EC566 – Macroeconomics for Business

Week 21 − Lecture 1

AD and AS , short-run vs. the long run

L&C – Ch. 21

B&P – Ch. 13

Learning Outcomes

- You will be able to:
  - distinguish between short-run and long-run aggregate Macroeconomic equilibrium
  - Distinguish between short-run and long-run Aggregate supply
  - explain and illustrate the factors that lead to shifts in short-run and long-run aggregate supply
  - explain the basic economic mechanism that lead to macroeconomic equilibrium in the long run

Macroeconomic Equilibrium and Full Employment

- Macroeconomic equilibrium does not necessarily occur at full employment, or potential real GDP (Y^*)
- This is because equilibrium is defined to be where AD and SRAS intersect
- LRAS need not have to coincide with the intersection of AD and SRAS - its position depends on factor market equilibria
- This leads to short-run versus long-run macroeconomic equilibrium

Potential GDP

- Normal capacity of an economy to produce goods and services - Real GDP that the economy would produce if its labour and other resources were fully employed

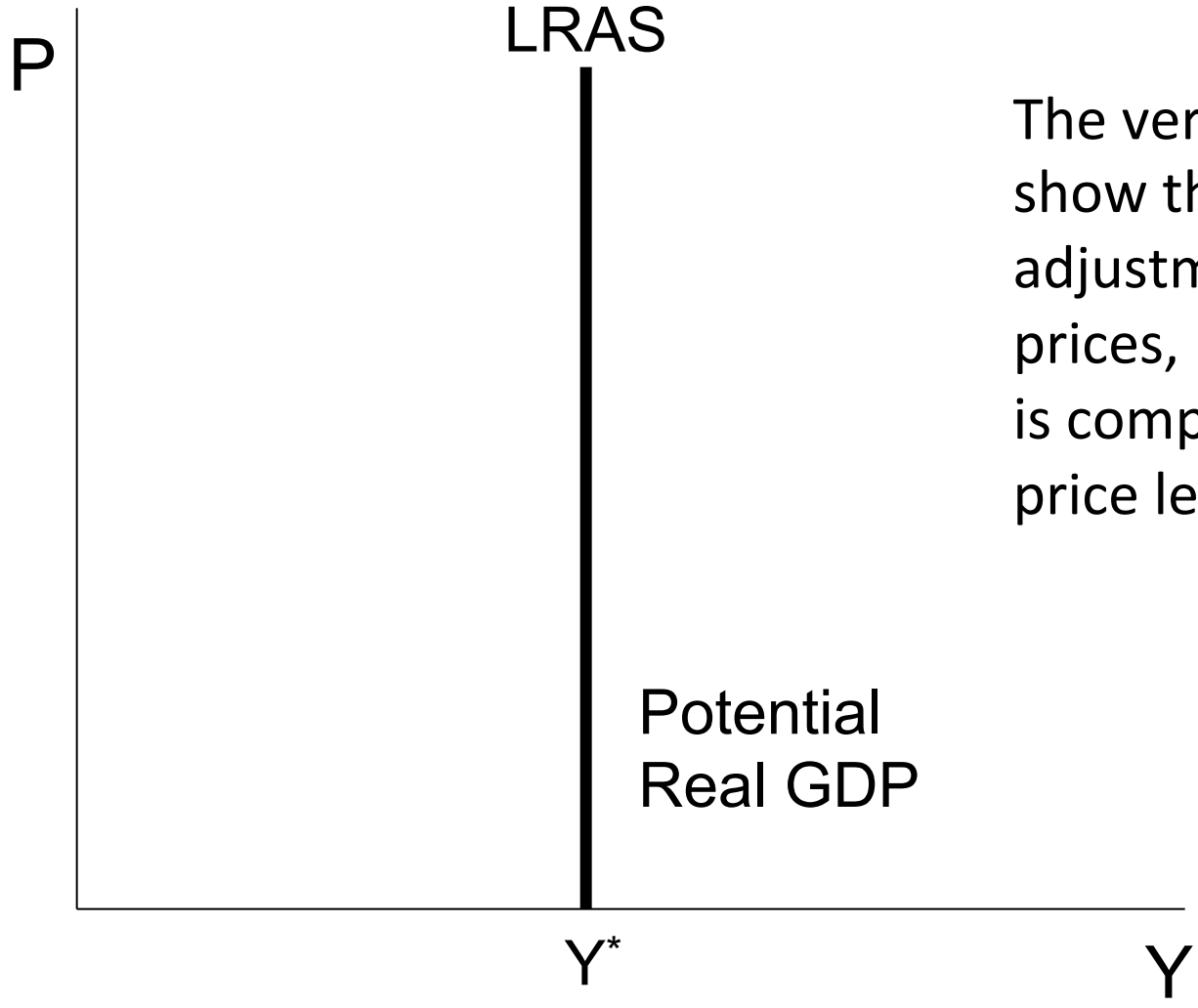
- Potential GDP – Estimated from the available quantities of labour, capital and other productive resources of economy ; also from estimating how much output would be produced from these inputs if they were fully utilised given an economy's technology

- More technologically advanced countries will be able to produce more output from a given bundle of inputs

Long-Run Aggregate Supply (LRAS)

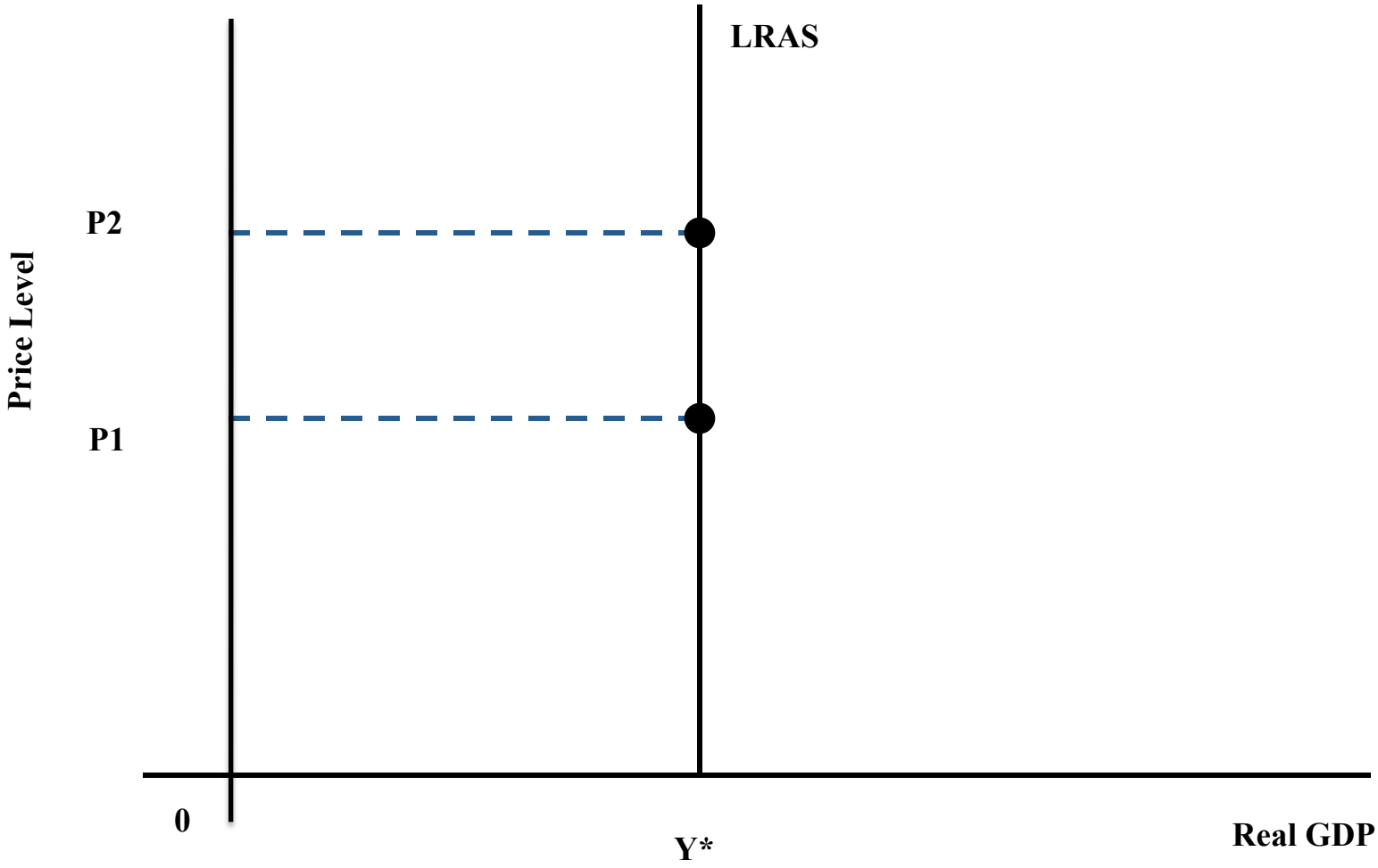
- LRAS shows the relationship between the aggregate quantity of **final** goods and services supplied (real GDP, Y) and the price level, **assuming**
  - wages and other input (factor) prices have adjusted, and all factor markets are in equilibrium (i.e., no cyclical unemployment)
  - all existing unemployment is because of structural or frictional reasons, **so**
  - actual real GDP is equal to potential real GDP.
- As a result, the LRAS curve is vertical at potential output – any unemployment or overall labour shortages are eliminated after adjustment process.

Long-Run Aggregate Supply - LRAS



The vertical LRAS curve show that, given full adjustment of factor prices, potential output Y* is compatible with any price level.

The Long-run Aggregate Supply [LRAS] Curve



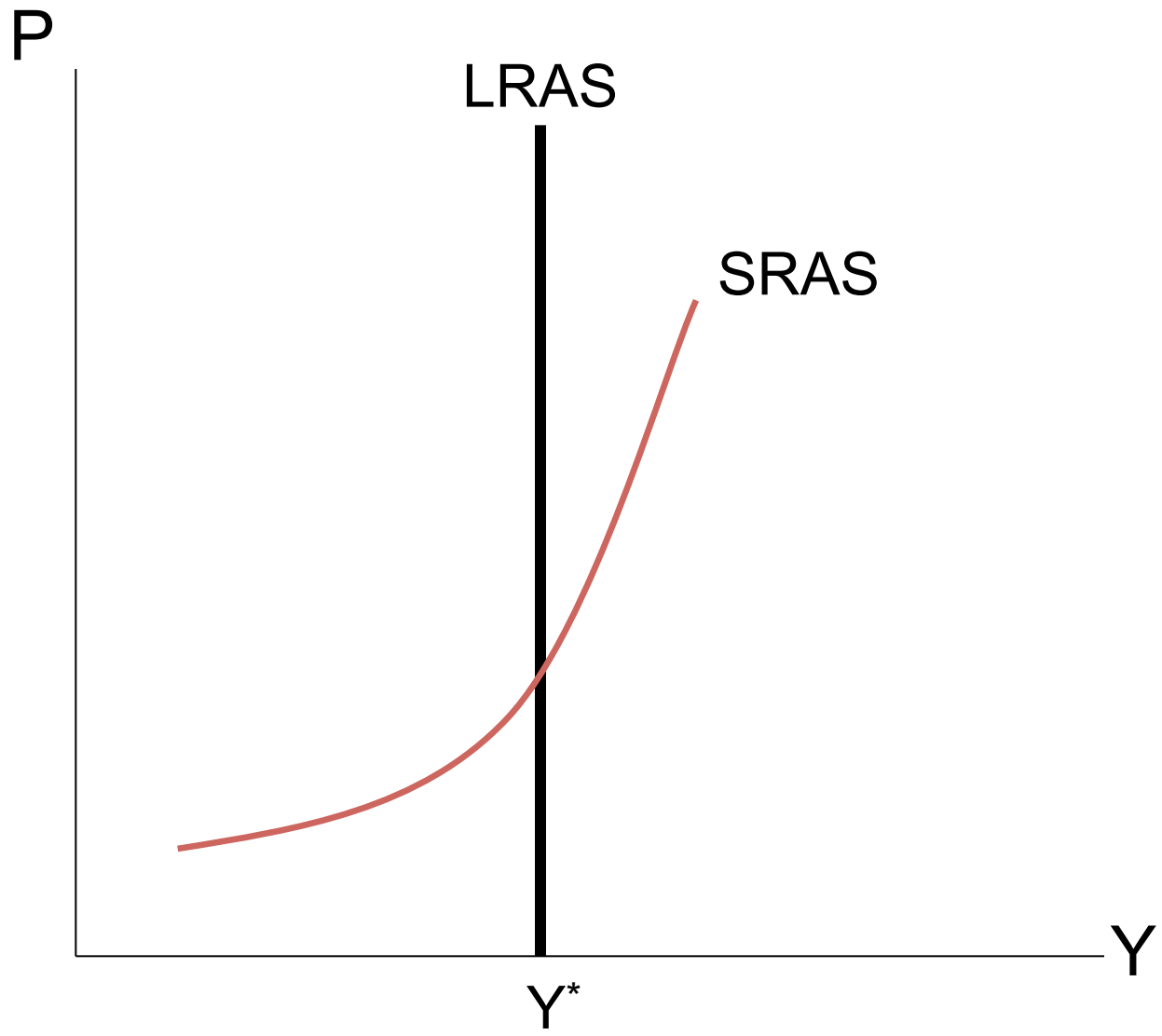
The long-run aggregate supply curve

- The long-run aggregate supply curve (LRAS) is a vertical line drawn at the level of GDP that is equal to potential GDP, Y*.

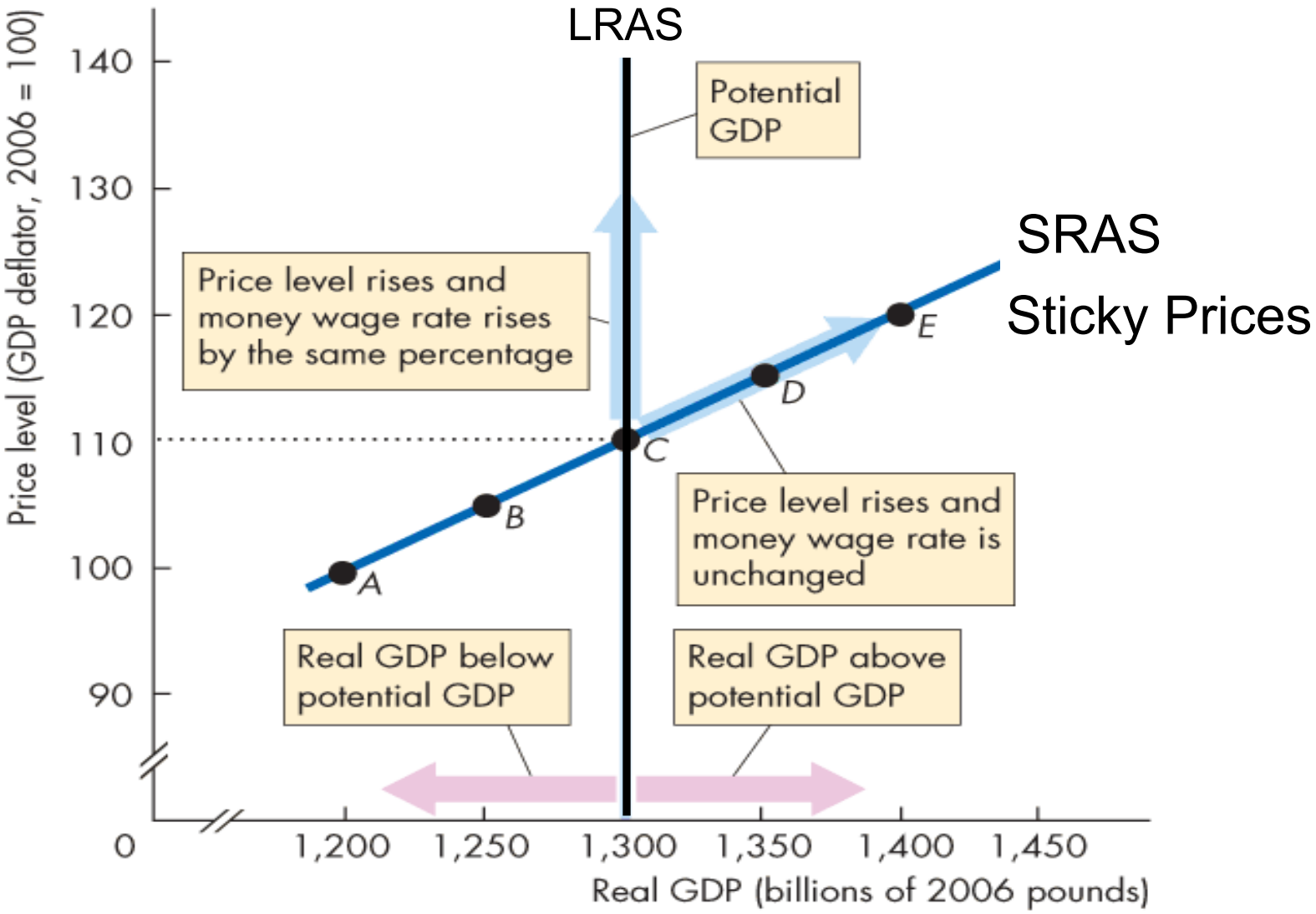
- Vertical because the total amount of output that the economy produces when all factors are efficiently used at their normal rate of utilization does not vary with the price level.

- If the price level rose from P_1 to P_2 and all other factor prices (and wages) were to rise in the same proportion then total desired output of firms would remain at Y*.

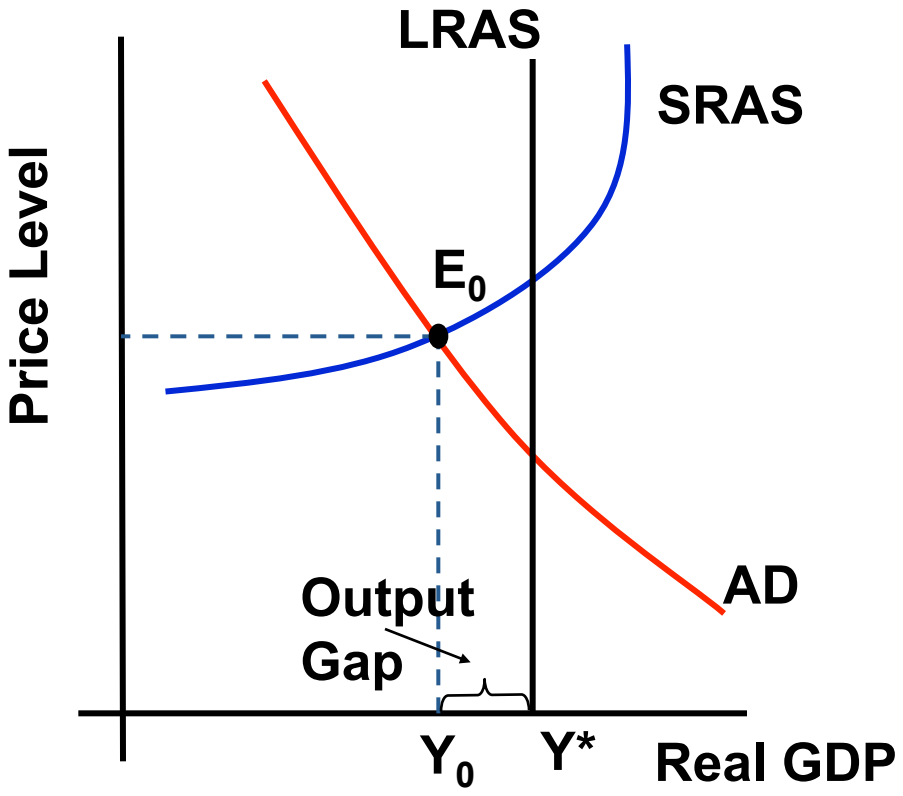
Short-Run & Long-Run Aggregate Supply



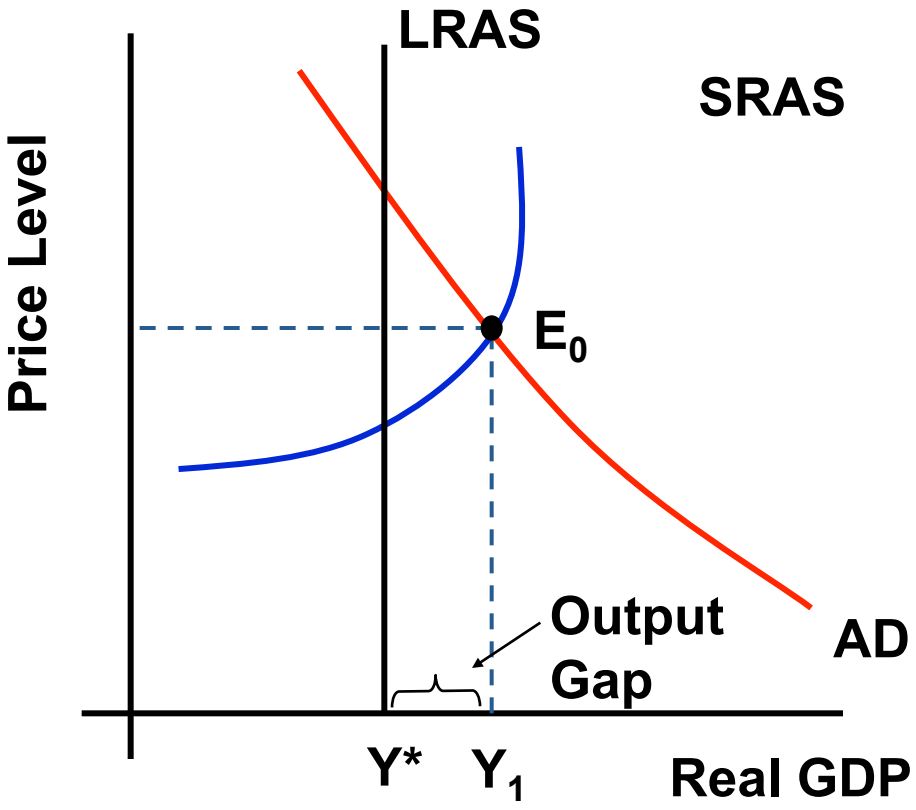
Movements Along the Aggregate Supply Curves



Short-Run Macroeconomic Equilibrium, Actual GDP, Potential GDP & the Output Gap



[i]. A Recessionary Output Gap
A High Unemployment Equilibrium



[ii]. An Inflationary Output Gap
A Low Unemployment Equilibrium

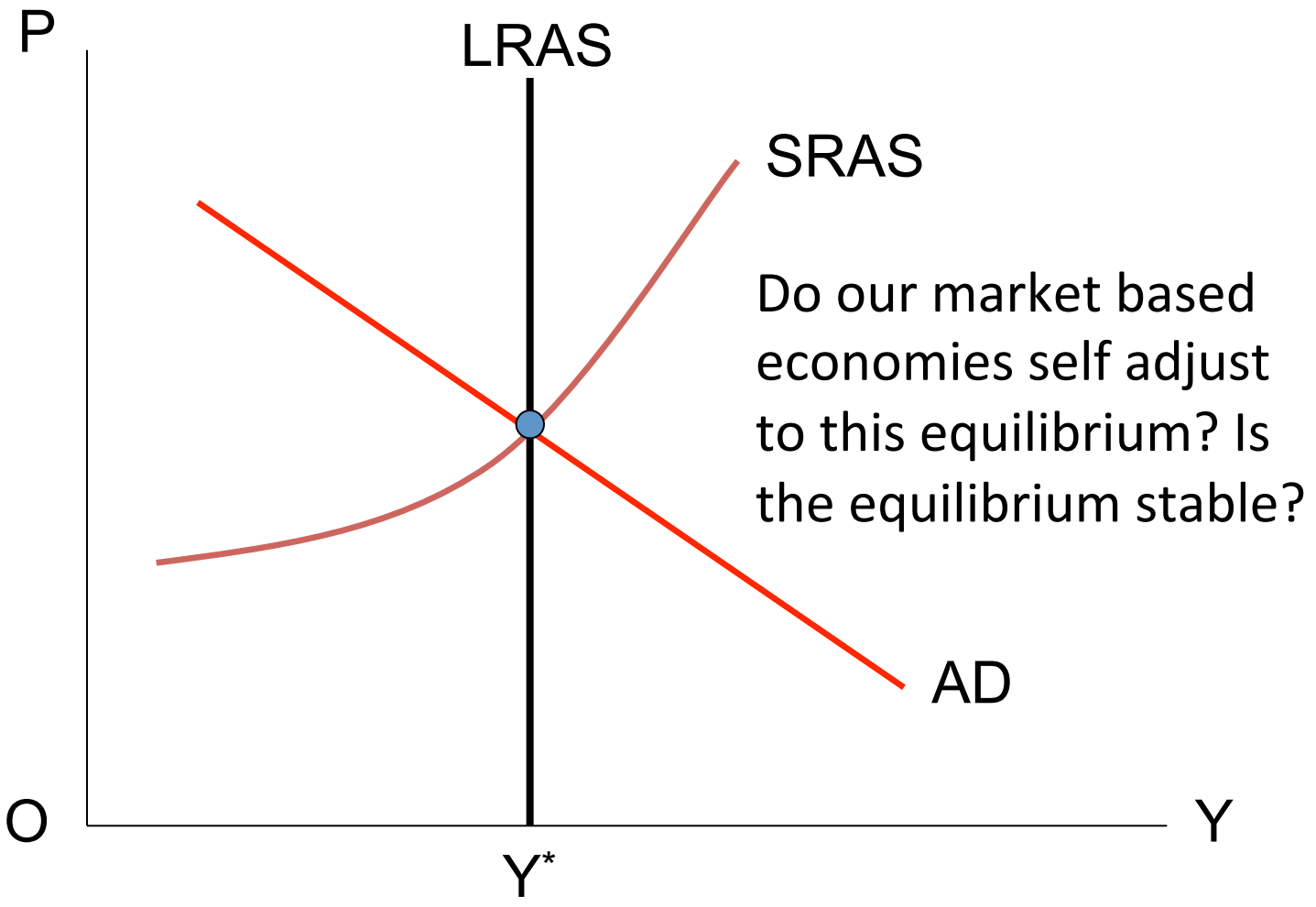
The Output Gap

- The **output gap** is the difference between potential GDP, Y*(Natrual RGDP) and actual GDP, Y
  - Potential GDP is shown as a vertical line.
  - Actual GDP is determined by the intersection of AD and SRAS and so is implicitly equilibrium GDP, though in practice what we measure is actual GDP

- If Y< Y* there is a **recessionary** gap
- If Y> Y* there is an **inflationary** gap

- The gap indicates the pressure of demand on prices - an important indicator of demand conditions in the economy

Long-Run Macroeconomic Equilibrium



Long-Run Macroeconomic Equilibrium

- The economy is in short-run macroeconomic equilibrium, SRAS = AD

- **and** this coincides with potential real GDP (Y^*)
- **and** all input markets are in equilibrium
- **and** the output gap is zero

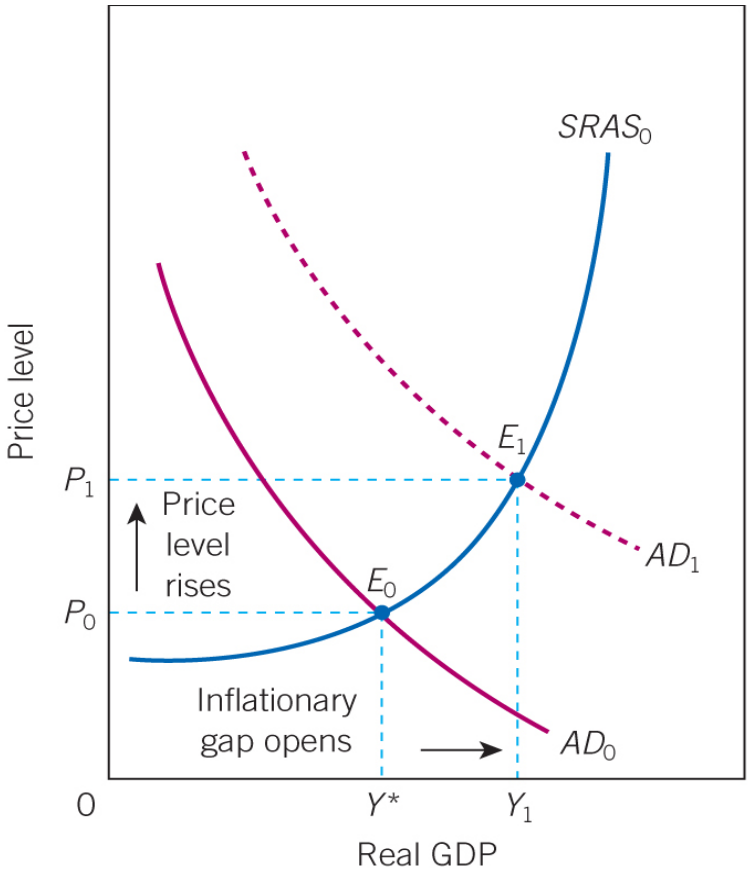
- Keynesian economists do not believe the economy will self adjust to this long-run equilibrium, except by luck.

- Neo-classical economists are more optimistic about the ability of market economies to self adjust to long-run equilibrium.

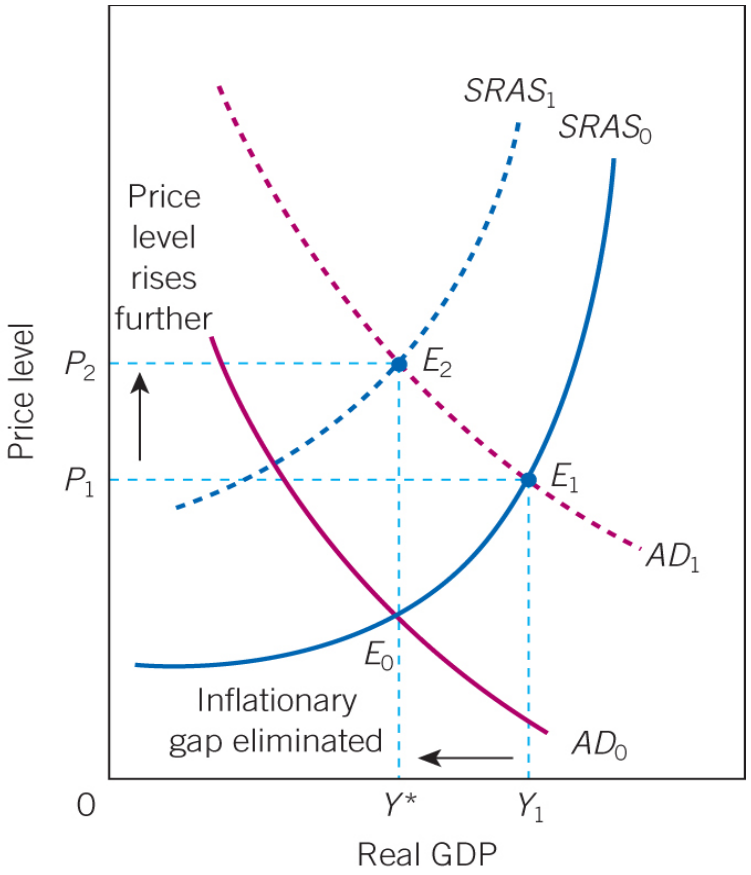
Shifts in SRAS vs Shifts in LRAS

- **SRAS** shifts if wage rates and/or the prices of other factors of production change to affect firms' unit costs.
- A **temporary** change in productivity also shifts the SRAS but not the LRAS.
- A **permanent** change in productivity, however, shifts both SRAS and LRAS.
- Productivity means the "effectiveness" of capital and labour. Changes in productivity are usually called productivity shocks. Examples:
  - Changes in the quality of capital or labour, unusually bad or good weather, changes in regulations affecting production, etc.

Positive Demand shock in the short and long-run

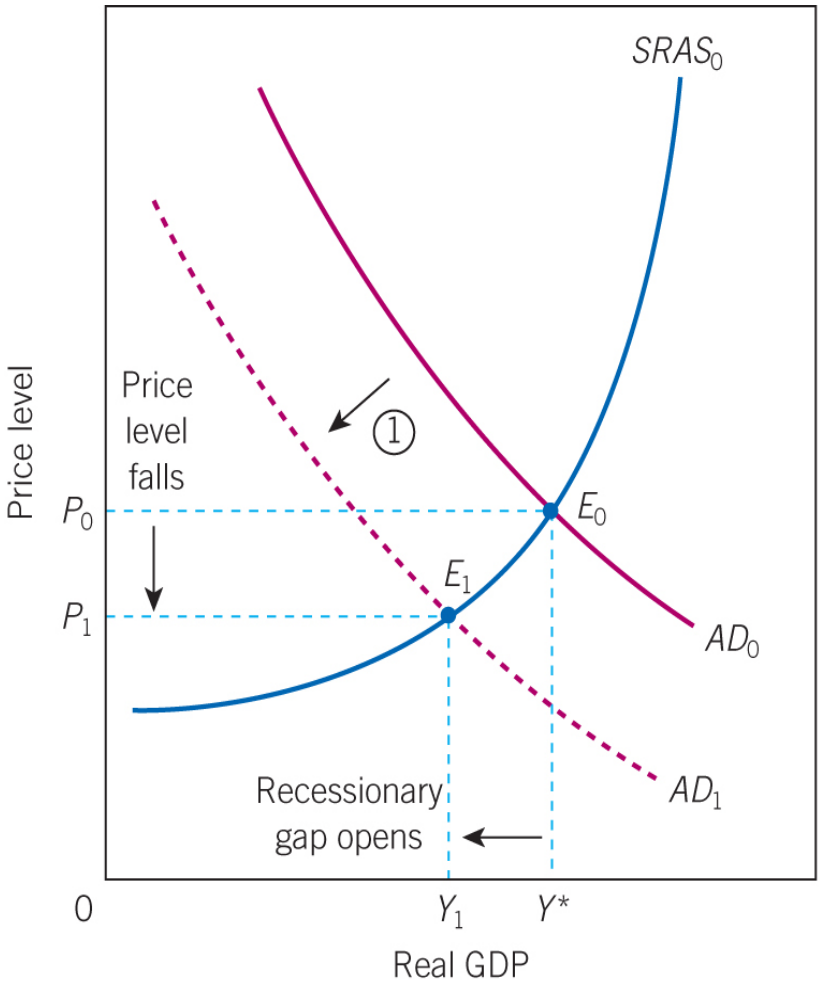


(i) Autonomous increase in aggregate demand

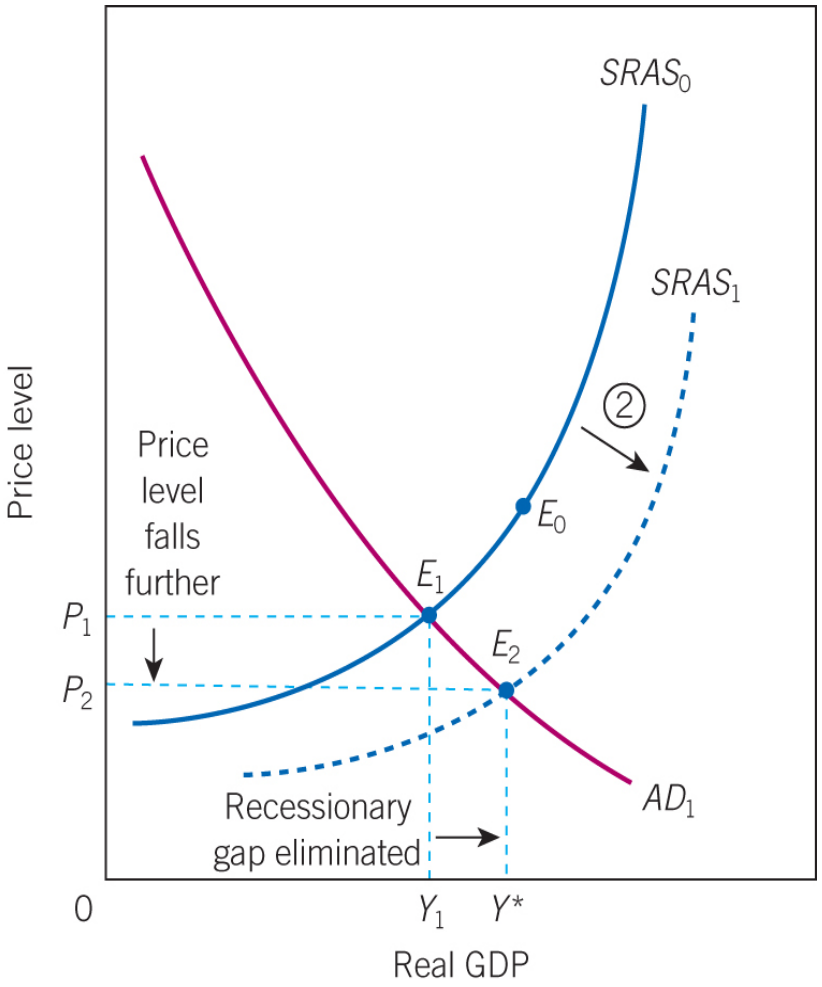


(ii) Induced shift in aggregate supply

Negative Demand Shocks in Short and long run



(i) Autonomous falls in aggregate demand



(ii) Induced shift in aggregate supply

Shifts in LRAS

- An increase in potential GDP increases LRAS and short-run AS and caused by:

➢ An increase in full-employment quantity of labour

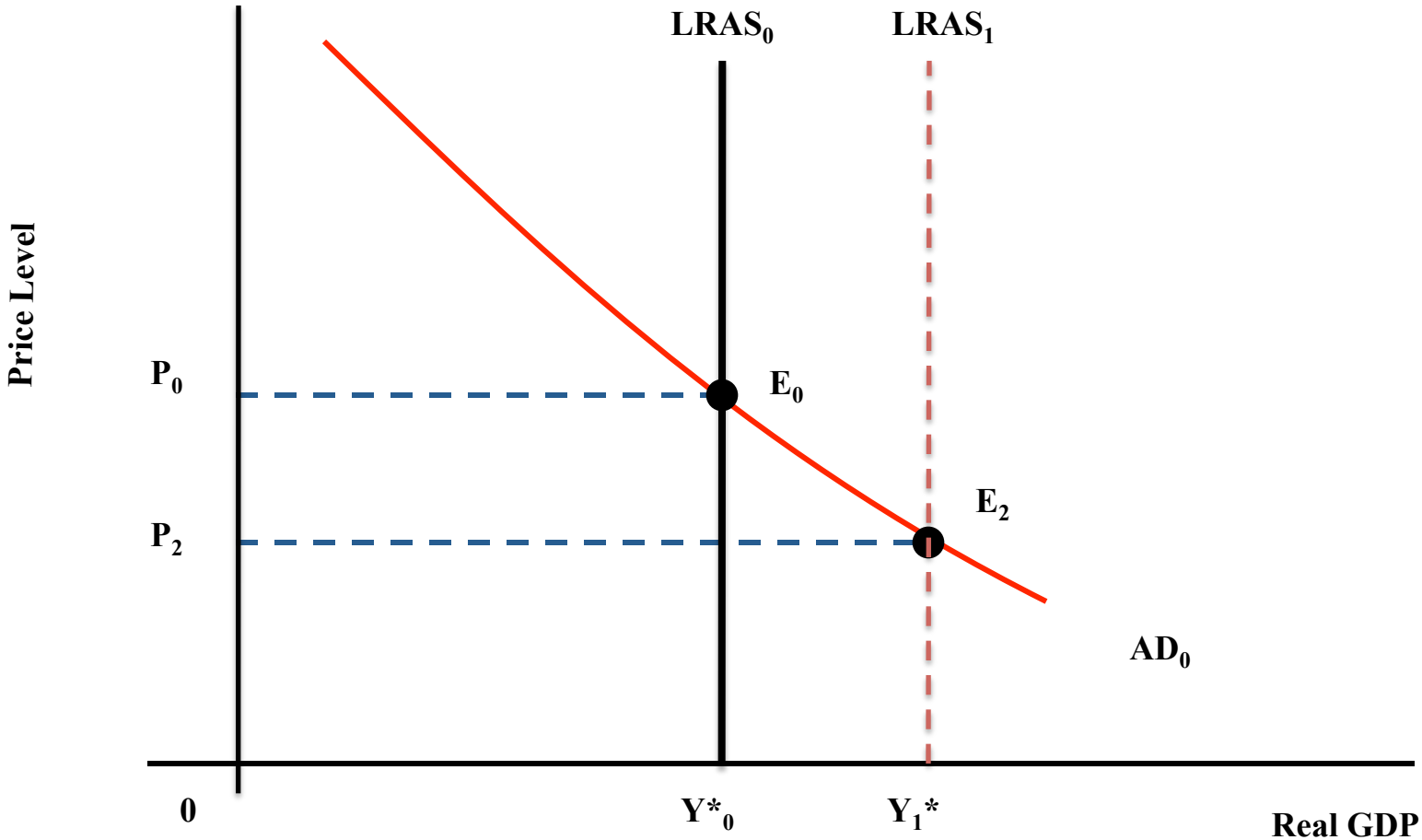
➢ An increase in the quantity of capital

➢ An advancement in technology

- These three main factors also influence long run aggregate supply curve
  - **The Labour Force (L)**
  - **The Capital Stock (K)**
  - **Innovation and Technology (T)**

- Shifts in LRAS are closely associated with the idea of economic growth.

The Long-run Equilibrium and Aggregate Supply



[ii]. A rise in long-run aggregate supply

Summary

- the distinction between the short run and long run aggregate supply and Macroeconomic equilibrium
- the concept of the output gap and how it is determined by different types of macroeconomic equilibria
- Process of adjustment to full-employment level of GDP