Rate, Income and Value of Currency are the most in depth points, in that order. These are the points that should be selected if the question does not restrict your breadth selection.

Cause of KFA Imbalance	Key Analysis/Technical Terms
Expected Rate of Return on Investments	Expected profit, returns, flow of capital, financial account
Relative Interest Rates	Earn higher returns, hot money, financial account
Expected changes in Exchange Rates	Exchange rate expected to rise, switch funds to that currency to gain from the expected rise in value, hot money inflow Short-term capital is extremely sensitive to expectations of changes in exchange rates.

4.3 Impact of Persistent Imbalances

Effect of Persistent Surplus		Key Analysis/Technical Terms
Economic Growth	Actual Growth	(X - M) increases, AD increases, multiplier Exporting firms higher profits, I increases
	Potential Growth	I increase, Quality and Technology increase, LRAS increase, productive capacity increase
Unemployment		Derived demand, labour
Inflation		Demand-pull inflation
Standard of Living		National output, national income, purchasing power, goods and services, needs and wants
Trade War		Tariffs, volume of free trade decreases
Exchange Rate (Dutch Disease Effect)		Appreciation of exchange rate, imports increase substituting domestic goods, demand-deficient unemployment

Banking	Banks sell domestic currency to encourage increase in import expenditure to prevent excessive appreciation, so money supply increases, but might result in inflation.
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Effect of Persistent Deficit		Key Analysis/Technical Terms
Economic Growth	Actual Growth	Converse point + (if devaluation is discussed) I falls due to expectation of further devaluation
	Potential Growth	Transitional phase, import large quantities of fixed capital, ability to produce goods and services, LRAS increase
Unemployment		Derived demand, labour
Inflation		Devaluation may be linked to inflation
Balance of Payments		Devaluation, capital outflow via FDI
Exchange Rate		Devaluation of exchange rate, loss of confidence in currency, panic selling of currency, further devaluation
Standard of Living		Increase in imports consumed to satisfy wants and needs
National Debt		Persistent BOP deficit, drawing down country's foreign exchange reserves, reserves may run out, currency has to be devalued in future or may borrow from other countries or the bank, which may result in the government increasing taxation in the future, harming future generations, reducing future standard of living

5 Macroeconomic Trade-offs

Governments face potential conflicts between macroeconomic aims because pursuing one objective frequently comes at the expense of another. Governments must assess the likelihood and severity of these conflicts in their country before implementing macroeconomic policies.

An Analogy for this Chapter:

In the field of Macroeconomics, there are *4 good friends*. *Economic Growth* is best friends with *Low Unemployment*, while *Price Stability* is best friends with *Healthy BOP*. Frequently, the friends quarrel. *Economic Growth* quarrels with *Price Stability* and *Healthy BOP*. *Low Unemployment*, being best friends with *Economic Growth*, naturally, also quarrel with them. Sometimes, *Economic Growth* even fights with *Unemployment*. While it is not the focus of this story, *Economic Growth* sometimes faces internal conflict with itself, as it wants to be *Sustainable* and *Inclusive*, but cannot always achieve such goals.

Conflict	Evaluation
Actual Growth VS Demand-pull Inflation	Accompanied by potential growth
Cyclical Unemployment VS Demand-pull Inflation	Accompanied by potential growth with skills training programmes to prevent structural unemployment OR natural unemployment
Actual Growth/Cyclical Unemployment VS BOT	Expenditure switching policies via increasing domestic goods quality OR Expenditure reducing policies
Potential Growth VS Structural Unemployment	Accompanied by actual growth with skills training programmes
Actual Growth VS Sustainability	Sustainability Policies
Actual Growth VS Inclusivity	Progressive Tax system and reskilling programmes
Potential Growth VS Inclusivity	

6 Glossary

Net Factor Income From Abroad (NFYA) refers to the income earned by residents of a country from their ownership of foreign assets or investments located abroad. It includes rent, interest, profit and dividends. This does not involve the production of additional goods and services.

- **Rent:** Income earned by residents from the use or leasing of land, real estate, or other tangible properties located abroad.
- **Interest:** Income earned from lending money or investing in interest-bearing assets such as bonds, loans, or deposits in foreign countries.
- **Profits:** Income earned by residents from their ownership of foreign businesses, subsidiaries, or investments in the form of dividends, retained earnings, or capital gains.
 - **Dividends:** Income received by residents from their ownership of foreign stocks or equity investments, typically distributed by foreign corporations to their shareholders.

Governmental Aid refers to assistance provided by governments to countries in need in the form of financial assistance or provision of goods and services.

- Financial Aid is also known as **Donation**
- Important to Note: Governmental aid is a **Unilateral Transfer**. I.e. Governments provide funds, goods, or services without the expectation of receiving something in return. Hence, When the government provides material aid (i.e. goods and services), it is not recorded in the balance of trade as goods and services are provided without payment.

Hot Money refers to short-term capital flows that move quickly in and out of financial markets in search of the highest short-term return or interest rate. Investors deploying hot money are primarily driven by speculation rather than long-term investment objectives.

Treasury Bills (T-bills) are short-term debt securities that are issued by a government typically with maturities ranging from a few days to one year.

- How it works: The government issues T-bills and some investors buy them. After a short period of time, the government pays back the T-bills with interest.

Trade Credits refer to a short-term financial arrangement between a buyer and a seller where the seller allows the buyer to purchase goods or services for payment at a later date, usually within a specified time frame.

*****Foreign Direct Investment (FDI)** refers to the investment made by an entity or individual from a foreign country into a local firm.

- **Investment** refers to the purchase of financial assets or real assets with the expectation of generating income or profit in the future (E.g. stocks, bonds, real estate, business ventures or projects). This type of investment does not necessarily increase I.
- **Fixed Capital formation** refers to the process of increasing the stock of productive assets in an economy (E.g. factories, infrastructure). This type of investment necessarily increases I.
- Important to Note: It has been officialised that FDI in Singapore is considered an asset, even though it is considered a liability in other countries.

Portfolio Investments refer to the acquisition of long-term financial assets such as stocks, bonds, with the expectation of earning a return on the investment. This does not involve the production of additional goods and services.

- **Bonds** are debt securities issued by governments or firms to raise funds.
 - How it works: The buyer of a bond lends money to the issuer for a predetermined period during which the issuer pays periodic interest payments.
- **Stocks** also known as **Shares** or **Equities**, represent ownership interests in a firm.
 - How it works: The buyer of stocks of a company purchases partial ownership of that company, and receives dividends from the firm's profits if profitable.

Non-produced, non-financial assets refer to long-term assets that are not produced through production processes and are not financial instruments.

- **Tangible Assets:** Land (Mineral deposits, forests, water resources)
- **Intangible Assets:** Assets that lack a physical form (Patents, trademarks, copyrights, goodwill, and intellectual property rights). These assets are often created through intellectual or creative endeavours rather than physical production processes.

Fixed Assets are long-term assets that are used in the production or operation of a business and are expected to provide benefits to the company for more than one accounting period.

Capital Transfers refer to the transfer of ownership of a real asset between entities, typically without any direct exchange of goods or services. This includes debt forgiveness and transfer of ownership of fixed assets.

- **Debt Forgiveness:** the act of a creditor cancelling a debt owed by a debtor. (This is a credit to the debtor and a debit to the creditor)