

**CCEA GCE Economics**  
**Diagram Bank**  
AS 2: The National Economy





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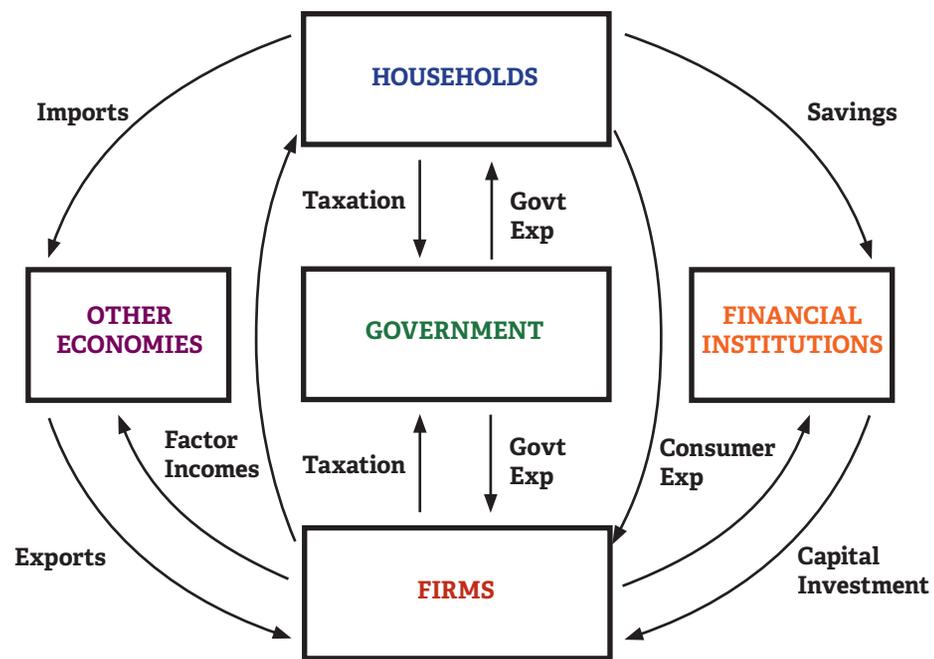
## **Introduction**

Diagrams are an essential tool of the economist's trade. They can assist explanation by helping to illustrate and simplify quite complex ideas. They can also allow us to quickly analyse the effects of changes in situations or variables.

The following is a selection of diagrams that illustrate key concepts from the CCEA AS 2 Economics unit on The National Economy. The diagrams included are not intended to be exhaustive or prescriptive. Teachers and students are free to supplement or amend these diagrams to suit their own teaching and learning requirements.

Each diagram is accompanied by a brief explanation and an exercise which provides students with an opportunity to apply some aspect of the economic theory illustrated in the diagram.

## Diagram 1: The Circular Flow of Income and Expenditure



### Explanation

The diagram shows that income flows from firms to households in return for factor services. Households then spend some of this income on goods and services.

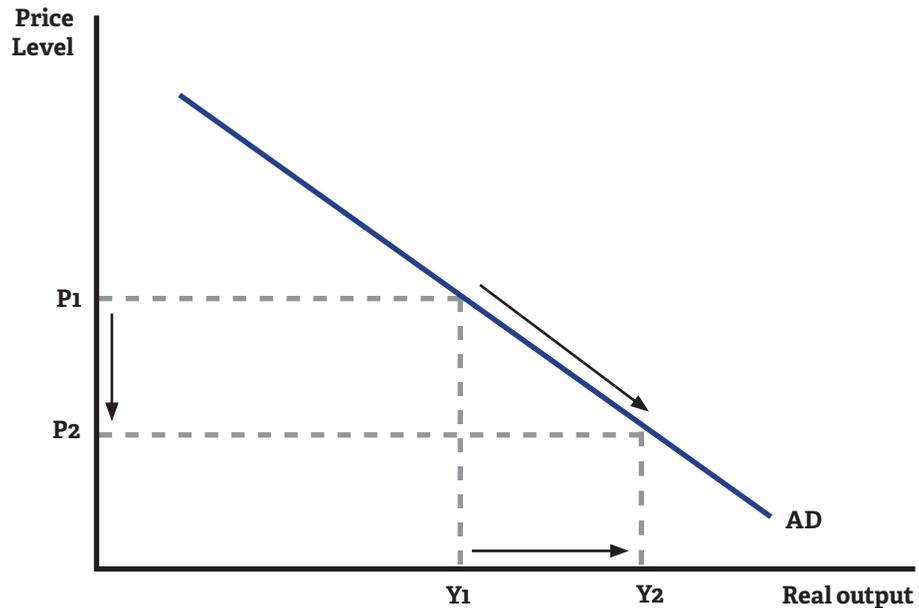
A proportion of the income will leave the circular flow in the form of **withdrawals** or **leakages**. Savings are directed to financial institutions, taxes go to the government and spending on imports of goods and services goes to firms outside the country.

The flow of income is also added to through **injections**. The government spends money on goods and services, firms borrow money from financial institutions or use some of their profits to pay for capital investment and some goods and services are sold to consumers and firms from abroad in the form of exports.

### Exercise

Explain what will happen to the circular flow of income if leakages exceed injections.

## Diagram 2: The Aggregate Demand (AD) Curve



### Explanation

The AD curve plots the level of aggregate demand against the price level. It slopes downward from left to right showing that at lower price levels, there will be higher levels of aggregate demand for any given level of income. The curve slopes downward from left to right because the level of real prices affects the level of planned spending.

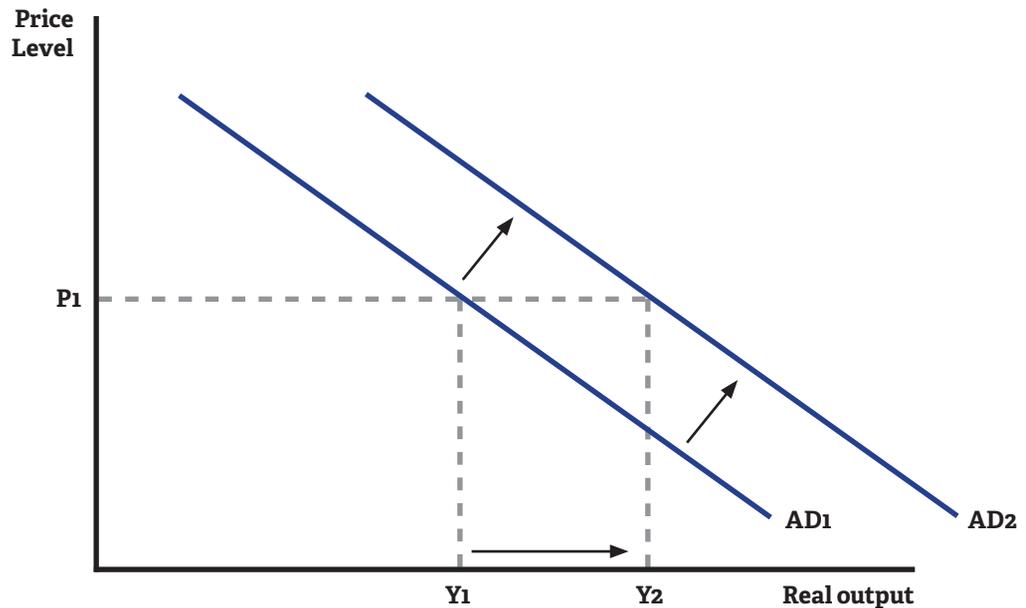
- As the real price level falls, people have more real income and are able to afford more domestically produced goods and services.
- As the prices of domestically produced goods and services fall, other things being equal, foreign produced goods and services become relatively less attractive and the level of imports will fall and the level of exports will rise.
- If prices fall, the value of money rises. This means that there is a decrease in the demand for money by people and firms to pay for any given level of goods and services. As some of this expenditure was financed by borrowing, a decreased demand for borrowed funds tends to cause a fall in interest rates. When interest rates fall, saving becomes relatively less attractive and financing consumption or investment through borrowing becomes cheaper and more attractive.

A change in the price level therefore causes a **movement along** the aggregate demand curve.

### Exercise

On the above diagram, show the effect on aggregate demand of a rise in the price level from  $P_1$ .

## Diagram 3: Shifts of AD curves



### Explanation

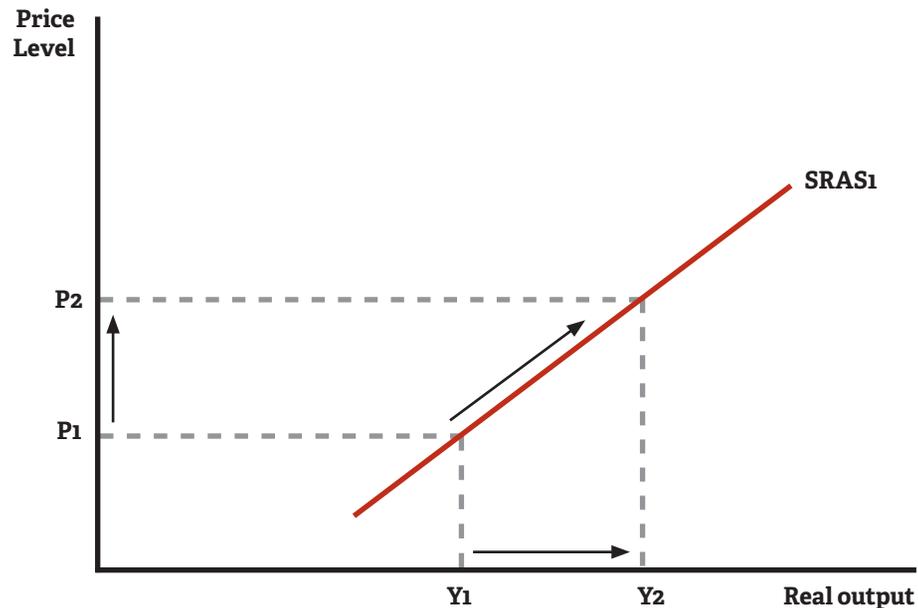
Any factor which causes any of the components of aggregate demand to increase or decrease independently of the price level will cause a shift of the aggregate demand curve. Any such factor which causes aggregate demand to increase will **shift** the aggregate demand curve to the right showing that more output will be demanded at any given price level; any factor which causes aggregate demand to decrease will cause the curve to shift to the left showing that less output will be demanded at any given price level. Some of the factors which may cause shifts of the AD curve are listed below.

- Changes in consumer and business confidence.
- Wealth effects: consumer expenditure tends to be influenced by the value of their stock of assets such as property and shares.
- Inflationary expectations.
- A change in interest rates will affect the cost of borrowing and influence consumer and business expenditure.
- Government fiscal policy: changes in taxation or government spending
- International trade: changes in the level of imports and exports.

### Exercise

Starting from AD1 in the above diagram, illustrate a decrease in aggregate demand.

## Diagram 4: The Short-run Aggregate Supply (SRAS) Curve

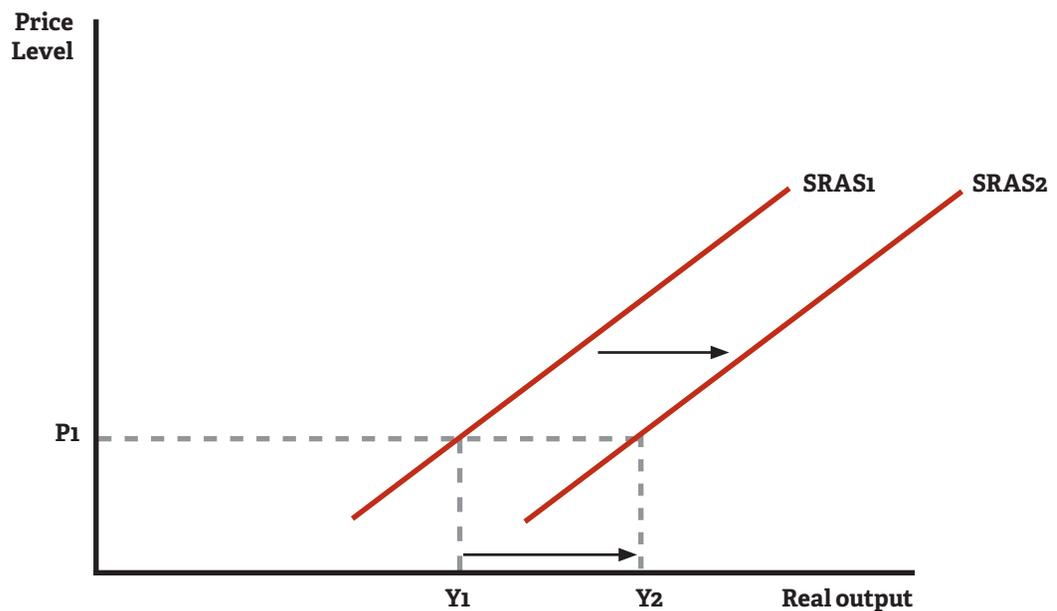


In the **short-run**, the aggregate supply curve shows total planned output at various price levels assuming that the prices and productivity of factors of production, for example, wage rates and the state of technology are constant. The short-run aggregate supply curve (SRAS) is assumed to be upward sloping from left to right as firms throughout the economy are prepared to supply greater outputs at higher prices because production is more profitable. A change in the price level therefore causes a **movement along** the curve.

### Exercise

On the above diagram, show the effect on short-run aggregate supply of a fall in the price level from P1.

## Diagram 5: Shifts of SRAS Curves



### Explanation

As with aggregate demand, a change in a factor other than the price level can cause the SRAS curve to **shift**. Such a shift may be brought about by changes in firms' unit costs of production.

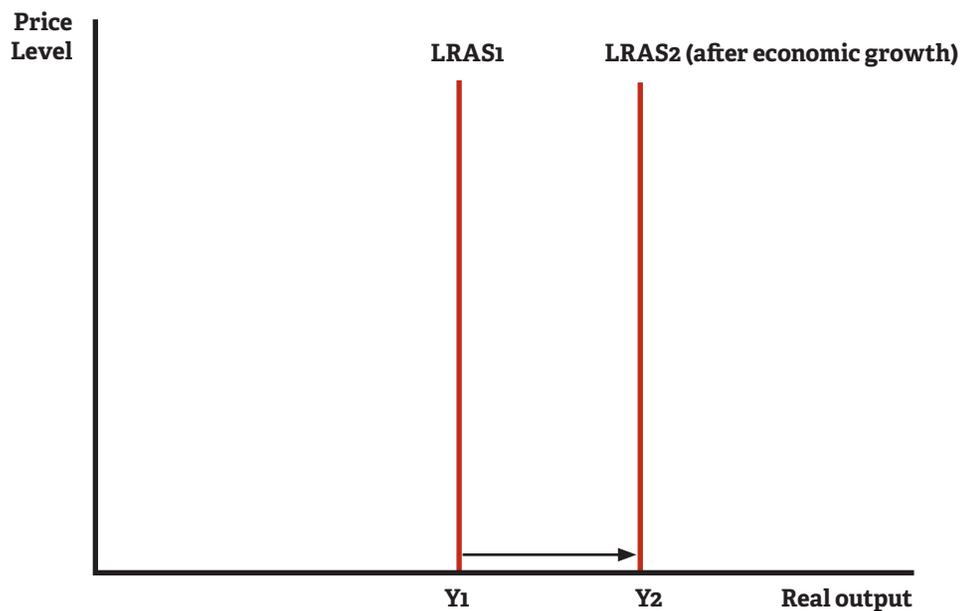
For example:

- a fall in wage rates or in the costs of raw materials or fuel, will reduce the level of prices needed to make any given level of national output profitable and lead to an increase in aggregate supply, that is, a shift of the curve to the right; or
- a change in business taxes or subsidies can have a similar effect - a fall in taxes or an increase in subsidies will lead to an increase in aggregate supply.

### Exercise

On the above diagram, show the effect on SRAS of a significant rise in the cost of imported raw materials.

## Diagram 6: The Long-run Aggregate Supply Curve (LRAS)



### Explanation

In the long run, aggregate supply is often assumed to be fixed regardless of the price level. This is because there must be some upper level on how many goods and services firms can supply. Once all the available labour, capital and land are employed, aggregate supply cannot be expanded even if rising prices may provide the incentive to firms to do so. An increase in aggregate supply (a shift of the aggregate supply curve to the right) can only be brought about if there is a change in the quantity or quality of economic resources available to producers. This may occur as a result of a number of factors.

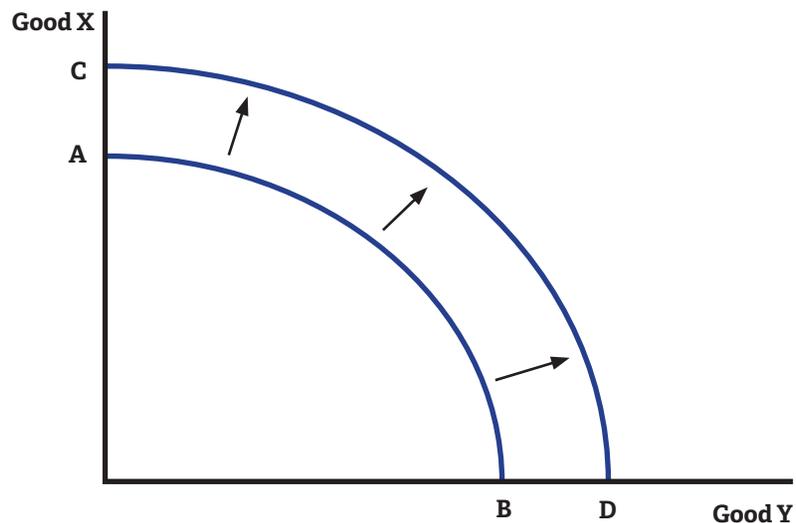
For example:

- an increase in the available labour supply as a result of greater incentives for people to look for and find work, or an encouragement for migrant workers from abroad to enter the labour market;
- improvements in productivity due to extra investment in education and training;
- improvements in the capital stock due to increased capital investment or research and development expenditure that results in the introduction of new technology; and
- more efficient businesses due to greater competition between firms.

### Exercise

Starting from LRAS1 in the diagram above, illustrate the effect of a decline in the nation's capital stock due to a fall in investment.

## Diagram 7: LRAS and the Production Possibility Frontier



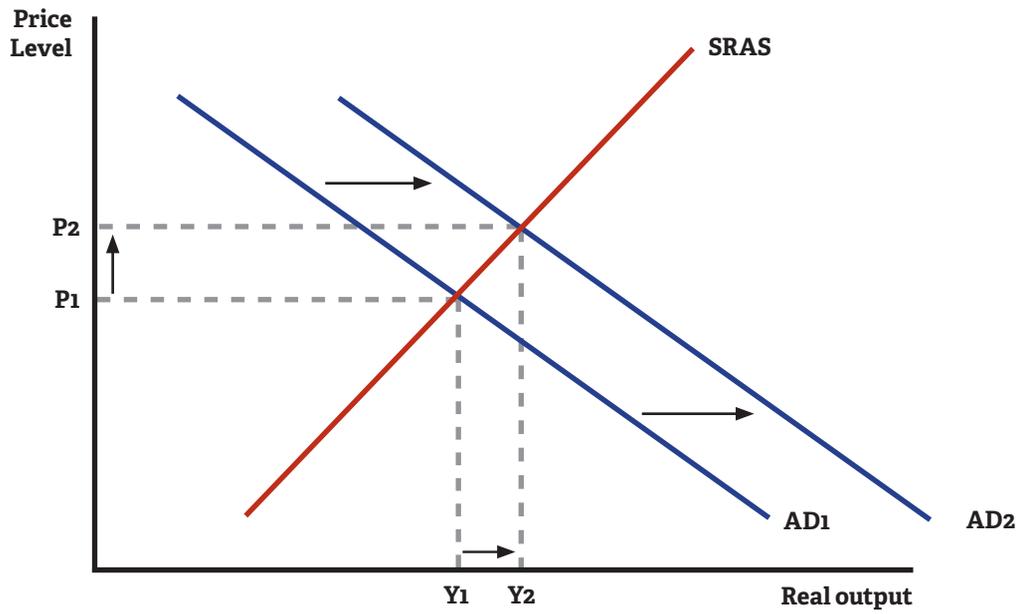
### Explanation

The long run aggregate supply curve is, in effect, another representation of the production possibility curve of the economy. They both show the potential output of the economy when all resources are fully utilised. An outward shift of the production possibility curve as shown in the diagram below is in effect showing the same thing as the shift to the right of the LRAS in the previous diagram. They both represent a growth in the potential output over time of the economy brought about by an increase in the quantity and or quality of economic resources.

### Exercise

On the diagram above, show the effect of an economic recession in which the long-run potential output of the economy shrinks.

## Diagram 8: Equilibrium National Output and Prices



### Explanation

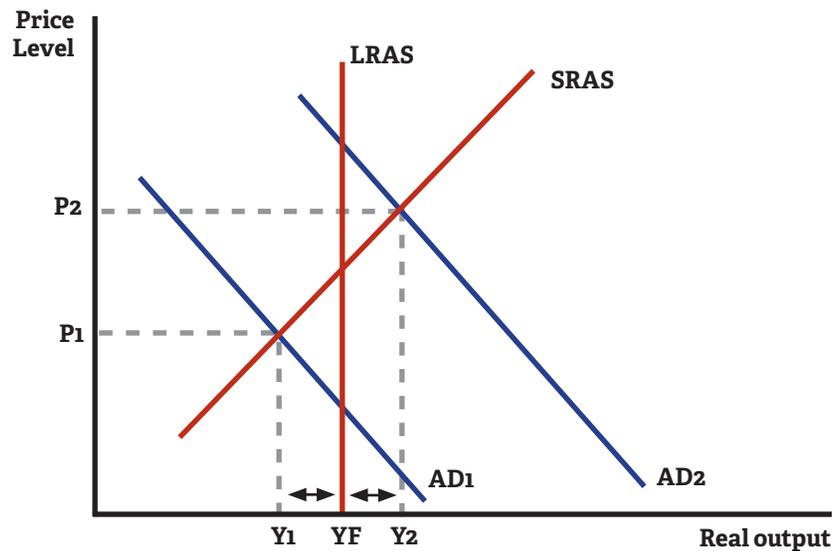
In the short run, equilibrium national income and output occurs where aggregate demand is equal to short run aggregate supply. Here, what producers are prepared to supply at the prevailing price level is equal to what the economy as a whole is prepared to demand. In such a situation, there is no reason for the price level to rise or fall.

If there is an increase or decrease in aggregate demand or supply, the short run equilibrium will be disturbed and the levels of prices, national output and income will change. For example, if the initial equilibrium is disturbed by an increase in aggregate demand brought about by a fall in interest rates, this will lead to an increase in the price level and the equilibrium level of output and income as shown in the diagram above.

### Exercise

On the above diagram, starting from AD1 and SRAS, show what would happen to the price level and real output if there was an increase in subsidies for businesses.

## Diagram 9: Output Gaps



### Explanation

The short run equilibrium may occur at a level of output that is below or above the economy's long run potential or full employment output. In these situations, an output gap is said to occur. This is the difference between the economy's actual and potential levels of output. It is often expressed as a percentage of the full employment level of output.

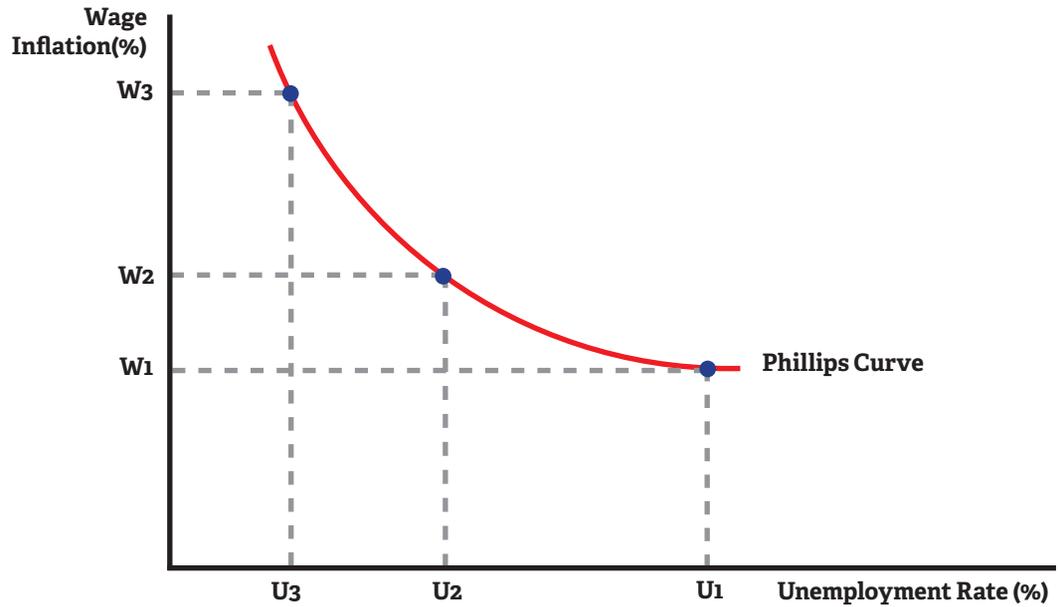
A negative output gap occurs when the short run equilibrium level of output and income is below the full employment level. In this situation, some economic resources will be lying idle and there is likely to be above a relatively high level of unemployment and downward pressure on prices. With AD1, the level of aggregate demand is insufficient to keep all resources fully employed in the short run and the equilibrium level of output and income occurs at  $Y_1$  which is below the long run full employment level of  $Y_F$ . There is therefore a negative output gap of  $Y_1 - Y_F$ . This will result in unemployed resources and a downward pressure on wages and prices, in the long run helping to move the economy back towards its full employment level of output and income.

A positive output gap occurs when the short run equilibrium level of output and income is above the full employment level and there are inflationary pressures. With AD2, the level of aggregate demand is above that needed to keep all resources fully employed in the short run and the equilibrium level of output and income occurs at  $Y_2$  which is greater than the long run full employment level of  $Y_F$ . There is therefore a positive output gap of  $Y_F - Y_2$ .

### Exercise

If there is a positive output gap in the short run, explain how the economy will move back towards its full employment level of output and income in the long run.

## Diagram 10: The Phillips Curve



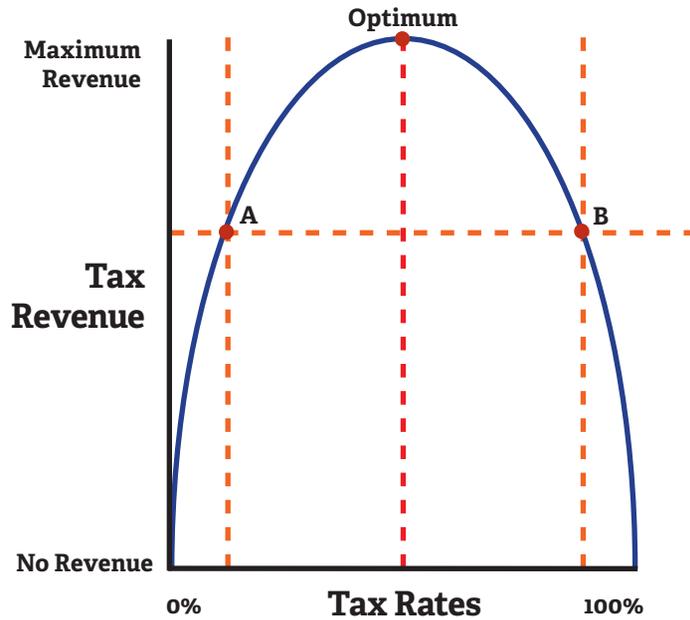
### Explanation

The Phillips Curve illustrates one of the potential trade-offs between economic policy objectives. As unemployment falls, this may result in increasing inflationary pressure on wages and prices. As aggregate demand for goods and services increases in the economy, this tends to lead to shortages of labour and wage rates rising as firms try to attract new employees and hold on to existing ones. These increased wage costs are then passed on to consumers in the form of higher prices. In the above diagram, when the unemployment rate (the percentage of the work force unemployed) is relatively high at U<sub>1</sub>, wage inflation (the annual percentage rise in the average wage rate) is relatively low at W<sub>1</sub>. If the unemployment rate falls to U<sub>2</sub>, this causes a movement along the Phillips Curve and wage inflation rises to W<sub>2</sub>. As unemployment falls to a very low rate at U<sub>3</sub>, this can only be achieved at the expense of a large rise in wage inflation to W<sub>3</sub>.

### Exercise

Illustrate how the Phillips Curve might be affected by long term supply-side changes that improve productivity.

## Diagram 11: The Laffer Curve



### Explanation

The Laffer Curve represents the relationship between marginal direct tax rates and tax revenue. At the two extremes, no tax revenue is raised. If no tax is levied, then obviously this brings in no revenue. At the other extreme, a tax rate of 100% would also bring in no revenue as nobody would be prepared to work, run a business, invest or sell assets if any extra income, profit, interest or capital gain was completely confiscated by the government. In theory, at some tax rate between 0% and 100%, there is an optimum which will bring in the maximum tax yield for the government. If this rate is exceeded, then an increase in the tax rate will actually reduce tax revenue. The Laffer Curve is sometimes used to justify a reduction in the marginal rate of taxation as a fiscal supply-side measure. If marginal tax rates are high, it is argued that a reduction in the rate will create an incentive effect that will lead to increases in income and the total amount of tax revenue.

### Exercise

If the government wished to maximise its tax revenue, explain what it should do in the two situations represented by points A and B.

In the above diagram, what is the optimum rate of taxation? Draw a new Laffer Curve, to represent a situation in which a 40% tax rate was the optimum.



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