Edexcel

AS Level

Econ

(Code: WEC13 01)

Unit 02

Section 05 – Economic growth

Chapter 35 – Causes of economic growth and output GAPs

ACTUAL GROWTH

Economies change in size over time. For example, the Chinese economy doubled the value of its production roughly every seven years between 1990 and 2010. The UK economy has seen its production grow at an average of 2.5 per cent per annum for the past 60 years.

Growth in the quantity of goods and services produced is measured by the percentage change in real GDP. This is actual growth. For example, Brazil's real GDP contracted by 3.6 per cent in 2016; so its economic growth rate was -3.6 per cent. This means Brazil's output fell by 3.6 per cent over 2016.

Actual growth means that real output has increased. It therefore also means that spending in the economy, or aggregate demand, has increased since national output must equal national expenditure. In turn, this means that the overall total of C+I+G+X-M has increased.

FIGURE 1

Positive actual growth 1

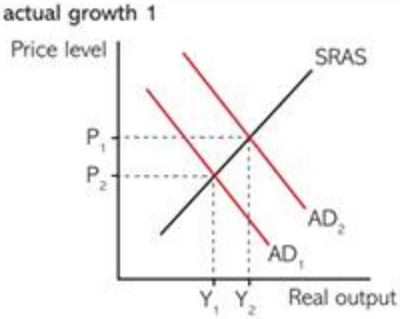
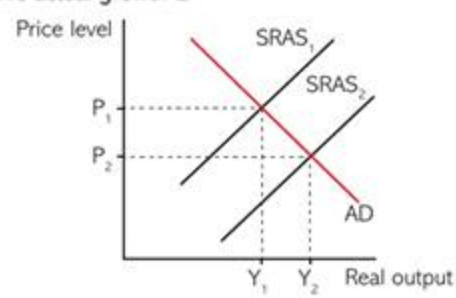


FIGURE 2

Positive actual growth 2



Some economies rely heavily on international trade to achieve actual growth. For example, China and Germany are often used as examples of economies that run high current account surpluses. For these economies, net trade (exports - imports) is a significant component of aggregate demand. If exports rise for any economy, then this will cause **export-led growth**. An over reliance on export-led growth is likely to cause problems when there is a **downturn** in the global economy. This is because a recession in one economy, with falling national income, means import spending will fall in that economy. This therefore means the demand for another economy's exports will fall.

POTENTIAL GROWTH

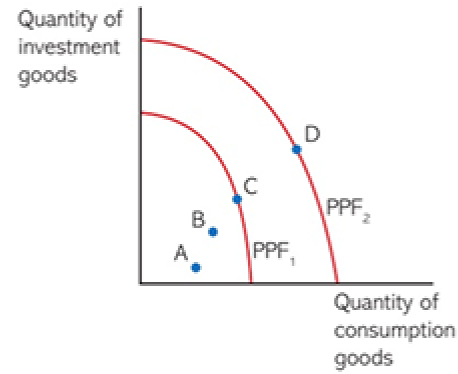
Potential growth measures the increase in the productive capacity of an economy over a year. It directly links with the **production possibility frontier** (PPF) and how much the **productive potential** of the economy is increasing over time. Potential growth means the PPF is shifting to the right. The maximum potential output of the economy is increasing. The productive potential is determined by the factors of production available to an economy, such as labour and capital. The productive potential of an economy is also shown by the **long-run aggregate supply (LRAS)** curve. Potential growth is shown by a shift to the right of the PPF and the LRAS curve.

In Figure 3 the movement from C to D shows potential growth. In this case the productive potential of the economy has increased because the economy has increased its maximum output over a period of time. The productive potential of an economy can only increase if more factors of production become available to an economy or more efficient methods can be used, or a combination of the two. An increase in potential growth does not necessarily mean there has been any actual growth. Additionally, actual growth does not necessarily mean there has been an increase in potential growth.

A PPF can also be used to show the conflict between investment and consumption. One major source of potential economic growth is investment. All other things being equal, the greater the level of investment, the higher will be the rate of potential growth. However, increased production of investment goods can only be achieved by a reduction in the production of consumption goods if the economy is at full employment.

FIGURE 3

Potential growth



TREND GROWTH RATE

The stock market may crash, perhaps if stock market prices are too high. A stock market crash reduces the wealth of individuals who are then likely to reduce their spending and save more to rebuild their wealth. This reduces aggregate demand, causing recession.

CAUSES OF FLUCTUATIONS IN SHORT- RUN GROWTH RATE

There are many different reasons why the short-run rate of growth of real GDP may vary around its long- term trend. But they can be classified into two main types: demand-side shock and supply-side shock. Demand-side shocks are shocks that affect aggregate demand. Examples of demand-side shocks include the following.

• A housing market bubble may burst. This occurs when house prices rise to too high a level and suddenly there is a collapse in demand for housing and a sharp fall in house prices. This reduces consumer confidence, leading to less consumer spending and few new houses being built, which affects output and employment.

• The stock market may crash, perhaps if stock market prices are too high. A stock market crash reduces the wealth of individuals who are then likely to reduce their spending and save more to rebuild their wealth. This reduces aggregate demand, causing recession.

• The central bank may sharply raise interest rates, perhaps to combat rising inflation. This reduces consumer spending on durables and investment spending, sending the economy into recession.

• The government may sharply raise taxes or cut government spending, perhaps to address rising inflation or balance its budget. This leads to lower aggregate demand and a recession.

• The world economy may go into recession, hitting an economy's exports sharply and so sending the economy into a recession too.

• There may be a sharp rise in the value of a currency against other currencies. This reduces the competitiveness of the economy, sending exports down and imports up. The subsequent fall in aggregate demand sends the economy into recession.

Supply-side shocks are shocks that affect aggregate supply. Examples of supply-side shocks include the following.

• A large rise in world commodity prices could both raise the price level in an economy and lead to a rise in import values if demand for the commodity is price inelastic. The rise in import costs will reduce aggregate supply, leading to lower output.

• An increase in trade union activity could see large wage increases that will raise the price level substantially and reduce aggregate supply, leading to recession.

THE OUTPUT GAP

The difference between the actual level of real GDP and its estimated long-term value at a point in time is known as the **output gap**.

The economy is operating inside the PPC. Actual output is less than what the economy could produce at full capacity. A negative output gap means there is **spare capacity**, or slack, in the economy due to weak aggregate demand. A positive output gap exists when the economy is operating beyond full capacity. This can only be achieved in the short run, since that level of production could not be sustained in the long run. For example, workers may be taking on unsustainable extra hours at work or machinery will be over used.

Output gaps are a significant issue in economic systems, affecting factors of production and unemployment. A negative output gap indicates underutilization of production, weak demand, and potential deflation. Conversely, a positive output gap indicates overutilization of production, leading to rising demand-pull and cost-push inflation. The size of output gaps can significantly impact the economy. An example is a positive output gap in the economy of Y_1, Y2, which can be filled through long-term economic growth or a recession.

FIGURE 4

The output gap
The trend rate of growth of GDP is similar to the growth in productive potential of the economy. When actual GDP falls below this or rises above it, there is said to be an output gap. When actual GDP growth falls below this, there is a negative output gap. When actual GDP growth rises above it, there is a positive output gap.

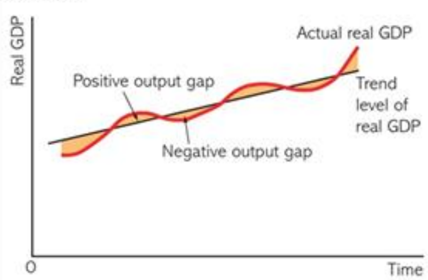


FIGURE 5

A positive output gap
The positive output gap is Y_1Y_2, shown by the difference between the actual level of output of Y_2 and the long-run potential output of the economy at Y_1.

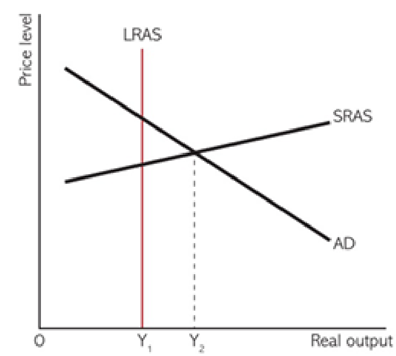
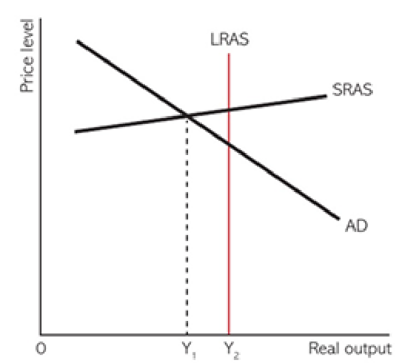


Figure 6 shows negative output gap. LARS is to the right of the short run equilibrium output level of OY_1

FIGURE 6

A negative output gap
The negative output gap is Y_1Y_2, shown by the difference between the actual level of output of OY_1 and the long-run potential output of the economy at OY_2.



DIFFICULTIES IN MEASURING OUTPUT GAPS

The size of an output gap is challenging to estimate due to uncertainty in the LRAS curve's position. For instance, the UK's recession between 2008 and 2013 led to revised estimates for long-run economic growth. Initial GDP estimates are often inaccurate, and GDP figures are constantly revised. Some economists argue that output gaps are too difficult to measure for economic policy purposes.

HYSTERESIS

Figure 8 might suggest that there is little cost associated with variations in the level of activity.

Output lost in a recession is regained during a boom, leaving the economy no better or worse off in the long term. However, there are possible other costs.

• Those made unemployed during a recession, however mild, suffer a loss in their income even if the majority of workers are unaffected.

• Those on fixed incomes suffer in a boom if inflation rises. Their spending power is reduced because of higher prices.

• Some economists argue that in a deep recession, economies do not bounce back to their previous trend level of growth. This is an example of **hysteresis**. Instead, the economy remains at a lower level of output, though still growing at its previous trend rate. In Figure 8, the economy starts off on a trend growth path of AA. However, a deep recession with its slump at OR means that the economy only booms at a level consistent with a lower growth path of BB. The economy then suffers another deep recession with a slump at OS. The trend line of growth shifts down to CC.

FIGURE 8

Hysteresis

The trend rate of growth of an economy can shift downwards if there is a deep recession because of permanent losses of human and physical capital.

THE CAUSES OF POTENTIAL GROWTH

Variations in the level of real GDP around the trend rate of growth are caused by demand- and supply- side shocks. However, what explains increases in the productive potential of the economy over time?

All economists would agree that an increase in LRAS supply will increase the potential level of output in an economy. LRAS can increase if there is an increase in the quantity or quality of the inputs to the production process. Output can also be increased if existing inputs are used more efficiently.

An increase in productivity will therefore increase long-run economic growth. This can be expressed in terms of a production function:

Output = *f* (land, labour, capital, technical progress, efficiency)

Each of these factors will now be considered.

LAND

Different countries possess different types and amounts of land. Land in economics is defined as all natural resources, not just land itself. Some countries, such as Saudi Arabia, have experienced large growth rates almost solely because they posess rich natural resources. Without oil, Saudi Arabia today would almost certainly be a poor developing country.

LABOUR

Economic growth is likely to occur if there is either an increase in the quantity of workers in the economy or there is an increase in the quality of labour.

Growth in the size of the labour force can result from changes in the birth rate, increases in participation rates and increases in immigration.

Changes in demography Today's birth rate has a knock-on effect on the size of the labour force in 20 years' time. Countries that have a high birth rate, such as many African countries, have increasing numbers of workers. In Europe, the birth rate has been relatively low in recent years. This has reduced the size of the current labour force from what it would otherwise have been.

Changes in participation rates Participation rates are the proportion of the population of a certain age who are either in work or seeking work. Increases in the proportion of young people staying on in education have reduced the size of the labour force over the past few decades for many economies. At the opposite end of the age range, two contradictory forces have been at work. More workers can afford to take early retirement, particularly in high income countries, than 30 years ago. In contrast, the pushing up of the state pension age in countries such as the UK is seeing a growing number of workers work beyond the traditional ages of retirement for men of 65 and women of 60. Lastly, more and more women have entered the labour force in many economies, encouraged by higher wages, better childcare arrangements and more labour saving devices in the home.

Immigration A relatively easy way of increasing the labour force is to employ migrant labour. For example, according to an OECD report 2017, G20 countries population increased by 10 million between 2010 and 2015 due to net migration, which is at its highest level since the early 1950s.

• Workers need to be sufficiently educated to cope with the demands of the existing stock of capital. For instance, it is important for lorry drivers to be able to read, personal assistants to use computer software and shop workers to operate tills. These might seem very low-grade skills but it requires a considerable educational input to get most of the population up to these elementary levels.

• Workers need to be flexible. On average in the UK, workers are likely to have to change job three times during their lifetime. Increasingly workers are being asked to change roles within existing jobs. Flexibility requires broad general education as well as in-depth knowledge of a particular task.

• Workers need to be able to contribute to change. It is easy to see that scientists and technologists are essential if inventions and new products are to be brought to the market. What is less obvious, but as important, is that every worker can contribute ideas to the improvement of techniques of production. An ability of all workers to take responsibility and solve problems will be increasingly important in the future.

DOMESTIC INVESTMENT

Domestic investment refers to investment by domestic firms, or the government of an economy, on capital goods. The stock of capital in the economy needs to increase over time if economic growth is to be sustained. This means that there must be sustained investment in the economy.

FOREIGN DIRECT INVESTMENT

Foreign direct investment (FDI) can drive economic growth by injecting money into the circular flow of income and increasing aggregate demand. It also introduces new technology and management practices, leading to better training for local workers and spillover effects into the economy. This is particularly beneficial for developing countries, as it increases capital and labor productivity. However, if FDI destroys local competition, its impact on potential growth may be limited.

INNOVATION

Innovation is also a driver of potential growth. **Product innovation** is the creation of new or better products. **Process innovation** is when more efficient methods for producing goods and services are developed. Process innovation will increase productivity, so the PPF shifts outwards. The creation of new ideas will encourage firms to invest in new technology.

EFFICIENCY AND COMPETITION

The use of production factors is crucial for economic growth, with increased efficiency leading to increased output. In a market economy, competition promotes efficiency, and government policies like privatization, deregulation, and patent protection encourage innovation. However, markets can fail, and the government may intervene to address market failure. Some countries, like France and Germany, are more likely to intervene in markets than others. In low- and middle-income economies, many features of a functioning market economy may be missing, leading to inefficient resource combination.

THE IMPORTANCE OF PRODUCTIVITY FOR THE RATE OF ECONOMIC GROWTH

Actual economic growth, with no corresponding potential growth, will push production closer to the PPF. However, once the economy is operating close to its productive potential, an increase in aggregate demand can no longer cause any significant increases in real GDP. The economy might experience a positive output gap in the short run, but, in the long run, real GDP is limited by the position of the LRAS. High growth rates can now only be achieved if the PPF is shifting outwards (LRAS shifting to the right). One of the key drivers of potential growth is an increase in productivity.

AGGREGATE DEMAND

Many economists argue that aggregate demand can also affect the long-run growth rate of an economy. For example, over the past 70 years, many politicians and economists in the UK have recommended export- led growth. They have seen the success of Germany, Japan and China and linked that to the strength of their exports. A rise in exports will initially increase aggregate demand rather than aggregate supply.

FOUR DISTINCTIONS

Economic growth is typically measured by the rate of change of output or GDP. When measuring GDP, four important distinctions should be made.

• Economic growth is typically measured by the rise in the output of goods and services over time. Economic growth is changes in **real GDP** and not changes in **nominal GDP**, which also includes increases in prices. Real GDP over time has to be measured using one year's prices.

• Real GDP is a proxy measure used to represent the volume of goods and services produced. It is equal to the quantity produced in an economy. The value of goods and services produced is volume times the average price. So a proxy measure of the volume of goods produced can be calculated by taking the nominal value of GDP and dividing it by the price level.

• Total GDP is the total amount of GDP produced in an economy. However, when comparing living standards, it is often more important to compare GDP per capita or total GDP divided by the size of the population. Similarly, growth in GDP per capita, which takes into account both change in GDP and the change in population, is often more useful when comparing living standards than simply using growth in total GDP.

• Falling economic growth does not mean that the level of real GDP itself is falling. A falling rate of growth simply means that GDP is not rising as fast as before. So it is very important to distinguish between the level of GDP and the rate of growth of GDP. Only if the rate of growth of GDP became negative would GDP be falling.

SUBJECT VOCABULARY

actual growth economic growth as measured by recorded changes in real GDP over time.
demand-side shock a sudden and large impact on aggregate demand.
downturn a period when either economic growth or GDP itself is falling.
economic growth a rise in output in an economy that can be either actual growth or potential growth.
export-led growth a rise in aggregate demand caused by a rise in exports.
foreign direct investment flows of money between countries where one firm buys or sets up another firm in another country.
GDP per capita GDP divided by the number of people in the population. GDP per capita is GDP per person.
hysteresis the process whereby a variable does not return to its former value when changed. In terms of the trade cycle, it is used to describe the phenomenon of an economy failing to return to its former long term trend rate of growth after a severe recession.
LRAS (long-run aggregate supply) shows the productive potential of an economy.
nominal GDP GDP valued at current prices (i.e. GDP unadjusted for the effects of inflation)
output gap the difference between the actual level of GDP and the productive potential of the economy. There is a positive output gap when actual GDP is above the productive potential of the economy and it is in boom. There is a negative output gap when actual GDP is below the productive potential of the economy.
production possibility frontier (PPF) a curve that shows the maximum potential level of output of one good, given a level of output for all other goods in the economy.
productive potential the maximum output of an economy at a point in time if all its resources are fully and efficiently utilised.
potential growth economic growth as measured by the changes in the productive potential of the economy over time.
process innovation when more efficient methods for producing goods and services are developed.
product innovation the creation of new or better products.
real GDP GDP valued at constant prices (i.e. GDP adjusted for inflation).
spare capacity for a whole economy, this exists when long-run aggregate supply is greater than aggregate demand and so there is a negative output gap.
supply-side shock a sudden and large impact on aggregate supply.
trend rate of growth the long-run average rate of growth of the productive potential of an economy over time.

Chapter 36 – the benefits and costs of economic growth

ECONOMIC GROWTH

The world economy has experienced significant economic growth in the last 50 years, with developed countries like the UK and China experiencing significant growth. Despite the poverty of many in China, many are adopting Western lifestyles. The importance of economic growth is evident in Table 1, which shows MYR 100's growth over time at different rates.

Year	Annual growth rates				
	1%	2%	3%	4%	5%
0	100	100	100	100	100
5	105	110	116	128	161
10	110	122	134	163	259
25	128	164	209	339	1084
50	164	269	438	1147	11,739
75	211	442	918	3883	127,189
100	271	724	1922	13,150	1,378,061

▲ Table 1 compound growth rate of MYR 100 over time

THE BENEFITS OF ECONOMIC GROWTH

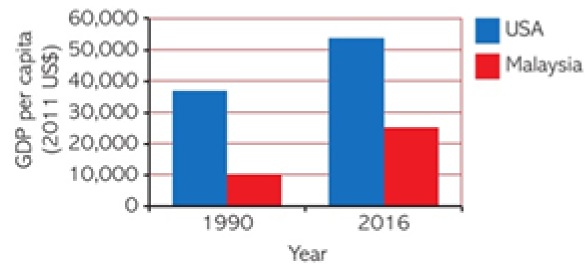
Economic growth can significantly improve living standards and overall well-being. In Malaysia, real GDP per capita increased by 5.5 times between 1990 and 2016, indicating that citizens are over 5.5 times better off. This growth is compared to the average US citizen, who was 3.5 times better off in 1990. As income increases, life expectancy, education standards, health, and housing standards also improve, leading to better overall living conditions and promoting further growth. Overall, economic growth has a positive impact on individuals and society.

GROWTH IS UNSUSTAINABLE

Anti-growth arguments argue that growth is unsustainable, as it could lead to a decline in the economy's productive potential for future generations. However, economic theory suggests that the future may not be as hopeless as this analysis suggests. In a market economy, growing scarcity of resources leads to a rise in prices, which can result in conservation, exploration for new resources, and substitution products. For example, electric or hydrogen-powered cars may replace vehicles powered by scarce and polluting oil within the next 50 years. This suggests that the future may not be as hopeless as initially thought.

FIGURE 1

US and Malaysian GDP per capita, constant 2011 US$, 1990 and 2016



INCREASING INEQUALITIES

Economic growth has been argued to increase income and wealth inequalities, with Karl Marx's view that workers would live on subsistence wages while capital owners would benefit. However, the 20th century in rich countries like the UK and the USA showed a narrowing of income differences between developing and rich western countries. Many developing countries are now targeting growth rates of 5-6%, while the developed world aims for 2.5%. In the UK and USA, inequalities have been growing in recent years, with the average worker experiencing almost no income growth over the past 25 years. This is due to global competition for jobs and the supply of new immigrant labor. However, some economies have experienced a decrease in inequality, as seen in Malaysia's income inequality.

GROWTH AND HAPPINESS

Economists argue that higher incomes do not necessarily lead to increased happiness. The Easterlin Paradox suggests that while increasing GDP can improve well-being when basic needs are met, it doesn't necessarily lead to increased happiness in the long term. Instead, governments should focus on factors contributing to happiness, such as improving human relationships, reducing work hours, ensuring adequate healthcare, and providing a minimum income for all citizens.

THE ANTI-GROWTH LOBBY

One point to note is that supporters of the anti-growth lobby tend to be people who are relatively rich. Cutting their consumption by 25 per cent, or producing environmentally friendly alternative technologies, might not create too much hardship for them. However, leaving the mass of people in the developing world today at their present living standards would lead to great inequality.

THE IMPACT OF ECONOMIC GROWTH

The impact of economic growth is felt by a number of different groups and on different issues. There are costs and benefits that arise from economic growth.

Consumers Economic growth should allow households to see rising incomes over time. They can then afford to buy more goods and services. These households will experience higher living standards. However, if the economic benefits of economic growth are received by only the richest in society, then average households will see no gain.

Firms Economic growth may provide opportunities for existing firms to increase sales as buyers have rising incomes. Many firms will be able to make higher profits. These extra profits can be retained by the firm to fund investment or distributed to the owners. If investment rises, then this will help to support further actual and potential growth.

The government Rising incomes means that government tax revenues should rise. Rising private sector spending also tends to lead to demands for similar rises in public sector spending. After all, if consumers are going on more holidays, buying more computer equipment or going out to restaurants more often, they also want to see better education for their children, better roads on which to drive their cars or better healthcare for themselves. So the quality of public services and infrastructure should improve.

The environment In rich developed countries, economic growth is likely to lead to less pollution and a cleaner environment. Economic actors are likely to spend on technologies and projects to improve the environment. In developing countries, growth in primary and secondary industries is likely to increase pollution and damage the environment.

The economy Growth in GDP results in a larger economy. The possible impact on consumers, firms and government has already been described. In terms of jobs, growth may result in more jobs being created or there may be fewer if existing workers become more productive.

Current and future living standards the impact of economic growth on living standards depends on who receives the benefit of that economic growth. If it is only the richest in society, then it will have no impact on most households. However, in developing countries, everyone in society is more likely to benefit from economic growth. The debate about the link between rising GDP and living standards must also be considered. The weaker the link, the less economic growth will benefit households and individuals.

OPPORTUNITY COSTS OF GROWTH

Potential growth refers to the change in an economy's productive potential over time, requiring an increase in factors of production. However, there may be a conflict between consumption and investment. If an economy focuses on capital goods production, it may divert resources away from consumer goods, resulting in lower short-term living standards. However, in the long run, the opportunity cost of growth will shift to the right.

Revision questions