



Soochow University International Programs

2021 SCUIP Winter Session I
ECON202



Lecture 14: Aggregate Demand and Aggregate Supply: Part 2

ECON202: Macroeconomics
Soochow University



The Sticky Price Theory

- Price of some goods and services adjust sluggishly in response to changing economic conditions.
- An unexpected fall in the price level leaves some firms with higher-than-desired prices. For a variety of reasons, they may not want to or be able to change prices immediately.
- This depress sales, which induces firms to reduce the quantity of goods and services they produce.

The Misperceptions Theory

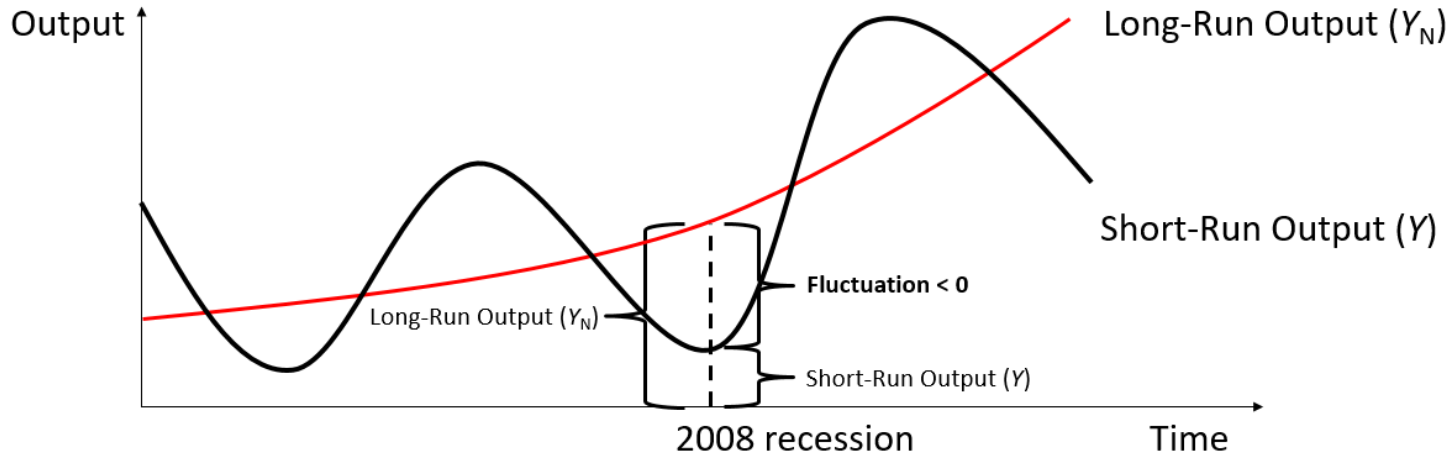
- Changes in the overall price level temporarily mislead suppliers about what is happening in the markets in which they sell their output.
- A lower price level causes misperceptions about relative prices.
- These misperceptions induce suppliers to decrease the quantity of goods and services supplied.

Why the AS Curve Slopes Upward in the Short Run? (Cont'd)

- All three theories suggest that output deviates in the short run from the natural rate when the actual price level deviates from the price level that people had expected to prevail.
- They all reach the same conclusion:
 - ▷ Short Run Output = Long Run Output + $a \times (\text{Price Level} - \text{Expected Price Level})$
 - ▷ $Y = Y_N + a \times (P - P^e)$

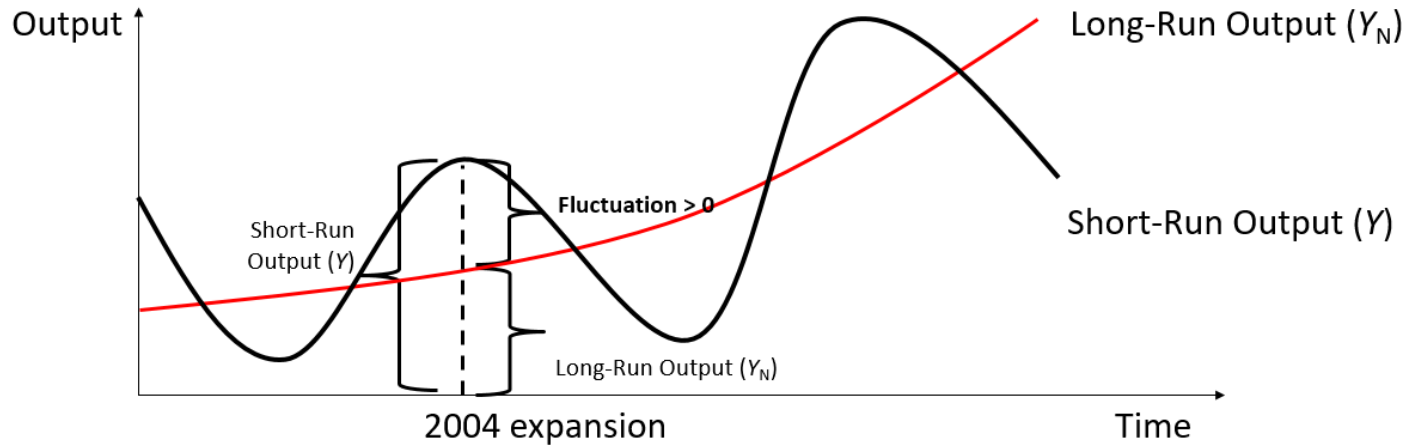
Short-Run Aggregate Supply (SRAS)

- Short Run Output = Long Run Output + Fluctuation



Short-Run Aggregate Supply (Cont'd)

- Short Run Output = Long Run Output + Fluctuation



Short-Run Aggregate Supply (Cont'd)

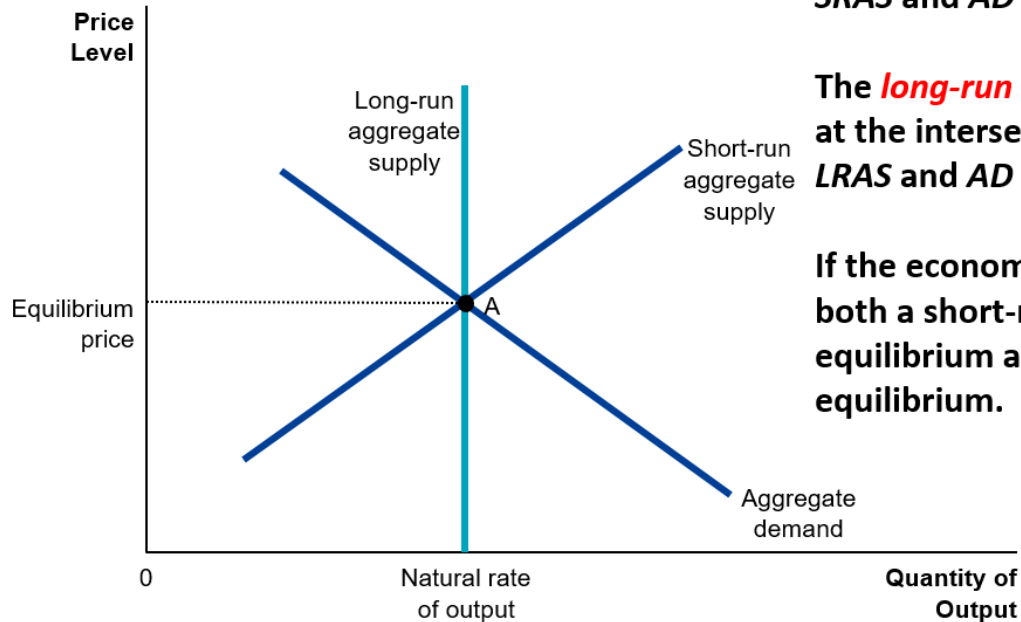
- Short Run Output = Long Run Output + Fluctuation
- The fluctuation depends on how much the price level at a given moment (P) exceeds what people in the past had thought the price level would be at that moment (P^e)
- Fluctuation = $a \times (\text{Price Level} - \text{Expected Price Level})$
- So, the short-run aggregate supply depends on how pleasant a surprise the sellers get.
- The higher the actual price level relative to the price level that had been expected, the higher the aggregate supply.



Two Causes of Economic Fluctuations

- Now we focus on:
 - ▷ long-run equilibrium
 - ▷ short-run equilibrium after a disturbance throws the economy off the long-run equilibrium, and
 - ▷ the readjustment to a new long-run equilibrium after the disturbance

The Long-Run Equilibrium

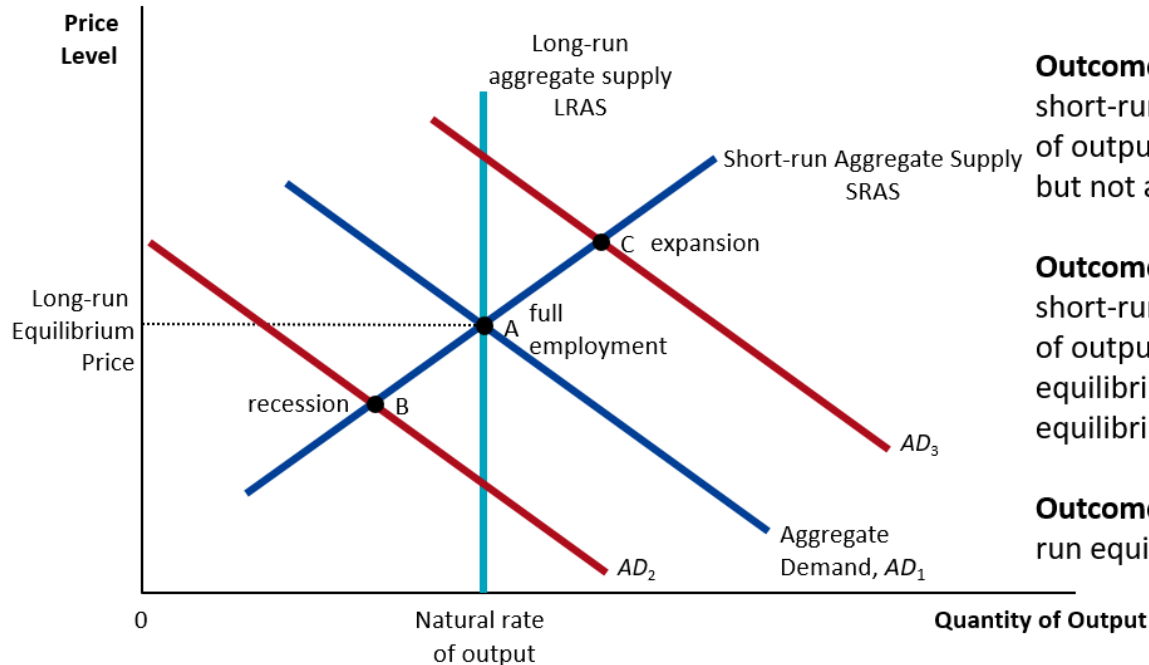


The **short-run equilibrium** is at the intersection of the **SRAS** and **AD** curves.

The **long-run equilibrium** is at the intersection of the **LRAS** and **AD** curves.

If the economy is at **A**, it is both a short-run equilibrium and a long-run equilibrium.

Demand-driven recessions and expansions

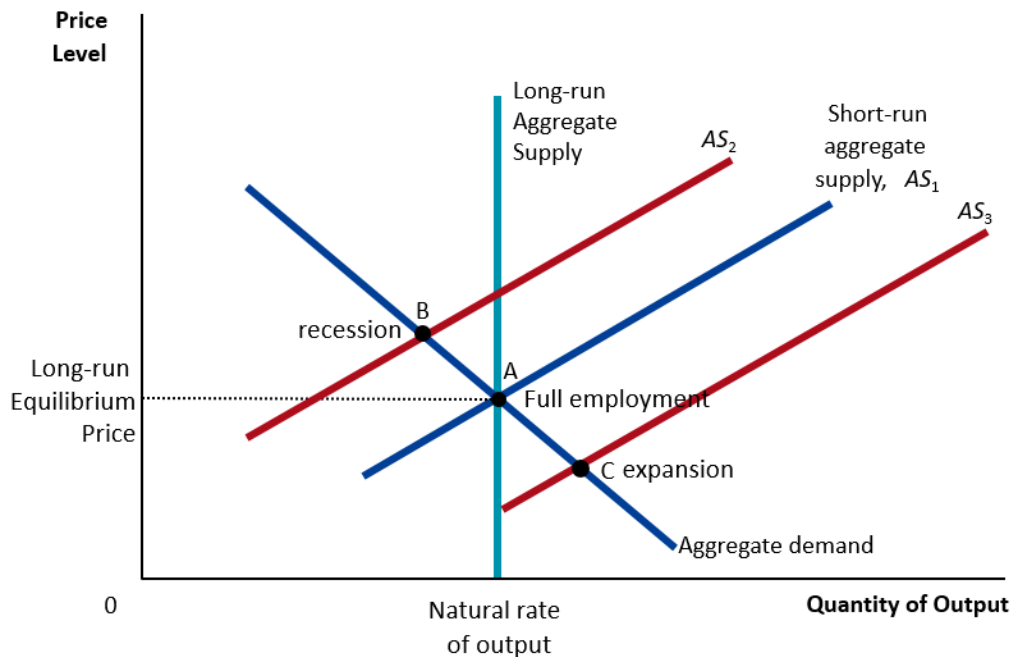


Outcome B shows a *recession*, with short-run output below the natural rate of output. It is a short-run equilibrium but not a long-run equilibrium.

Outcome C shows a *expansion*, with short-run output above the natural rate of output. Like B, it is a short-run equilibrium but not a long-run equilibrium.

Outcome A is both short-run and long-run equilibrium.

Supply-driven recessions and expansions

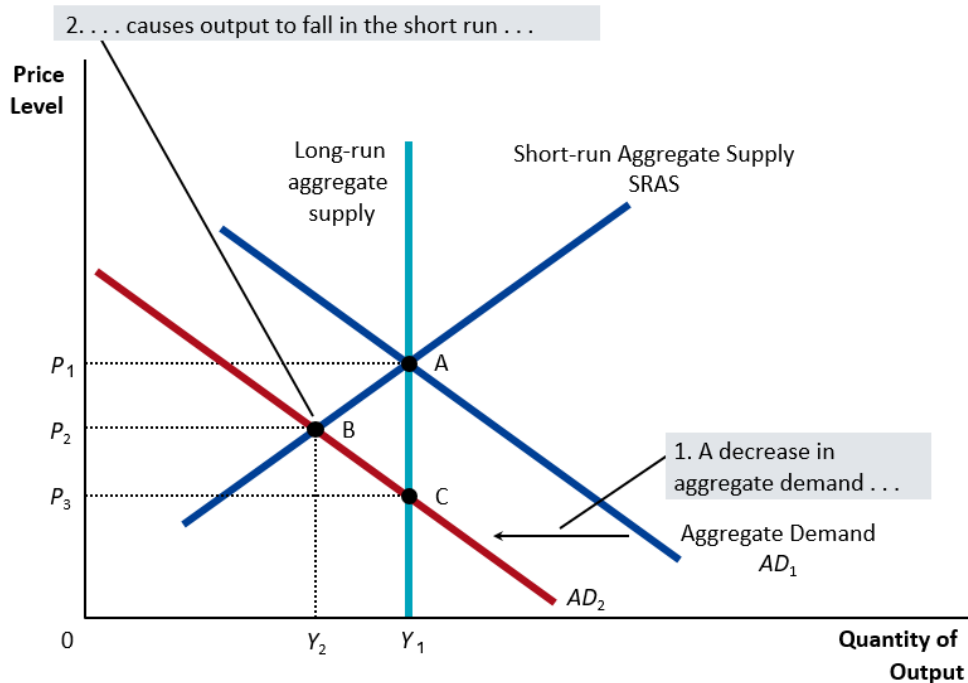


Outcome B shows a *recession*, with short-run output below the natural rate of output. It is a short-run equilibrium but not a long-run equilibrium.

Outcome C shows a *expansion*, with short-run output above the natural rate of output. Like B, it is a short-run equilibrium but not a long-run equilibrium.

Outcome A is both short-run and long-run equilibrium.

A Contraction in Aggregate Demand (Temporary)

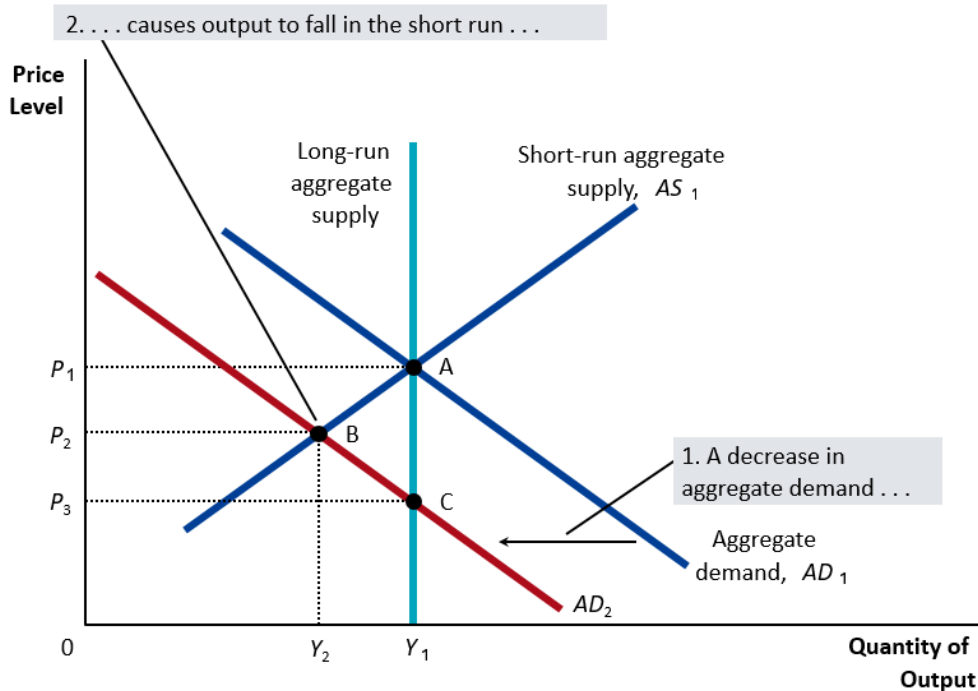


The contraction in aggregate demand causes a *recession*, with output *falling* to Y_2 .

If the contraction in AD is temporary, the AD curve will soon go back to AD_1 , the recession will be over, and the economy will be back to the original long-run equilibrium at A. ($A \rightarrow B \rightarrow A$)

But what if the contraction in AD is permanent?

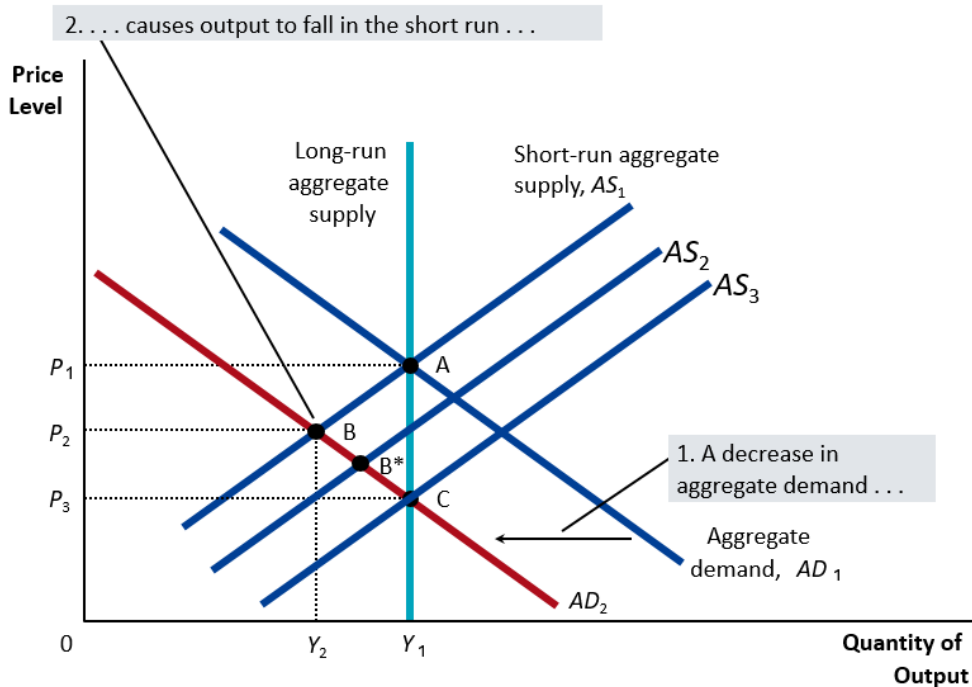
A Contraction in Aggregate Demand (Permanent)



Assuming the contraction from AD_1 to AD_2 is permanent, we consider two possibilities:

1. The government does not intervene
2. The government uses expansionary fiscal policies and expansionary monetary policies to push the aggregate demand curve back to AD_1 .

A Permanent Contraction in AD, No Gov Intervention



If the shock to AD is permanent, the economy will stay at B for a while and the recession will show no signs of ending.

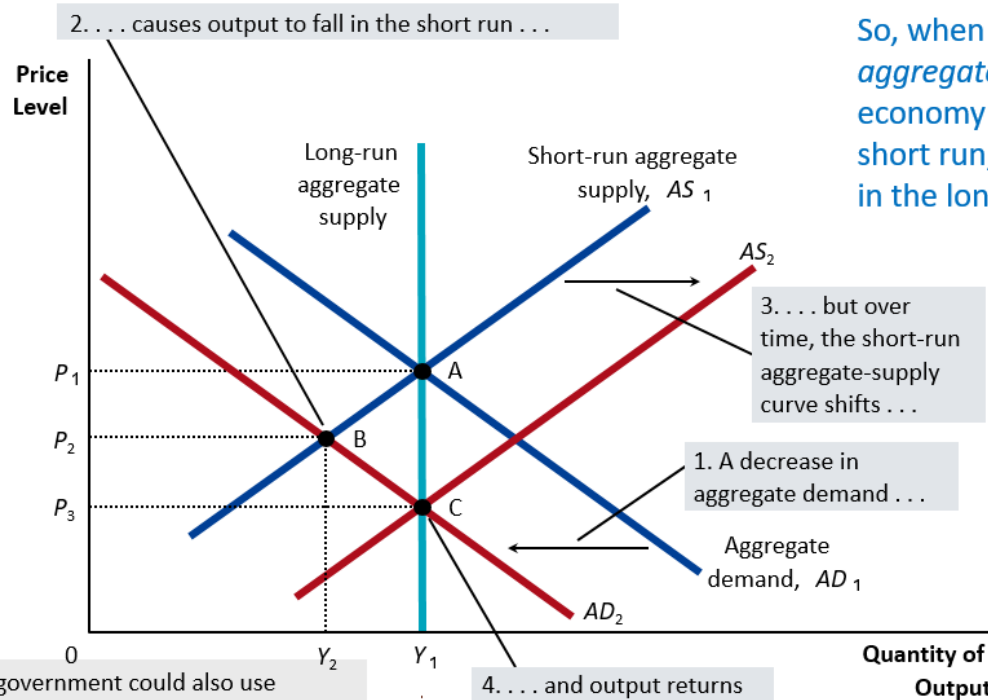
But eventually the economy will begin to heal itself.

The continued high unemployment will cause (i) wages to fall. So, people will (ii) expect the price level to fall ($P^e \downarrow$).

We saw earlier that $P^e \downarrow$ causes (iii) AS to fall, say, to AS_2 . The new short run equilibrium will be at B^* and output will begin to recover.

At B^* , the recession will continue, causing steps (i), (ii) and (iii) to repeat ... until the economy reaches a new long-run equilibrium at C and the recession ends.

A Permanent Contraction in AD, No Gov Intervention (Cont'd)



So, when there is a fall in aggregate demand, the economy goes from A to B in the short run, and from A to B to C in the long run.

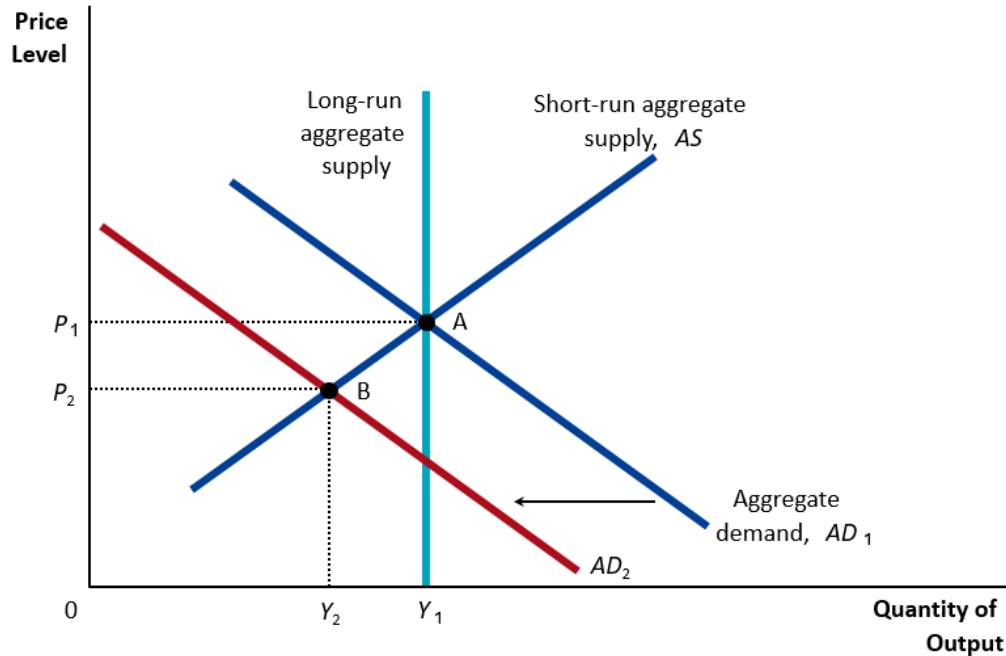
The Effects of a Shift in Aggregate Demand

- Contraction (leftward shift) in Aggregate Demand
 - ▷ In the short run,
 - > output decreases,
 - > the overall price level decreases, and
 - > the unemployment rate increases
 - ▷ In the long run,
 - > the overall price level decreases,
 - > but output and the unemployment rate remain unchanged at their long-run levels.
 - > The economy heals itself. But it is unclear how long this might take.

The Effects of a Shift in Aggregate Demand (Cont'd)

- If production and employment take too long to return to their long-run levels, the government could step in to hasten the process.
- The government could push the aggregate demand curve back where it was by:
 - ▷ increasing the money supply (**expansionary monetary policy**)
 - ▷ cutting taxes or increasing government spending (**expansionary fiscal policy**)

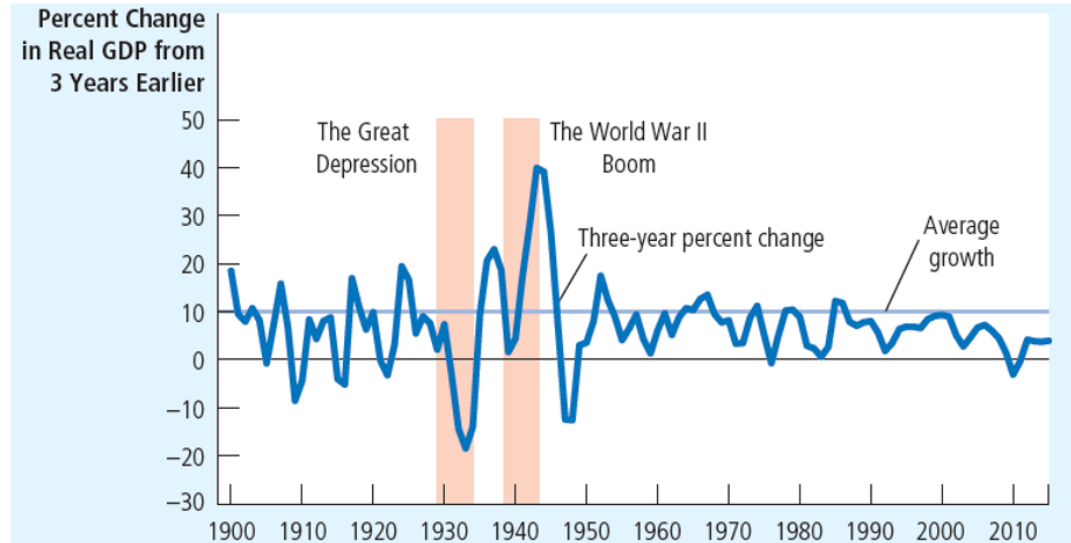
Government Intervention Can Reverse a Contraction in AD



As we saw in our discussion of the shifts of the AD curve, government intervention in the form of expansionary fiscal policy and expansionary monetary policy can shift the aggregate demand curve back to AD_1 . This would end the recession. $A \rightarrow B \rightarrow A$.

History of Demand-Driven Fluctuations

Figure U.S. real GDP growth since 1900



Over the course of U.S. economic history, two fluctuations stand out as especially large. During the early 1930s, the economy went through the Great Depression, when the production of goods and services plummeted. During the early 1940s, the United States entered World War II, and the economy experienced rapidly rising production. Both of these events are usually explained by large shifts in aggregate demand.

Two big shifts in aggregate demand: Great Depression

- The Great Depression of the early 1930s was by far the worst economic downturn in US history.
 - ▷ From 1929 to 1933
 - > Real GDP fell by 27%
 - > Unemployment rose from 3 to 25%
 - > Price level fell by 22%

Great Depression (Cont'd)

- Cause of the Great Depression: most historians blame a decrease in aggregate demand.
- Cause of the decrease in aggregate demand: most historians blame the 28% fall in the money supply
 - ▷ People lost faith in the banking system and began to withdraw their money. Banks did not have the money to lend to businesses. Starved of loans, businesses shut down. Other businesses had to abandon expansion plans.
 - ▷ The Fed could have printed money and loaned it to the banks, but that did not happen.
- Another suggested cause of the fall in aggregate demand during the Great Depression:
 - ▷ Stock market crash → decrease in household wealth → decrease in consumption spending

Two big shifts in aggregate demand: World War II

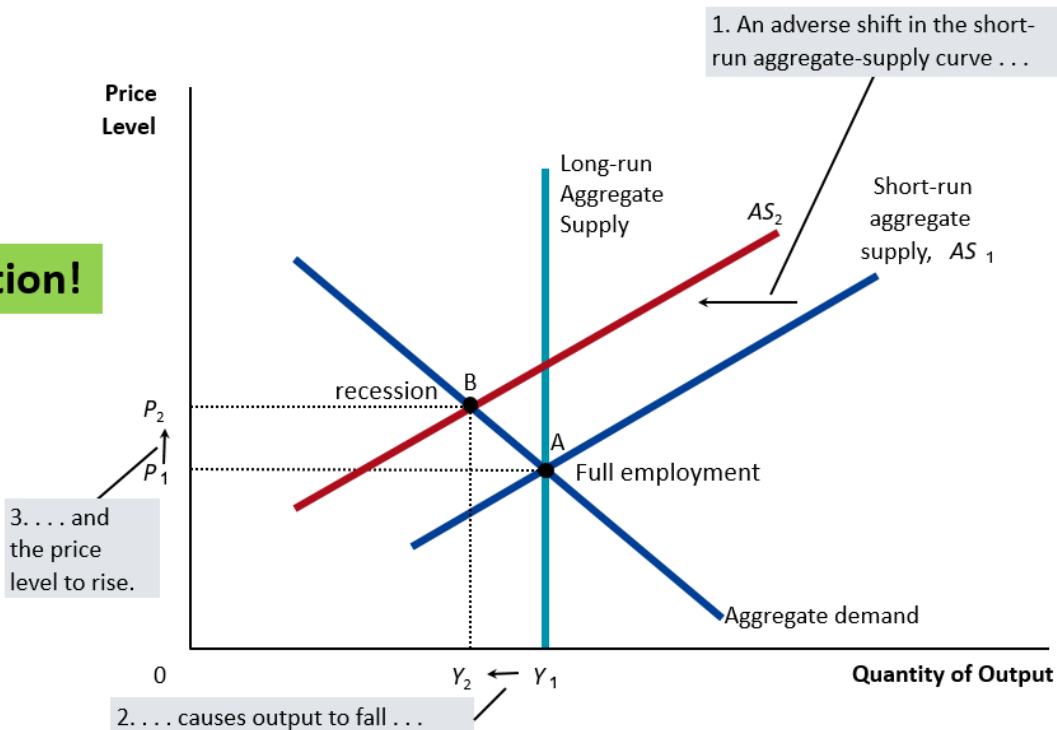
- Early 1940s: large increase in real GDP
 - ▷ World War II
 - > More resources to the military
 - > Government purchases increased fivefold 1939-1944
 - > Aggregate demand – increased 1939-1944
 - > Doubled the economy's production of goods and services
 - > 20% increase in the price level
 - > Unemployment fell from 17% to 1%, lowest in US history

The Effects of a Shift in Aggregate Supply

- A leftward shift in Short-Run Aggregate Supply
 - ▷ Output falls below the natural rate of employment
 - ▷ Unemployment rises
 - ▷ The price level rises
- Stagflation!**
- If the government does nothing, the SRAS will gradually shift back to where it was.
 - ▷ The price level, total production and unemployment will be unaffected in the long run.

An Adverse Shift in Aggregate Supply

Stagflation!



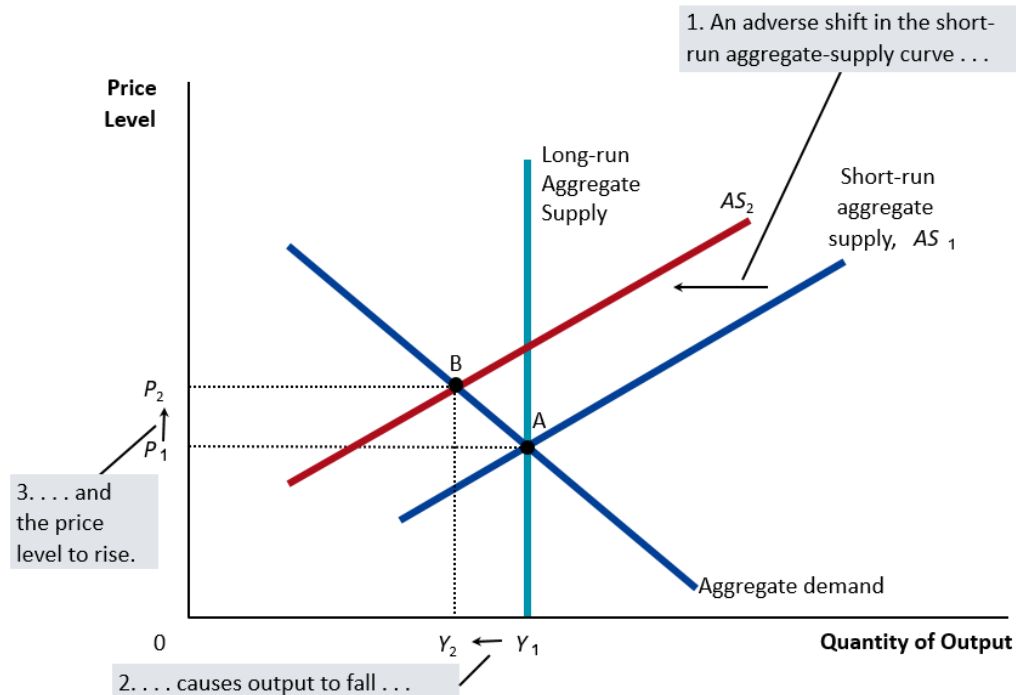
The Effects of a Shift in Aggregate Supply (Cont'd)

- Leftward shifts in aggregate supply cause **stagflation** – a period of recession and inflation.
 - ▷ Output falls and price rise.
 - ▷ Policymakers can influence aggregate demand, but they cannot reverse both the fall in output and the rise in prices simultaneously.

The Effects of a Shift in Aggregate Supply (Cont'd)

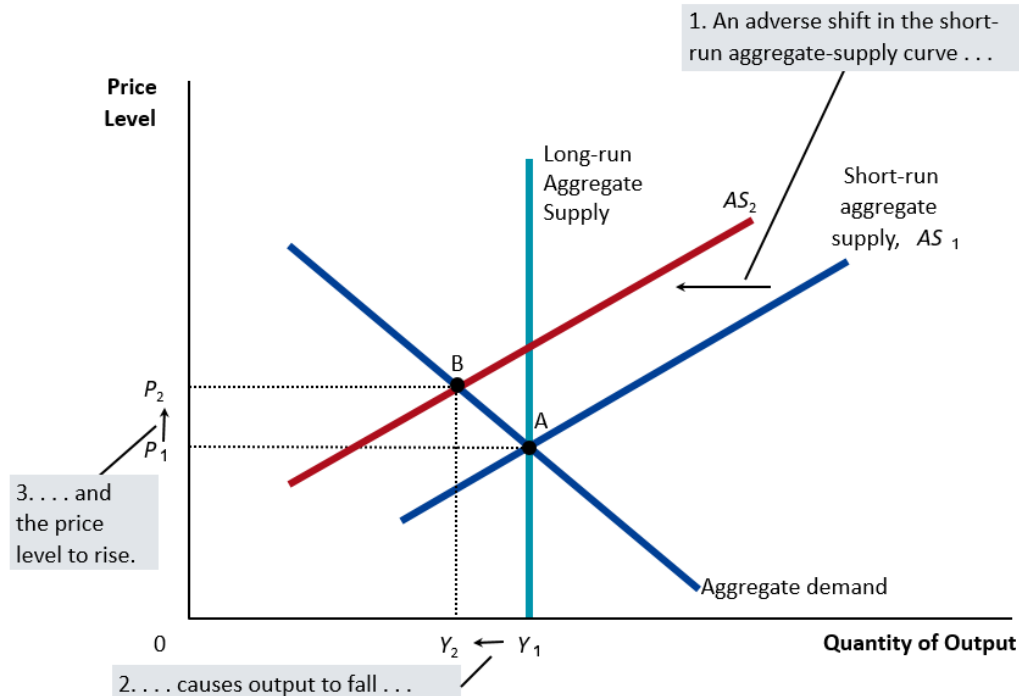
- Policy Responses to Supply-Shock Recession
 - ▷ Policymakers may respond to a recession in one of the following ways:
 - > Do nothing and wait for the economy to heal itself through the automatic adjustment of prices and wages.
 - > Take action to increase aggregate demand by using (expansionary) monetary and fiscal policy.

Policy Response to an Adverse Shift in AS: Do Nothing



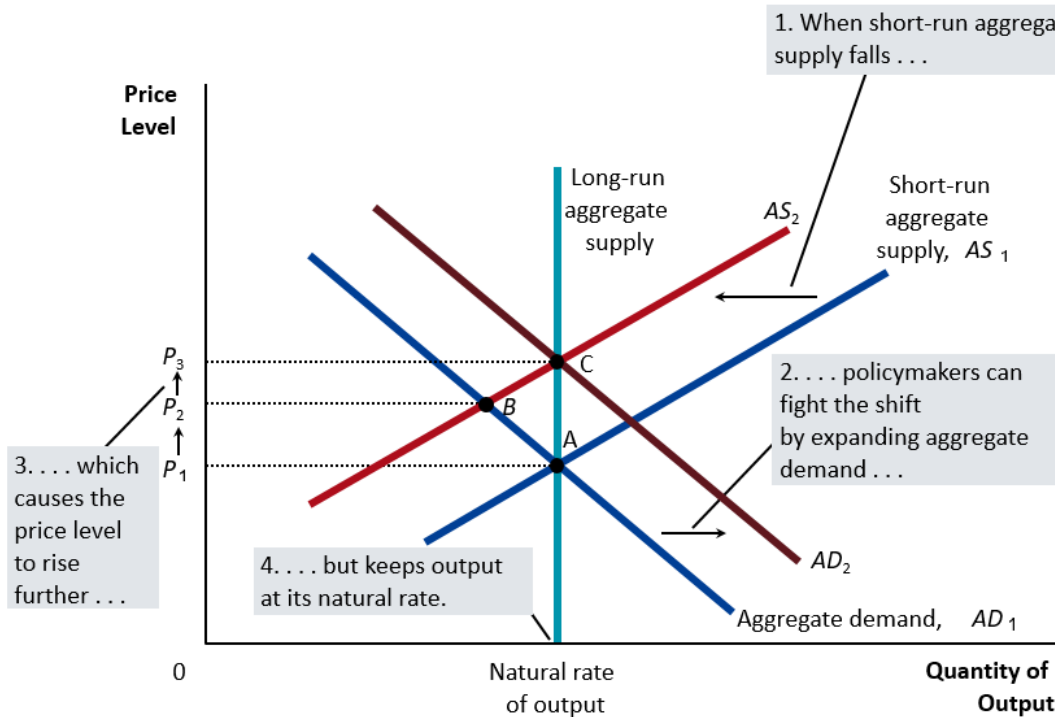
1. The economy starts at A. It is the intersection of the *AD*, *SRAS*, and *LRAS* curves; so it is a long-run equilibrium.
2. When *SRAS* shifts left, the economy moves from A to B in the short-run. This is **stagflation**.
3. If the government does nothing ...

Policy Response to Left Shift in AS: Do Nothing (Cont'd)



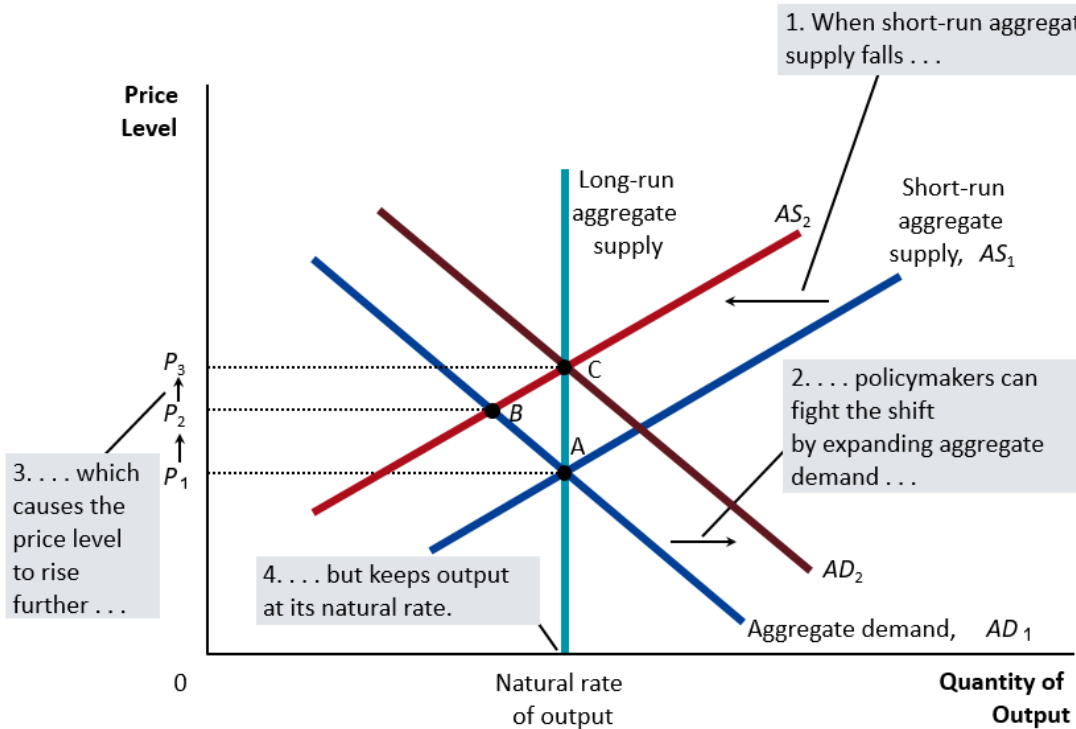
4. The economy will stay at B for a while and the recession will continue.
5. The high unemployment will eventually cause wages to fall.
6. So, people will expect prices to fall ($P^e \downarrow$).
7. As we saw earlier, $P^e \downarrow$ will shift $SRAS$ curve back to AS_1 .
8. So, in the long run, the economy will go from A to B to A again. **The economy will heal itself.**

Policy Response to an Adverse Shift in AS: Fight It!



1. The economy starts at A. It is the intersection of the AD , $SRAS$, and $LRAS$ curves; so it is a long-run equilibrium.
2. When $SRAS$ shifts left, the economy moves from A to B in the short-run. This is **stagflation**.

Policy Response to Left Shift in AS: Fight It! (Cont'd)



3. The government uses expansionary fiscal and monetary policy to shift the AD curve to the right (AD_2).
4. The economy goes from B to C .
5. So, output recovers.
6. But the inflation worsens.

Case Study: Oil and the economy

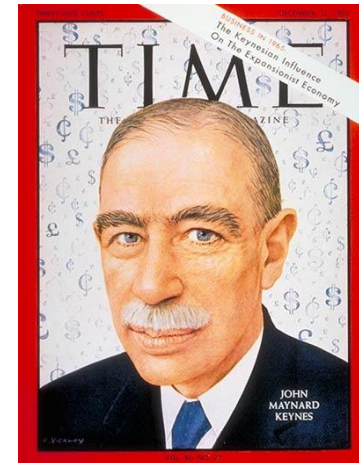
- Economic fluctuations in the U.S. economy
 - ▷ Since 1970
 - ▷ Some: originated in the oil fields of the Middle East
- Some event – reduces the supply of crude oil flowing from Middle East
 - ▷ Price of oil – rises around the world
 - ▷ Aggregate supply curve shifts left
 - ▷ Stagflation
 - > Mid-1970s
 - > Late-1970s

Case Study: Oil and the economy (Cont'd)

- Some event – increases the supply of crude oil from Middle East
 - ▷ Price of oil decreases
 - ▷ Aggregate supply curve shifts right
 - > Output – rapid growth
 - > Unemployment – falls
 - > Inflation rate – falls
- Recent years: World market for oil – not an important source of economic fluctuations
 - ▷ Conservation efforts
 - ▷ Changes in technology

John Maynard Keynes (1883-1946)

- Our understanding of the short-run behaviour of the economy grew out of economists' attempts to understand why the Great Depression happened.
- Published in 1936, Keynes's *The General Theory of Employment, Interest and Money* laid the foundations.



John Maynard Keynes (1883-1946) (Cont'd)

- “The 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 when the storm is long past, the ocean will be flat.”
▷ *A Tract on Monetary Reform* (1923)



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