

AD-AS Model

Part 3

Revision – Aggregate Supply

- AS is the total output that firms in an economy plan to sell during a specific time period. It specifies the amounts of output that will be supplied at all possible price levels.
- Why is SRAS upward-sloping?
- In SR, wage is sticky because of employment contracts.
- $P \uparrow \gg W/P \downarrow \gg \text{Labor Demand} \uparrow \gg L \uparrow \gg Y \uparrow$
- Why is LRAS vertical? $\gg Y$ does not depend on P .
- In LR, wage is flexible because workers can negotiate.
- $P \uparrow \gg W \uparrow \gg W/P$, Labor Demand, L and Y unchanged

Revision – Aggregate Supply

The following events would shift SRAS to the right:

- An exogenous decrease in the wage rate
- An increase in the physical capital stock
- Technological progress

The following events would shift LRAS to the right:

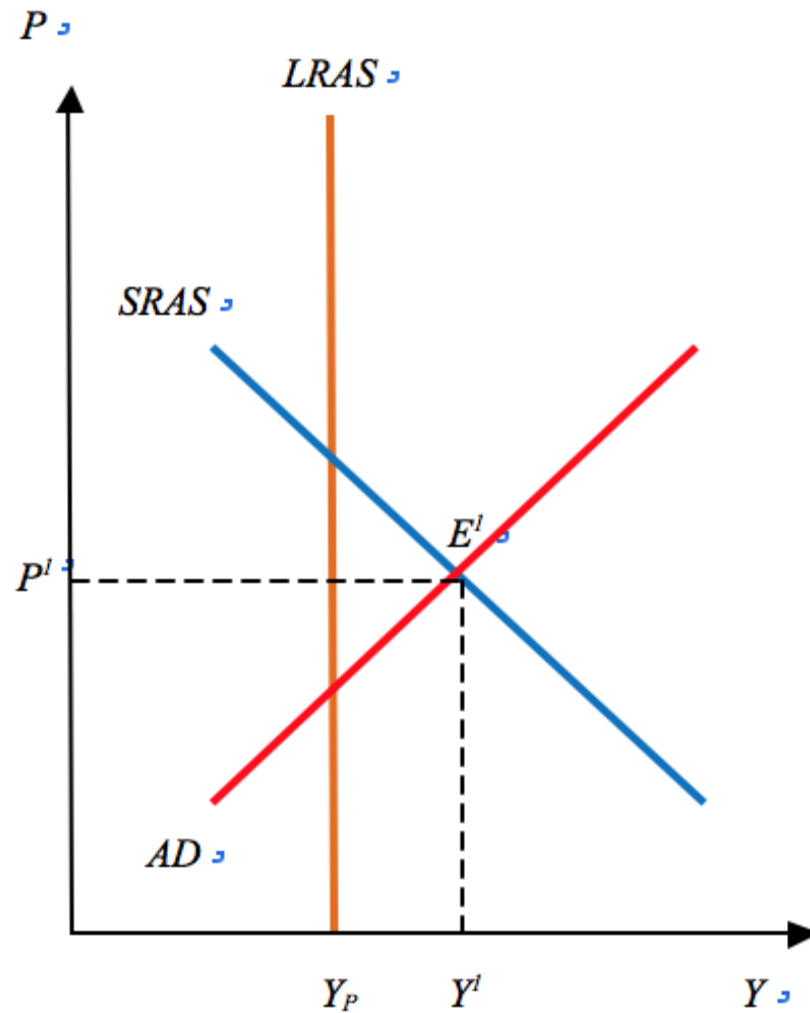
- An increase in population
- An increase in the physical capital stock
- Technological progress

Equilibrium of AS-AD Model

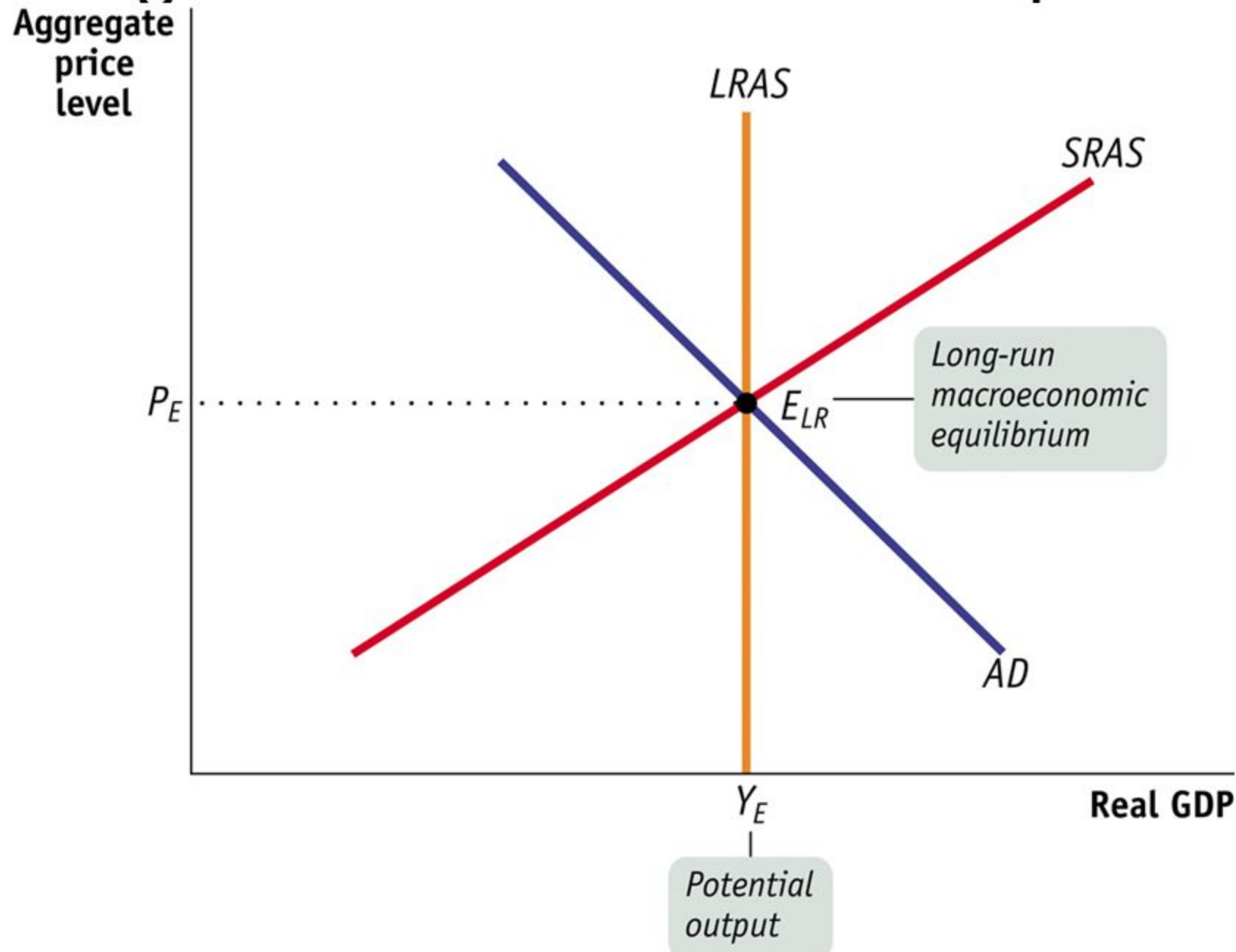
There are two types of equilibrium in the AS-AD Model:

- **Short-run Equilibrium (SRE)**, where AD and SRAS meet.
 - SRE does NOT need to be on the LRAS curve.
 - SRE is temporary and is observed in the short run.
- **Long-run Equilibrium (LRE)**, where AD, SRAS, and LRAS meet.
 - In the long run, the economy will move back to LRE.

Short-Run Equilibrium (E1)



Long-Run Macroeconomic Equilibrium



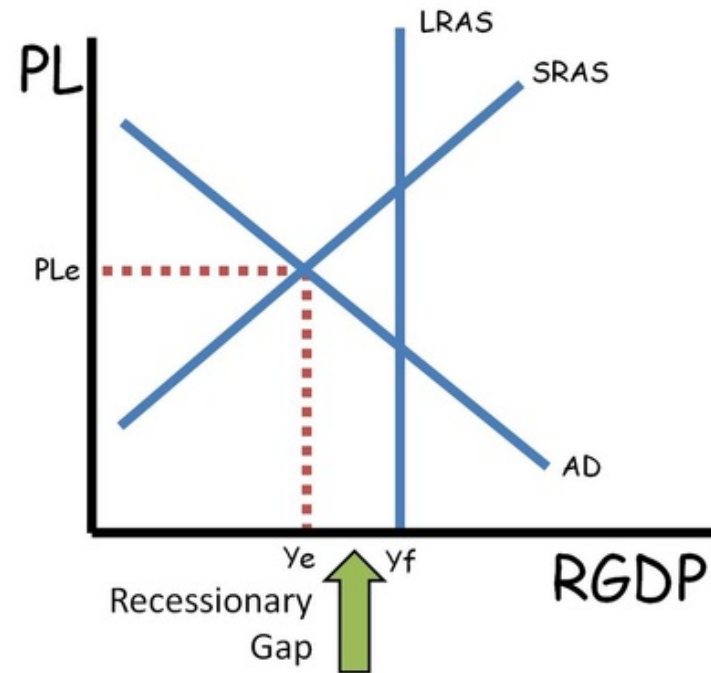
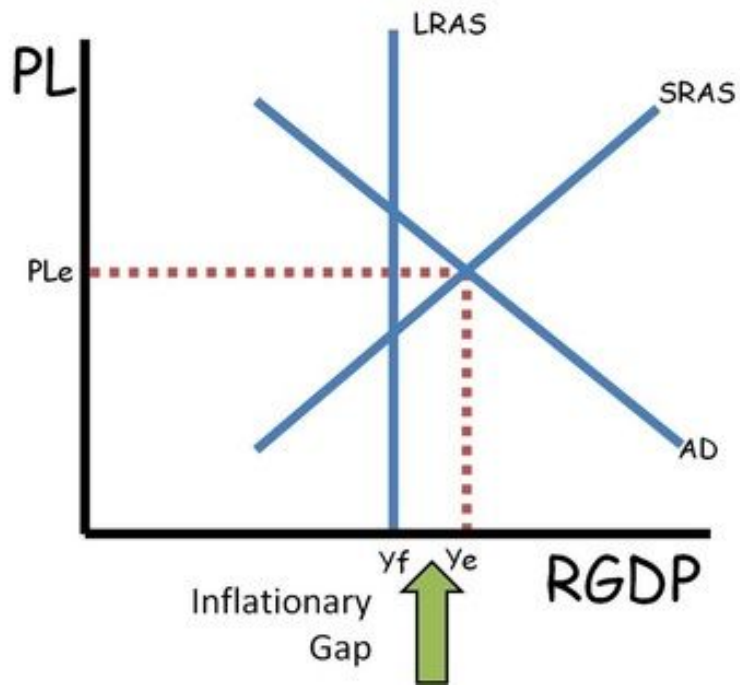
AS-AD and Economic Shocks

- AS-AD Model is used to analyze economic fluctuations or business cycles.
- In this model, economic fluctuations are due to shocks to AD or AS. These shocks can shift AD, SRAS, and LRAS.
- Positive shock shifts the curve to the right. Negative shock shifts the curve to the left.
- For example,
 - Positive AD shocks: increase in consumer credit, etc.
 - Negative AS shocks: epidemic, bad weather, etc.

AS-AD and Economic Shocks

- **AS-AD assumes that the economy starts at the LRE.**
- But the shocks to AD, SRAS, or LRAS can move the economy to the SRE.
- At SRE, if $Y^* < Y_f$, we have **recessionary gap**.
- At SRE, if $Y^* > Y_f$, we have **inflationary gap**.
- To move back to the LRE,
 - The economy can SLOWLY adjust itself, **through shifts in SRAS.**
 - The government can intervene by **using demand-side policies (fiscal or monetary) to shift the AD**, or using **supply-side policies to shift the AS.**

Output Gaps



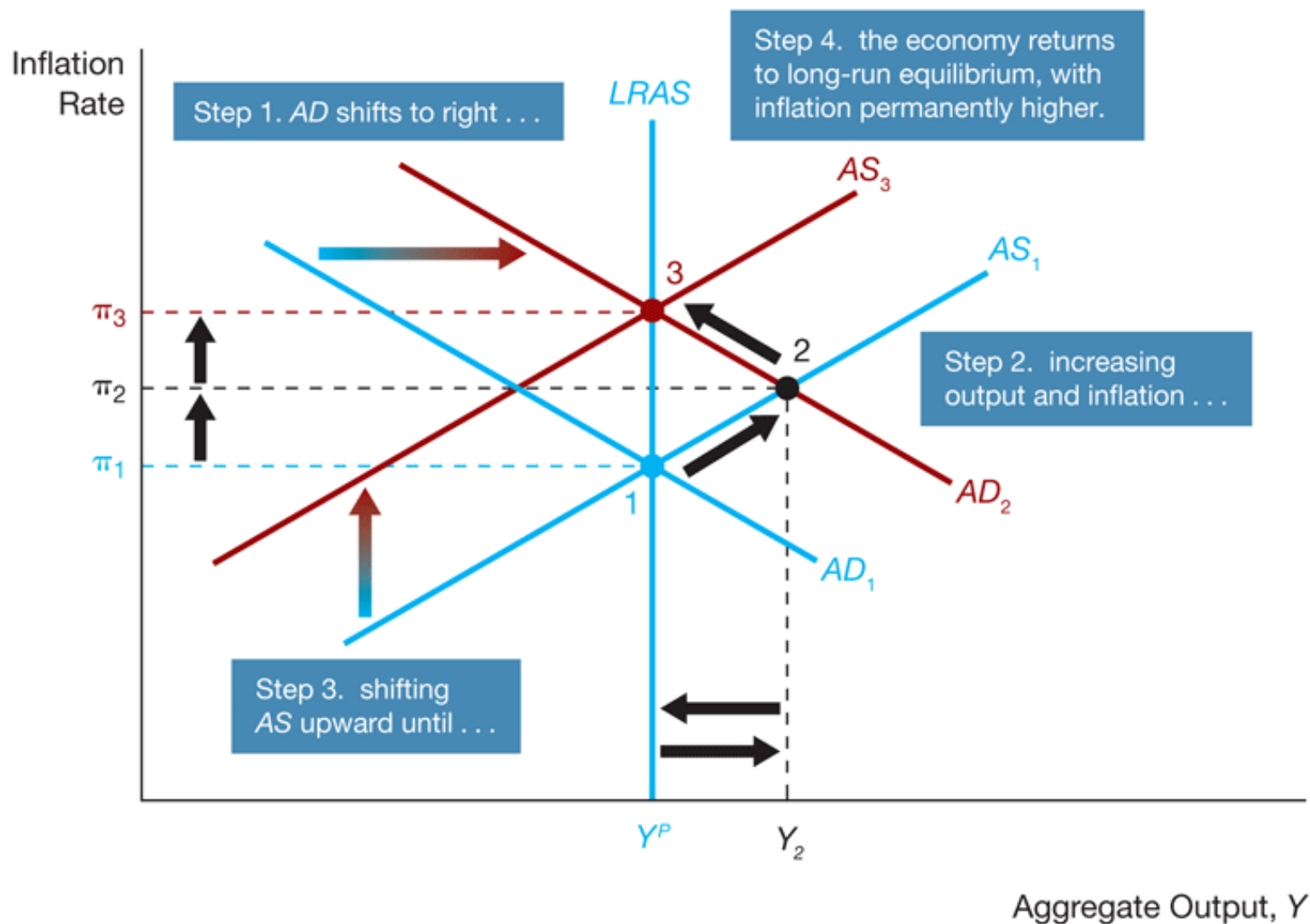
Aggregate Demand Shocks

- Factors that shift AD:
 - Autonomous C and I
 - Fiscal Policy (G and T) and Monetary Policy (M)
- Since G, T, and M can be perfectly controlled by the government, they are NOT economic shocks.
- Thus, AD shocks are the exogenous events that change autonomous C and I. For example,
 - Consumers' confidence can raise auto. C and AD.
 - Investors' optimism can raise auto. I and AD.

Positive AD Shock

- Positive AD shock shifts AD to the right. At the new SRE, we have higher P and Y (inflationary gap).
- To correct inflationary gap, the government can use “**contractionary**” fiscal (G or T) or monetary (M) policies to shift AD back to its original position.
- Otherwise, the economy can SLOWLY adjust itself:
 - Higher P means that costs of production, e.g. W, also goes up. **This causes SRAS to shift left.**
 - The economy returns to the LRE, but with higher P.

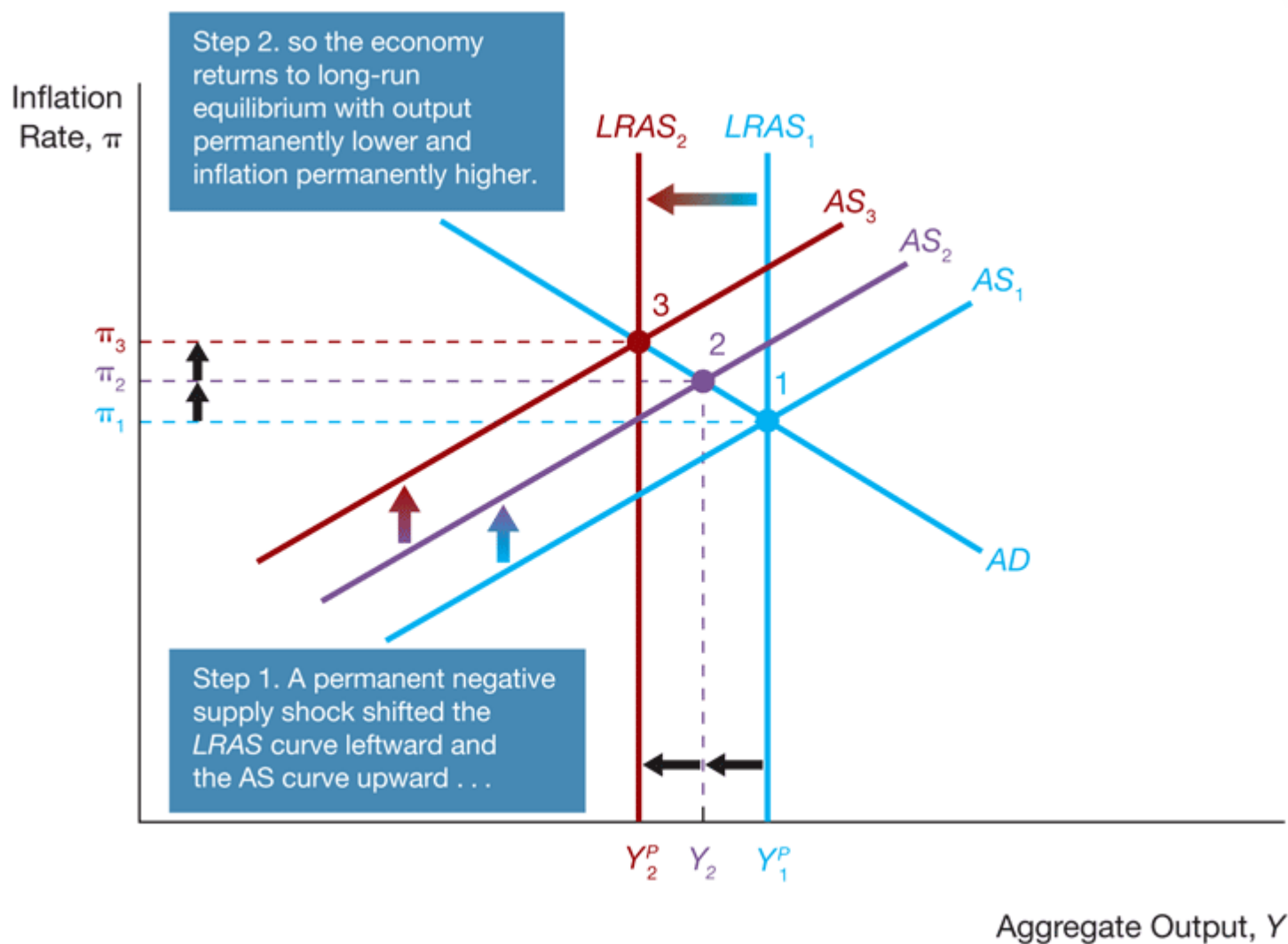
Positive AD Shock



Aggregate Supply Shocks

- AS shocks are more complicated, as we need to consider whether the shock is permanent or temporary.
- **Permanent AS shocks shift SRAS and LRAS.** For example,
 - Permanent change in birth or mortality rate
 - Discovery of very large natural resources
- **Temporary AS shocks shift SRAS.** For example,
 - Good or bad weather
 - Epidemic
 - Short-term change in regulations

Permanent Negative AS Shock

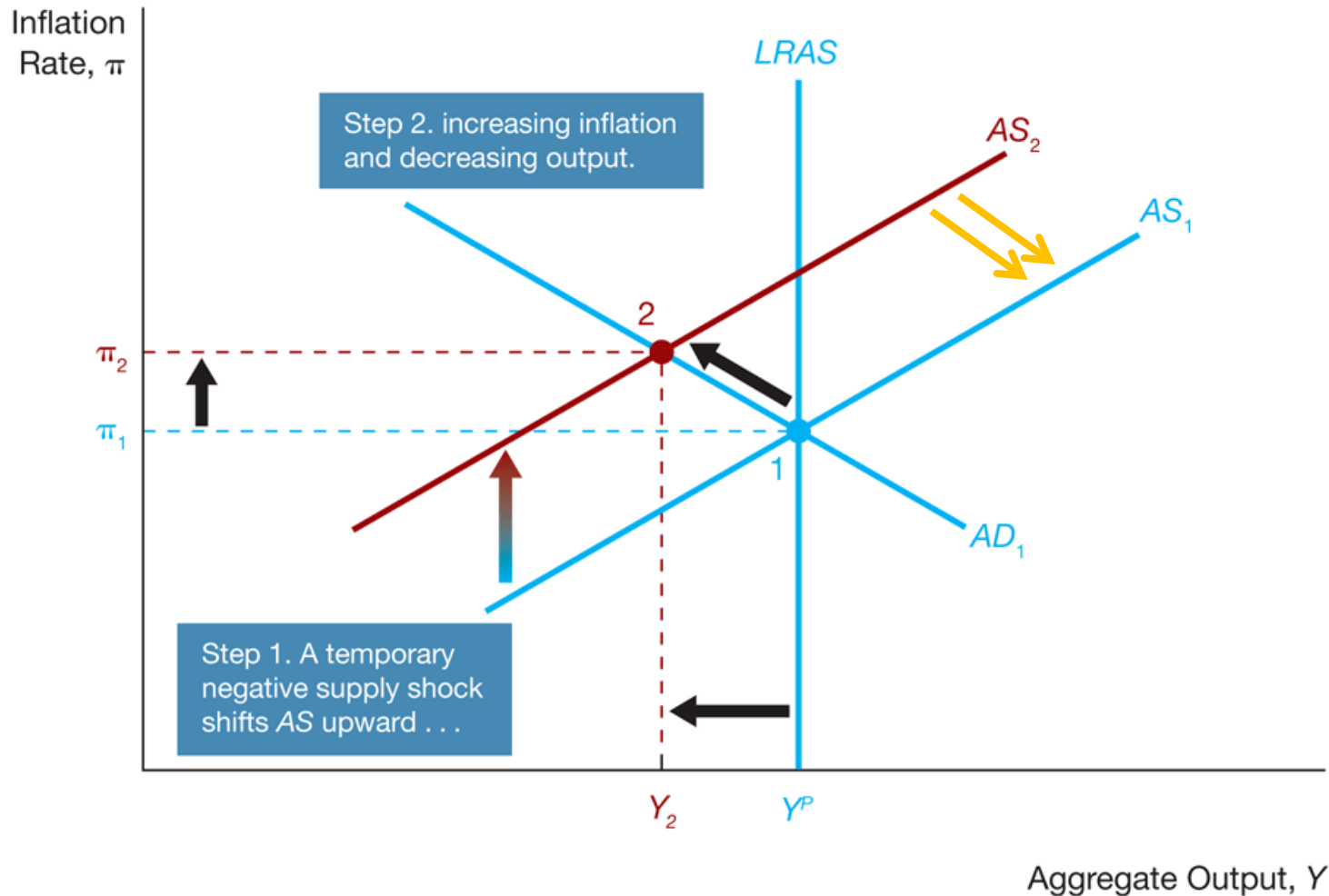


Temporary AS Shock

- Temporary AS shocks shift SRAS. **Afterwards, the shocks disappear**, and the SRAS moves back to its original position. For example, a short-term epidemic temporarily reduces labor force. After some time, new workers enters labor force. The economy returns to its LRE.
- The government can also use fiscal or monetary policy (to shift AD) to return the economy to the LRE. It can also use supply-side policy to boost AS as well.

Temporary Negative AS Shock

- Over time, AS2 returns to its original position (AS1).



Key Summary

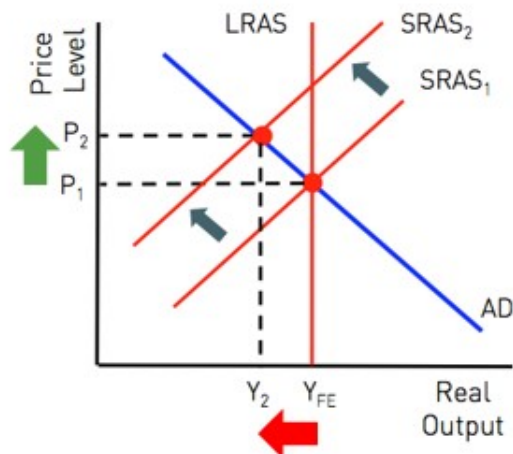
- A shift in AD affects P and Y only in the short run, but has no effect in the long run.
- A temporary AS shock affects P and Y only in the short run, but has no effect in the long run.
- A permanent AS shock affects P and Y both in the short run and long run.
- The economy has a self-correcting mechanism to return to the long-run equilibrium, through shifts in SRAS.
- Furthermore, the government can use demand-side or supply-side policies to speed up the adjustment process.

EXTRA – Causes of Inflation

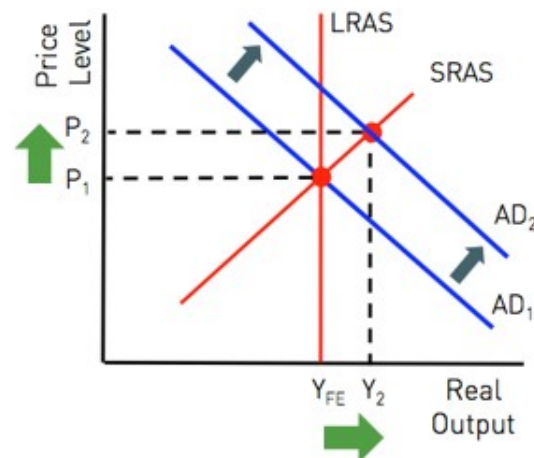
- We learn that printing money is one cause of inflation.
- We can use AD-AS Model to shows two other causes.
- Demand-pull inflation: positive AD shock raises P (and Y)
- Cost-push inflation: negative SRAS shock raises P (but reduces Y)

EXTRA – Causes of Inflation

Cost-push



Demand-pull



Price level	Rises	Rises
Real output	Falls	Rises
Output gap	Negative	Positive
Shift	SRAS	AD
Movement	AD	SRAS