# Chapter: Economic Growth

## **List of Definitions**

### **Economic Growth**

* + - The growth of production in actual production or potential capacity.
		- Economic growth refers to the growth of the production in terms of actual production or potential production capacity.

### **Actual Growth**

* + - Actual economic growth refers to the actualization of resources into monetized products and services which is commonly measured in terms of the percentage change in real GDP.
		- Growth that has be realized where there is an increase in actual production of the economy. (increase in quantity of goods and services.)
		- Actual economic growth is the percentage annual increase in national output actually produced that is the **percentage change in the Gross National Product/Gross Domestic Product** over the **previous** year. (Real GDP – real NY – determines production – determines demand for Labour – change in employment when NY increases – can use AS-AD diagram to explain employment level
		- It fluctuates with the swings of the trade cycle and is affected by changes in aggregate demand components.

### **Potential Growth**

* + - Potential growth refers to the expansion of the availability of resources for production which is measured in terms of rightward shift of the long run supply curve and outwards shift of the production possibility curve (PPC) – shift of the Yf level indicating rise in potential production capacity
		- Potential growth is the speed at which the economy could grow. It is the **percentage annual increase in the economy’s capacity to produce**: the rate of growth in potential output. (resource capacity)
		- It is reflected in the shift of the aggregate supply curve to the right.
		- An outward expansion of the PPC from PPC I to PPC II show the potential growth of the country.

### Sustained Economic Growth

* + - Increase in Real GDP incurring without rising cost condition or an increase in GPL
		- This can be represented by AD-AS diagram or Production capacity

### Production Possibility Curve (PPC)

* + - The PPC reflects the resource and production capacity an economy can attain with the given resources and technology.

Capital goods

Consumer goods

PPCI PPCII

a

b

c

* When production level shift from a to b, there is actual economic growth while the outward shift of the PPC from PPCI to PPCII will induce potential growth.

**Qn: Using Production Possibility curve, explain how increase in government spending will affect the growth of the economy? (10) (actual and potential growth**

Focus:

a. Show how increase in government expenditure will lead to actual growth (raise production and real GDP) /

b. Show how increase in government expenditure will lead to potential growth (expansion of resources shift LRAS to the right/outward shift of PPC)

**Introduction**

definition of growth of economy – actual and potential growth

increase in government spending- a form of increase in AD

**Main Body**

1. How increase in government spending leads to actual growth
2. how increase in government spending leads to potential growth
3. How this is seen by the illustration from PPC
* draw the diagram and description of diagram
1. analysis – key determining factor of this economic effects
* amount of increase in government spending/ type of govt spending
* value of the multiplier
* govt spending on roads – raise mobility of resources – increase efficiency – expand resource capacity – raise potential growth
* type of government spending – sr / lr
* **Conclusion**

## Determinants of Economic growth

### Physical Capital

* + - Physical capital refers to the tangible investment goods like plant, equipment, machinery and building.
		- Physical capital accumulation increases the productivity of labour. Machines allow one worker to raise productivity and allow more efficient use of the limited natural resources such as land and raw materials.
		- In order to achieve capital accumulation, there must be a positive net investment, investment level that is higher than the depreciation.

### Labour Resources

* + - The labour force is critical in determining the growth of the national income.
		- The quantity of labour force can be increased through the increase in the working population, labour participation rate or import of more foreign workers
		- Training and development of the workers and import of foreign talents raise the **productivity of the workers,** improving the quality of labour force.
		- Singapore overcome our labour shortage and lack of quality of labour through import of foreign workers and talents

### Land and Raw Materials

* + - Availability of land space and raw materials determines the resource capacity which affects the cost of production.
		- Better management and utilization of resources will minimise the cost of resources which will determine the cost of production. (**Production and Allocative efficiency**) (E.g. Constructing taller buildings – enable greater utilisation of land capacity)
		- Higher cost of production will undermine the economy from attaining a higher level of national income and thus lowering actual economic growth.
		- The shortage in the supply of resources will also reduce the resources capacity and thus undermines potential growth and this is usually overcome by the import of resources as seen in the case of Singapore.

### Entrepreneurship

* + - Entrepreneurs’ skills are essential in the organization of production. The effectiveness and efficiency of the entrepreneur will determine the productivity of the production and distribution process which will affect the production capacity of the economy, in actual and potential term.

### Technological Advancement

* + - It will increase efficiency of factors of production
		- Technological improvement includes:
* Creation of new knowledge/Invention
* Innovation which is the **application of new knowledge** to the production of goods and services
* Innovation which is the **application of current knowledge in new ways** to the production of goods and services
* the quality of production, improving competitive edge, which will raise the efficiency of production contributing to lower cost of production and innovate
	+ - New technology 🡺 capital investment possibilities 🡺 greater productivity and higher incomes 🡺 changing demand patterns and encourages more R&D 🡺 further technological improvements
* The rate of technological progress depend on:
* supply of scientists, engineers
* environment for research and development
* the development of intellectual property
* assurance on the return on capital
* Significance of intellectual property rights in aiding Singapore in attracting more high-valued and R&D based FDI – This is beneficial to Singapore as it will enable Singapore to derive more tax revenue and make it easier for the industries to raise wage rate for the workers

**Other Determinants**

Favourable cultural, social and political environment would promote growth. Legal institutions are needed to provide law and order and to enforce contracts between parties of economic transactions. Cultural attitudes towards work and material advancement are determinants of incentives to work. A social structure that allows fluid upward and downward mobility based on performance and merit is more conducive than a rigid social structure that puts premium on the station of one’s birth. Political stability is vital to economic activities

*Why some countries can achieve higher economic growth rate than other countries? (points taken from the factors affecting economic growth rate)*

*Countries with high degree of technological advancement – can produce high-valued products – sell goods at higher price – increase the value of Ad – via k – raise real GDP – eg- Singapore’s focus on pharmaceutical and IT.*

## **Positive Impacts of Economic Growth (Desirability of Economic Growth)**

### Higher Standard of Living

* + - The main benefit of growth is the increase in amount of goods and service which becomes available for the country’s citizens to enjoy.
		- Economic growth also increases the income of the country allowing citizens to enjoy more of both local and foreign goods. (Raise GDP – Increase in real GDP as long as percentage increase in GDP is greater than percentage increase in price level and population growth)
		- Provides more tax revenue for the government to improve the infrastructures that will raise the convenience and comfort of the citizens

### Redistribution of Income is Easier

* + - With more overall income available, government will have the resources to redistribute wealth the poor.

### Encourages Investment

* + - A stable level of economic growth increases firms and consumers confidence which will induce an accelerator effect on the economy. This will encourage more investment which, in turn, induces positive cycle of economic growth.

### Provide a higher degree of employment

### Higher level of economic growth will mean a higher level of production, demanding for labour. This is especially significant for a country with large population where growth in the labour intensive industries will produce more employment opportunities for the massive population. (E.g. China, India)

### Care More for the Environment

* + - As people grow richer, they satisfy their basic needs in life and have attained a certain material standard of living.
		- They move on to achieve more the qualitative side of life, becoming concerned about living in a clean environment.
		- Growth also allows more resources to be used for the correction or regulation to reduce external costs.

## **Negative Impacts of Economic Growth**

### Current Opportunity Costs of Growth

* To achieve faster growth, firms will probably need to invest more and require financing. The finance can come from higher savings or higher taxes. Either way, there must be a cut in consumption. In the short run, therefore, higher rate of growth must mean less consumption which will lower the standard of living in the short run

### May lead to structural unemployment

### The need to accelerate economic growth will mean a need to focus on high-valued industries to raise competitiveness of the economy and this will induce the need for technological advancement and sectoral adjustment to adjust the industries towards capital intensive development. Consequently, there will be skills incompatibility and displacement of workers as industries rely more on machinery.

### May induce inflationary condition

### As economic growth is accelerated, there is a higher degree of demand for resources which will induce increase in cost of resources, contributing to cost-push inflation. Economic growth will also contribute to higher level of disposable income or rise in real GDP per capital and thus, this will induce higher level of composition which will contribute to demand-pull inflation

### Inequality in Income Distribution

* + - Growth often involves changing pattern of demand and supply conditions. Given that resources are not perfectly mobile, there will be individuals who are unable to adapt to the rapid changes. Those who are able to adapt well will benefit significantly. Income may be redistributed in favour of certain economic groups, undermining other groups.
		- With greater income disparity, the social framework of the country becomes less stable; more social problems would occur.

### Depletion of Non-Renewable Resources

* + - Increased production often involves using a greater amount of resources. This means that certain non-renewable resources (e.g. coal, oil, natural gas) will run out more rapidly.

### Increase in Negative Externalities

* + - Increased output and consumption levels tend to consume more resources, putting more and more pressure on the environment.
		- This leads to pollution, more emission of green house gas and, in turn, global warming, etc.

### Non-Economic Costs

* + - Economic growth may bring increased stress and anxiety. Workers may have to learn new skills and have to change their lifestyles. Economic growth may also be accompanied by increased working hours and pressure to come up with new ideas and improvements. Some workers may find this difficult to cope and the level of stress related diseases, suicides, divorce and other social problems tend to rise.
		- E.g. Japan, where GDP per capital is among the highest in the world yet citizens rank low on happiness.

**Why Singapore cannot completely focus on economic growth despite its benefit**

1) Will create structural unemployment as our economic growth is based on our dynamic comparative advantage – constant needs to adjust the economic structure to enhance competitiveness – therefore, structural unemployment arises (sectoral adjustment, technological unemployment.)

2) Rising inflation – Excessive economic activities – rise in demand for more resources – cost-push inflation. Secondly, asset-based inflation due to increase in income, fuelled by speculation. Thirdly, misallocation of resources if the economic development is inappropriately delayed. – inflation occurs.

3) Unequal distribution of income and wealth. Structural unemployment will undermine the lower income group and less-skilled workers while excessive appreciation of assets will benefit the higher income group – widening income gap.

4) Economic growth may not lead to structural unemployment if growth is concentrated with high-yield industry which may provide for employments due to high degree of capital intensity and high technological skill requirement.

## **Concept of Sustained Economic Growth?**

* Sustained growth refers to the expansion of the actual production capacity without incurring excessive rise in cost condition.
* This is made possible by the increase in production capacity with corresponding expansion of the resource capacity.

Y1=Yf₀

Y2

Yf2

AS0

AS1

P₀

P₁

GPL

Real GDP

AD1

Y0

ADo

To achieve sustained economic growth, there is a need or government to raise both potential and production capacity. This can be achieved with the use of demand management policies, trade development policies and supply-side management policies to raise both AD and AS respectively.

As seen from the diagram, the increase in aggregate demand from AD0 to AD1 will raise Real GDP from Y0 to Y1 but price level will increase from P0 to P1. With corresponding supply will expand from AS0 to AS1, and thus, lowering cost condition to decrease price which will induce increase in AD on a quantity basis. Consequently, the real GDP will increase from Y1 to Y2 while price falls from P1 to P2 without incurring inflationary effect where sustained economic growth is attained.

**Explain how supply-side policies like manpower development will lead to both increase in AS and rightward shift of LRAS?**

Manpower development will provide more skilled labour and then expand the supply of resources in term of supply of labour which will contribute to the rightward shift of the LRAS. At the same time, the efficiency of the industries will be raised, and this will raise the productivity of work and lower average cost of production, contributing to the increase in AS.

## Other Economic conditions that will contribute to sustained economic growth

## Obstacles to Economic Growth

* + - **Lack of financing** – low collection of tax revenue and reserve built up from previous budgets will mean less funds for the government to use to finance their projects.
		- **Lack of capable and efficient government bodies** to develop and implement plans to achieve the aims – the absence of manpower due to low salaried and poor manpower development in the government agencies will mean that policies are badly developed and executed. This shortage of efficient and capable manpower is also the result of brain drain in the economy. Furthermore, some governments are corrupted and thus this undermines the development of sound strategy that will benefit the society.
		- **Restraint of the economy** – small economy with deprived resources may find it hard to achieve the aims as the policies are constrained by the nature of economy such as the lack of resources to implement their plans. (E.g. size of population will undermine the economy from having a skilful working population)
		- **Constraints of the policies** – the policies are faced with certain inadequacies as a result of the unfavourable conditions. For example, Singapore’s demand management policies are not effective as we have a small multiplier effect, thus demanding a large change in aggregate expenditure to achieve the aims.
		- **Inability to control systemic factors** – Certain international political and economic events that may affect the country is beyond the control of the economy and the nation can only adapt but are incapable to remove the causes that will affect the development of sound policies.

**Explanation on how slow growth will occur**

Meaning of slow growth

When slow growth occurs, it implies that the economy has attained small percentage rise in economic growth around the rate of zero to 2 percent. This happens when the economy is near full employment condition and the production capacity is limited, forbidding large increase in actual production. It can also be due to small percentage increase in aggregate demand as the economy is restricted by economic constraint like absence of affluence and high public debt.

For developed economy, the base year GDP is high and incremental increase in the year may be considered as small percentage of growth rate. These countries are also constrained by limited capacity of production and need for economic development as the economy has reached saturated pace of economic development.

**Diagram on slow growth**

Impact of slow growth

**Concept of inclusive growth**

Inclusive growth is achieved when the economy can attain sustained economic growth and ensure that the distribution of the benefits of economic growth is spread dimensionally to different segments of the income group. To achieve economic growth is to ensure that the economy is able to share the benefits of economic growth to different layers of economic class. In achieving this, the government must ensure that there is substantial growth in real GDP a nd an equal distribution of income

Significance of inclusive growth

How can the government achieve inclusive growth?

1. Attain sustained economic growth

Policies are directed to raise more aggregate demand and aggregate supply to attain actual and potential growth, whereby the economy can raise GDP without inflationary condition.

These can be achieved through technological advancement, manpower development, free trade agreement and infrastructural development.

1. Progressive tax structure and social welfare programme

Progressive tax structure that will be able to induce work effort and innovation to raise production and economic growth rate and a distributive social welfare programme that encompasses the different sectors of the society and ensure distribution of economic benefits will be dimensional.

1. Promotion of high economic growth rate

Technological development to promote high growth rate by focusing on high-valued production will help the economy to attain high tax revenue to enable to conduct their distributive social welfare programme.

 4. Distribution of economic benefits

It is imperative that the countries can create channels of distribution of economic benefits to be distributed to different segments of the economic benefits like having a high level of employment.

**Other types of growth**

**1. Inclusive growth**

- meaning of inclusive growth

- how is inclusive growth achieved

🡪 taxation + income redistribution

🡪 manpower training [raise income level of low-skilled workers]

🡪 infrastructural development [raise quality of life]

- why it is economic growth important to Singapore

**2. Government-based growth**

- implementation of infrastructural development and social policies like manpower development

- helps to build the facilities and amenities to support trade and investment – raises efficiency to promote trade and investment – smoothen trading and production activities

- help to improve the amenities for the people to raise their standard of living – make their lives more comfortable and convenient

- may induce employment at this early phase of economic development – setting foundation of growth

**3. Export-driven economic growth**

- meaning of export-driven growth

- benefits of export-driven growth

- hindrances that undermine export-driven growth

**4. Consumption-driven growth**

Meaning of consumption-driven growth

(Link to Us and developed nation)

- how is consumption driven growth attained

- factors that will affect the effectiveness of consumption driven growth

-benefits of consumption driven growth

- benefits of consumption driven growth

**1 Meaning of inclusive growth (definition)**

Inclusive growth is economic growth that is distributed fairly across society and creates opportunities for all.

**2 Means to measure inclusive growth**

**2.1 Gini-coefficient ratio-meaning**

The Gini index or Gini coefficient is a statistical measure of distribution of economic inequality, measuring income distribution or, less commonly, wealth distribution among a population. The coefficient ranges from 0 (or 0%) to 1 (or 100%), with 0 representing perfect equality and 1 representing perfect inequality.

**2.2 Employment**

The unemployment rate is another measure of inclusive growth. Inclusive growth requires the maintenance of full employment as the economy expands. If the economy grows while maintaining a high unemployment rate, it means that there is a widening income distribution as the high-income workers are receiving higher wages while the poor remain unemployed. As such, inclusive growth involves a reduction of the unemployment rate.

**2.3 Degree of economic diversification and integration**

We can also measure inclusive growth by the degree of the spectrum of industries in an economy. Inclusive growth involves developing a broad spectrum of industries, reducing the country’s dependence on one sector of the economy. Developing different industries also diversifies the structure of employment, provides more job opportunities for workers in the economy who have various skills suited for different industries.

Inclusive growth also involves deepening the depth of industries. A deeper depth of industries can also lead to a lower level of unemployment due to more job opportunities created in a single industry. For example, China has very large depth industries which provide many jobs in each industry. Around 100 million workers are employed in China’s manufacturing industry while its financial industry provides 2.28 million jobs. Having a deeper depth of industries will also increase the competitiveness of that industry.

A broad spectrum and large depth of industries increases the degree of economic distribution and incentive for growth, creating more employment in the economy.

**3 Significance of inclusive growth**

**3.1 Equal distribution of income**

Inclusive growth ensures that the fruits of economic growth are enjoyed not only by high-income workers but also low-income workers. As such, all workers in the society will experience a rise in their incomes, ensuring an equal distribution of income.

**3.2 Price stability**

Inclusive growth involves an increase in the productive potential of the economy, through manpower development or technological improvements. As such, this ensures that the price level does not inflate even as aggregate demand rises, ensuring price stability and sustained economic growth.

**3.3 Low unemployment**

Sustained economic growth stimulates the demand for labour, leading to the creation of jobs and reducing unemployment in the economy.

**3.4 Creation of an affluent consumer base**

Inclusive growth creates a large and affluent consumer base. When higher incomes are generated, consumers purchasing power will increase, causing an increase in consumption spending. This leads to consumption-led growth for the economy.

**3.5 Sustain competitiveness**

Inclusive growth can also help a country to sustain competitiveness in the international market. Having a wide spectrum of industries will enable a country to compete in a variety of markets. This can help the country to sustain its competitiveness in a developing world and ensures that the country is not limited to one industry only.

**3.6 Improved SOL (material and non-material)**

Inclusive growth can also lead to improvements in the country’s standard of living in both material and non-material aspects. With higher incomes, consumers are able to spend more on goods and services to improve their material SOL. Governments are also able to collect higher tax revenues and use the revenue to improve public provision of merit goods such as education and healthcare, and also improve public infrastructure. This will improve the non-material SOL where people are able to enjoy a more comfortable lifestyle with better public facilities.

**4 Measures to achieve inclusive growth**

**4.1 progressive tax plus subsidies**

To achieve inclusive growth, the government can introduce a progressive tax and subsidies for the lower-income group. A progressive tax is a tax that imposes a lower tax rate on low-income earners compared to those with a higher income, making it based on the taxpayer's ability to pay. The government can then use this tax revenue earned to give as subsidies to the lower-income group. This will help to distribute the economic benefits from economic growth and tackle the unequal distribution of income.

**4.2 expansionary FP/MP to raise employment**

Expansionary fiscal policy and monetary policy can also be introduced to raise employment. Expansionary fiscal policy involves an increase in government expenditure to increase aggregate expenditure directly through infrastructure development and provision of public services. Expansionary fiscal policy can also involve a tax reduction which increases disposable income and purchasing power, thereby increasing consumption spending and AD. Tax reduction also increases return to investment as there is lower tax on corporate earnings, which prompts businesses to increase their investment spending and increase AD.

An expansionary monetary policy on the private sector can also be implemented. This involves cutting interest rates in the economy which makes it cheaper to borrow. This encourages firms to invest and consumers to spend, which increases the overall demand in the economy.

These increases in AD will lead to the creation of more jobs and an increase in employment in the economy.

**4.3 supply-side policies focusing on infrastructural development (non-material SOL) /manpower development**

Supply-side policies concerning infrastructure and manpower development can also be introduced to enable economic distribution of wealth. The government can introduce supply side policies such as skills retraining and education to help to cultivate a more knowledgeable and skilled workforce. Skills development of workers overcomes the skill incompatibility and displacement of workers which helps low-income workers to break out of the cycle of low-paying jobs.

Infrastructure development involves building up new facilities will attract more investment and raise the productivity of the economy. When infrastructure is developed, it can reduce the immobility of resources which will increase the efficiency of industries and lead to economic growth and higher incomes. With better infrastructure, there is also an improvement in the non-material SOL due to increased convenience of life.

4.4 trade diversification for SG → overcome limitations of market dd → policy to focus high-valued employment → high wage → increase SOL

The Singapore government can adopt trade diversification to overcome the problem of limited market demand.

**4.5 investment-driven policies → increase AD/AS**

Investment-driven policies can be adopted to achieve sustainable growth by increasing AD and AS.

**Question for discusssion**

Consider the significance of investment-friven growth