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Economics Revision Focus: 2004

# AS Economics

## Aggregate Supply (AS)

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## Revision Focus on Aggregate Supply (AS)

### AS Syllabus Requirements

Candidates should be able to discuss the fundamental **determinants of long-run aggregate supply** such as **technology, productivity, attitudes, enterprise, factor mobility**, the institutional structure of the economy and **economic incentives**.

Candidates should understand that the position of the long run aggregate supply curve represents the normal capacity level of output of the economy. For this module the economic model used assumes that the **long run aggregate supply curve is vertical**.

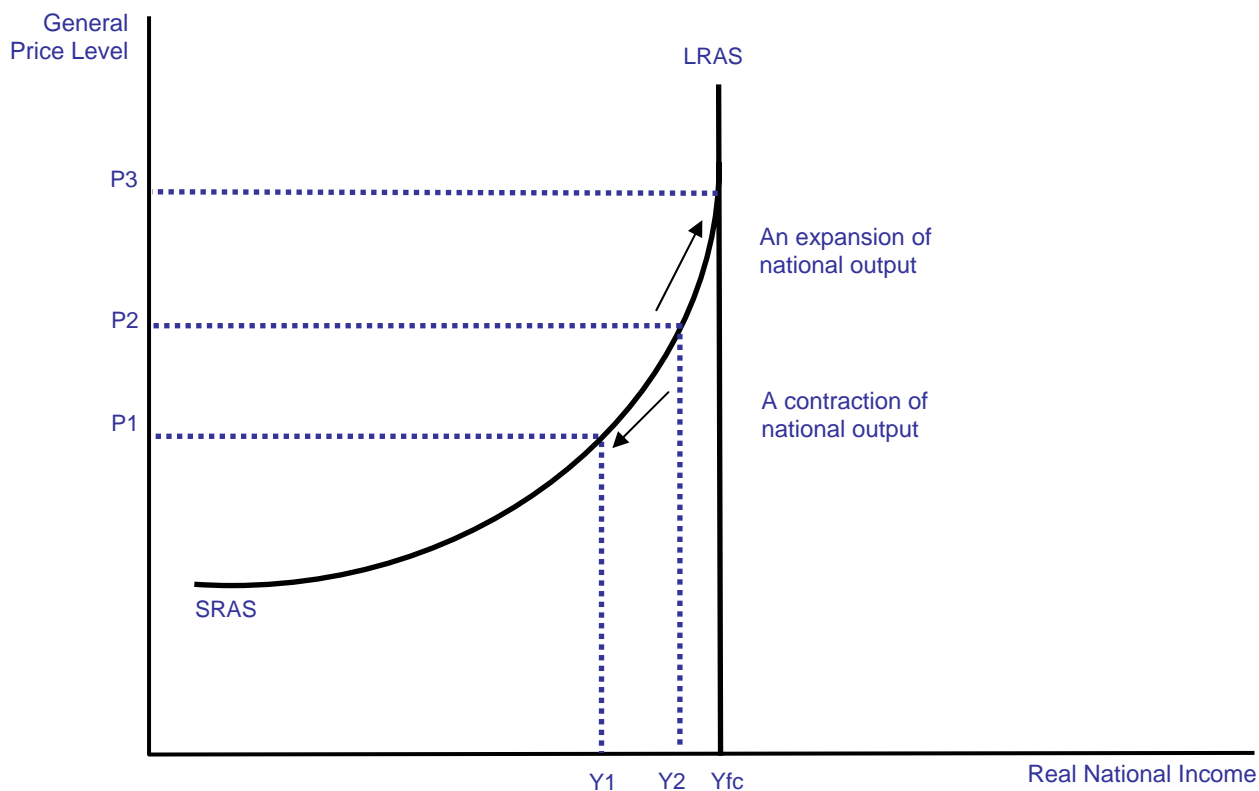
### Aggregate supply (AS)

Aggregate supply (AS) measures the volume of goods and services produced within the economy at a given price level. In simple terms, aggregate supply represents the ability of an economy to produce goods and services either in the short term or in the long term.

- In the long run, the aggregate-supply curve is vertical
- In the short run, the aggregate-supply curve is upward sloping

**Short run aggregate supply (SRAS)** shows total planned output in the economy when prices can change but the prices and productivity of all factor inputs e.g. wage rates and the state of technology are held constant.

**Long run aggregate supply (LRAS):** LRAS shows total planned output when both prices and average wage rates can change – it is a measure of a country's potential output and the concept is linked strongly to that of the production possibility frontier



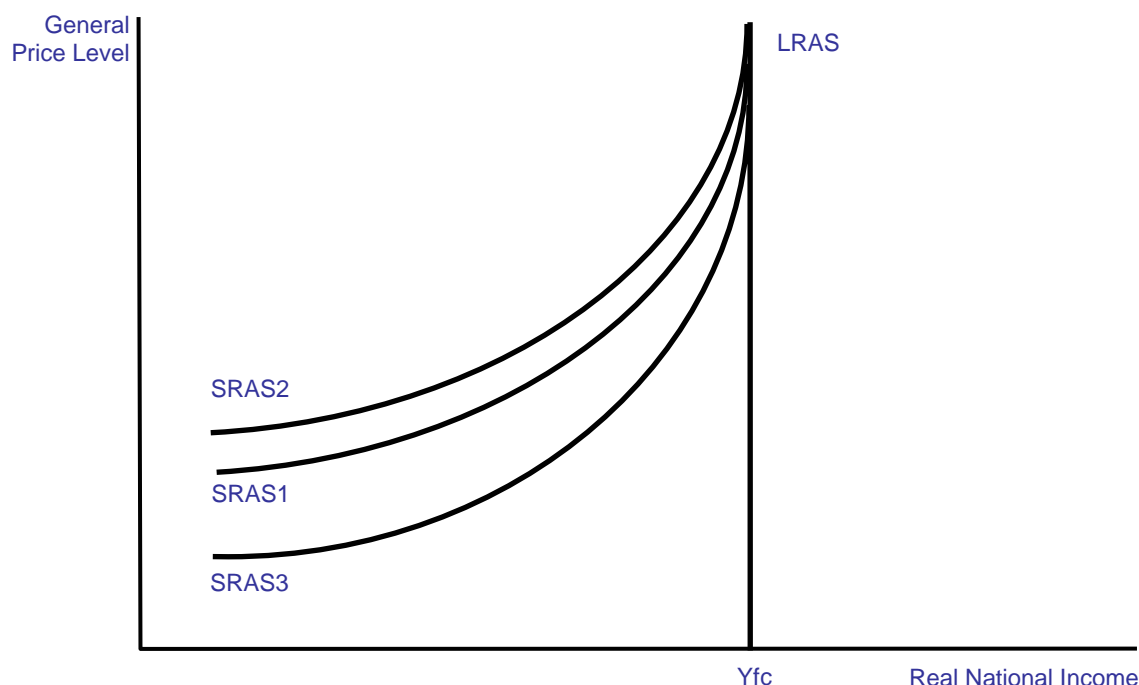
A change in the price level (for example brought about by a shift in AD) results in a movement along the short run aggregate supply curve. The slope of SRAS curve depends on the degree of spare (under-utilised) capacity within the economy.

1. **Negative output gap:** At low levels of real national income where actual GDP < potential GDP, firms have a large amount of spare capacity and can expand their output without paying their workers overtime. The SRAS curve is drawn as elastic
2. **Positive output gap:** As national output expands and the economy heads towards full capacity, so supply bottlenecks start to appear in some sectors. Workers receive the same wage rate but require payment of overtime and bonuses to work longer hours and increase GDP – SRAS is becoming more inelastic
3. **Diminishing returns?** Older less efficient machinery may be used and less efficient workers hired. This means that while wage rates remain constant, unit costs of production may begin to rise and the SRAS slopes upwards
4. **Full-capacity output at LRAS.** Eventually the economy cannot increase output further in the short-term no matter what bonus or overtime payments on offer, at this point SRAS is said to be perfectly inelastic – the economy has reached full-capacity (the LRAS curve)

### Shifts in short run aggregate supply (SRAS)

Shifts in the SRAS curve can be caused by the following factors

1. **Changes in unit labour costs:** Unit labour costs are defined as wage costs adjusted for the level of productivity. For example a rise in unit labour costs might be brought about by firms agreeing to pay higher wages or a fall in the level of worker productivity
2. **Commodity prices:** Changes to raw material costs and other components e.g. the world price of oil, copper, aluminium and other inputs in many production processes will affect a firm's costs. These costs might be affected by a change in the exchange rate which causes fluctuations in the prices of imported products. A fall (depreciation) in the exchange rate increases the costs of importing raw materials and component supplies from overseas
3. **Government taxation and subsidy:** Changes to producer taxes and subsidies levied by the government as part of their fiscal policy – for example an increase in taxes on producers designed to meet the government's environmental objectives will cause higher costs and an inward shift in the short run aggregate supply curve



### Long run aggregate supply

In the long run, the ability of an economy to produce goods and services to meet demand is based on the level of production technology and the availability of factor inputs. A production function for a country is often written as follows:

$$Y^*_t = f(L_t, K_t, M_t)$$

- $Y^*$  is an aggregate measure of **potential output** in a given economy
- $T$  is the time period under consideration
- $L$  represents the quantity and ability of labour input available to the production process
- $K$  represents the available capital stock, i.e. machinery, buildings and infrastructure
- $M$  represents the availability of natural resources and materials for production i.e. land

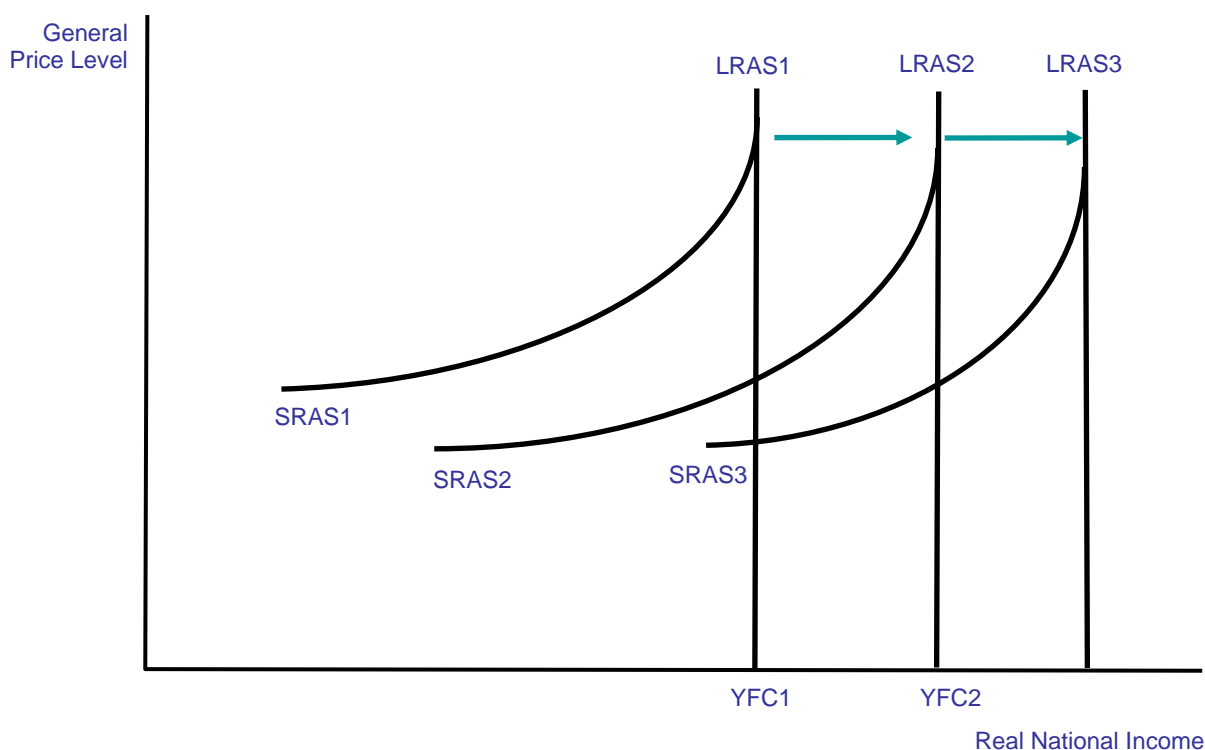
LRAS is determined by the stock of a country's productive resources and also by the productivity of factor inputs (labour, land and capital). Changes in the state of technology also affect the potential level of real national output.

In the long run we assume that aggregate supply is independent of the price level. As a result we draw the long run aggregate supply curve as vertical. In drawing the LRAS as vertical, we are saying that there is a maximum level of physical output that the economy can produce.

### Causes of shifts in the long run aggregate supply curve

Any change in the economy that alters the natural rate of growth of output (i.e. trend growth) shifts the long-run aggregate-supply curve.

Improvements in productivity and efficiency or an increase in the stock of capital and labour resources cause the LRAS curve to shift out. This is shown in the diagram below. The result is that a great volume of national output can be produced at any given price level.



### The fundamentals of increasing long run aggregate supply

These all relate to the supply-side of the economy

1. **Expanding the labour supply** - e.g. by improving incentives for people to search for and accept new jobs as they become available
2. **Increase the productivity of labour and capital** – e.g. by investment in training and an increase in the size of the capital stock
3. **Increase the occupational and geographical mobility of labour** to reduce certain types of unemployment for example the level of structural unemployment
4. **Expand the capital stock** – i.e. increase the level of capital investment and research and development spending by firms
5. **Increase business efficiency** by promoting greater competition within and between markets

6. **Stimulate a faster pace of invention and innovation** – this will promote lower production costs and improvements in the dynamic efficiency of the economy

### **Aggregate supply shocks**

Aggregate supply shocks might occur when there is

- A sudden rise in oil prices or other essential inputs
- The invention and diffusion of a new technology

#### **In the long-run**

But this long run is a misleading guide to current affairs. In the long run we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past the ocean is flat again.” John Maynard Keynes, 1936