

Chapter 13: Aggregate Demand and Aggregate Supply Model



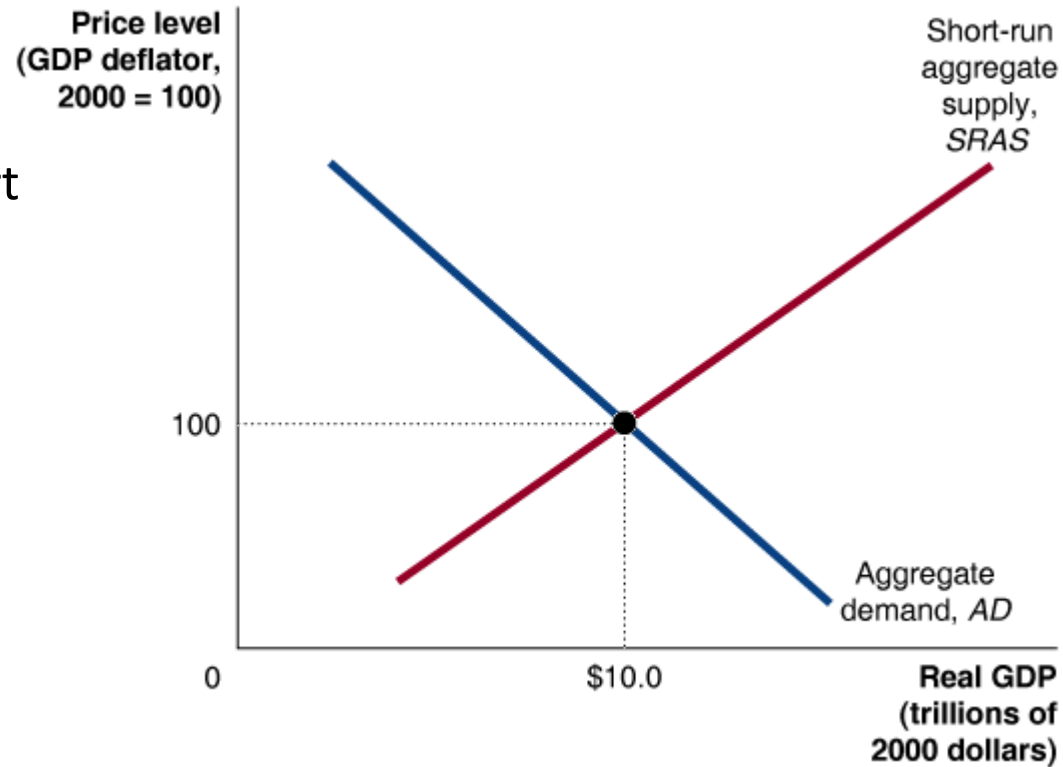
"DON'T PANIC, MR LACY! WE HAVE A KEYNESIAN ON THE WAY!"

Chapter 13: Aggregate Demand and Aggregate Supply model

A model that explains short-run fluctuations in real GDP and the price level.

Aggregate demand curve shows the relationship between the price level and the quantity of real GDP demanded by households, firms, and the government.

Short-run aggregate supply curve shows the relationship in the short run between the price level and the quantity of real GDP supplied by firms.



Why Is the Aggregate Demand Curve Downward Sloping?

C

The Wealth Effect: The impact of the price level on consumption

I

The Interest-Rate Effect: The impact of the price level on investment

NX

The International-Trade Effect: The impact of the price level on net exports

The Variables That Shift the Aggregate Demand Curve

Changes in Government Policies

Monetary policy The actions the Federal Reserve takes to manage the money supply and interest rates

Fiscal policy Changes in federal taxes and purchases

Changes in the Expectations of Households and Firms

If households become more optimistic about their future incomes, they are likely to increase their current consumption.

Changes in Foreign Variables

If firms and households in other countries buy fewer U.S. goods or if firms and households in the United States buy more foreign goods, net exports will fall, and the aggregate demand curve will shift to the left.

An increase in ...

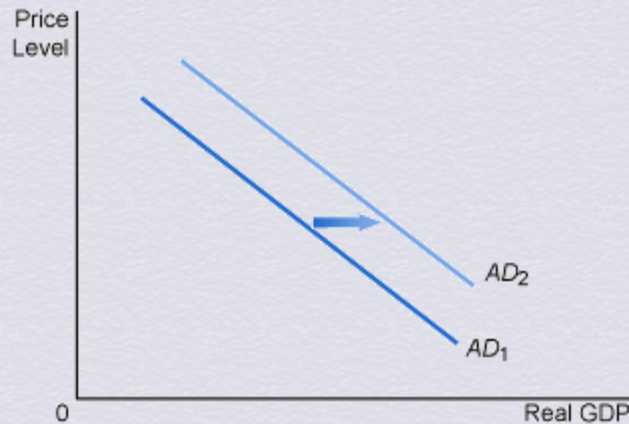
Shifts the short-run aggregate supply curve to the **right**...

Because ...

government purchases

households' expectations of their future incomes

firms' expectations of the future profitability of investment spending



government purchases are a component of aggregate demand.

consumption spending increases.

investment spending increases.

An increase in ...

Shifts the supply curve to the **left** ...

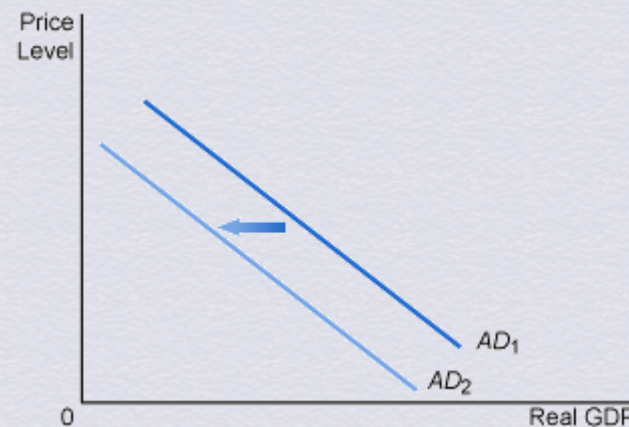
Because ...

interest rates

personal income taxes or business taxes

growth rate of domestic GDP relative to that of foreign GDP

the exchange rate (the value of the dollar) relative to foreign currencies



higher interest rates raise the cost to firms and households of borrowing, reducing consumption and investment spending.

consumption spending falls when personal taxes rise, and investment falls when business taxes rise.

exports will fall, reducing net exports.

imports will rise and exports will fall, reducing net exports.

Problem 1.6, [Related to Solved Problem #1] Explain whether each of the following will cause a shift of the [AD curve](#) or a movement along the AD curve.

a. Firms become more optimistic and increase their spending on machinery and equipment. Because this is a change in , it will cause the aggregate demand curve to have a .

- the price level
- consumption
- investment
- government spending
- net export

b. The federal government increases taxes in an attempt to reduce a budget deficit. Because is a change in , the aggregate demand curve will .

- net export
- consumption
- government spending
- investment
- the price level

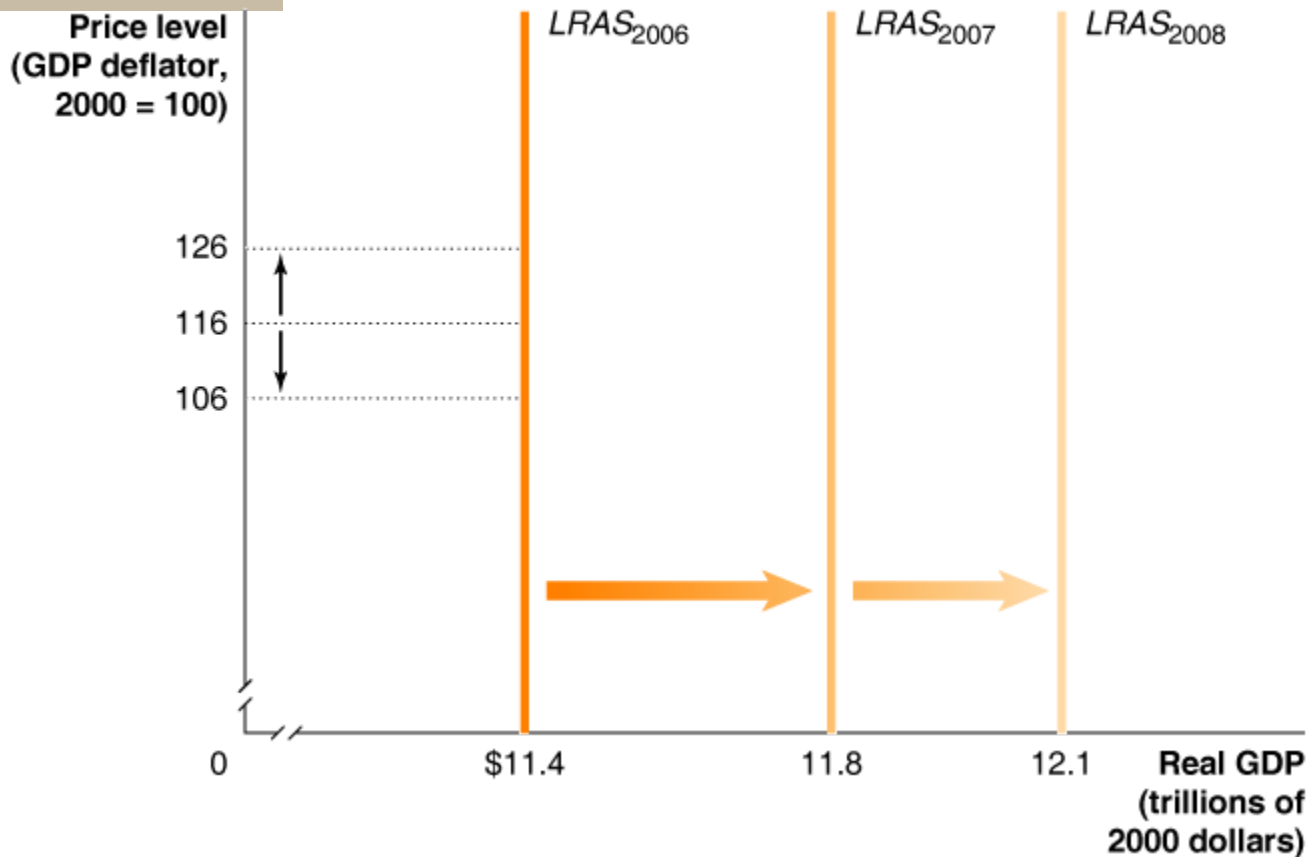
c. The U.S. economy experiences 4-percent inflation. Because this is a change in , the aggregate demand curve will .

- the price level
- consumption
- investment
- government spending
- net export

The Long-Run Aggregate Supply Curve

shows the relationship in the long run between the price level and the quantity of real GDP supplied.

The Long-Run Aggregate Supply Curve





Review Question 2.1, The long-run aggregate supply curve is vertical, because in the long run

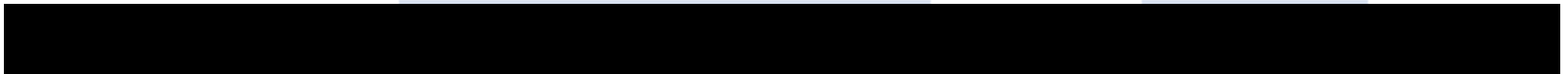
- A. in the long run, the price level does not change but potential GDP changes its value.
- B. changes in the price level affect potential GDP, via other variables such as the size of the labor force, capital stock and technology.
- C. changes in the size of the labor force, capital stock and technology affect the price level and but not potential GDP.
- D. changes in the price level do not affect potential GDP, as potential GDP depends on the size of the labor force, capital stock and technology.

Problem 2.5, Explain how each of the following events would affect the [long-run aggregate supply curve](#).

a. The price level increases.



b. The labor force increases.



c. There is an increase in the quantity of capital goods.



d. Technological change occurs.



The Short-Run Aggregate Supply Curve

Short-run aggregate supply curve slopes upward because:

- 1 Contracts make some wages and prices “sticky.”
- 2 Firms are often slow to adjust wages.
- 3 Menu costs make some prices sticky.

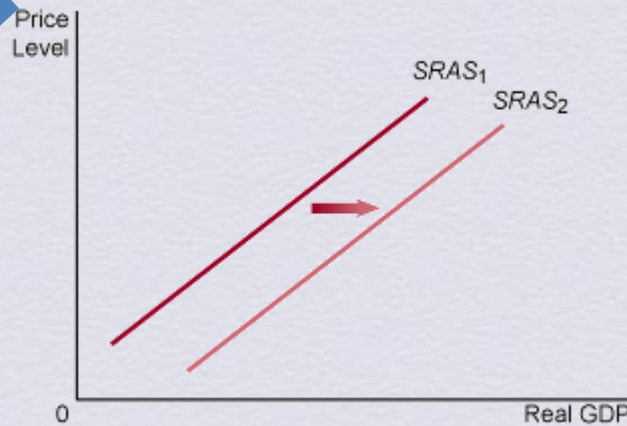
An increase in ...

Shifts the short-run aggregate supply curve to the **right** ...

Because ...

the labor force or the capital stock
productivity

Also increases LRAS



more output can be produced at every price level.

costs of producing output fall.

An increase in ...

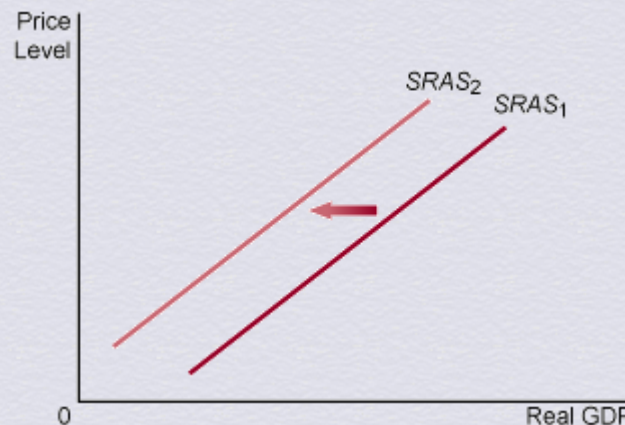
Shifts the short-run aggregate supply curve to the **left**...

Because ...

the expected future price level

workers and firms adjusting to having previously underestimated the price level

the price of an important raw material



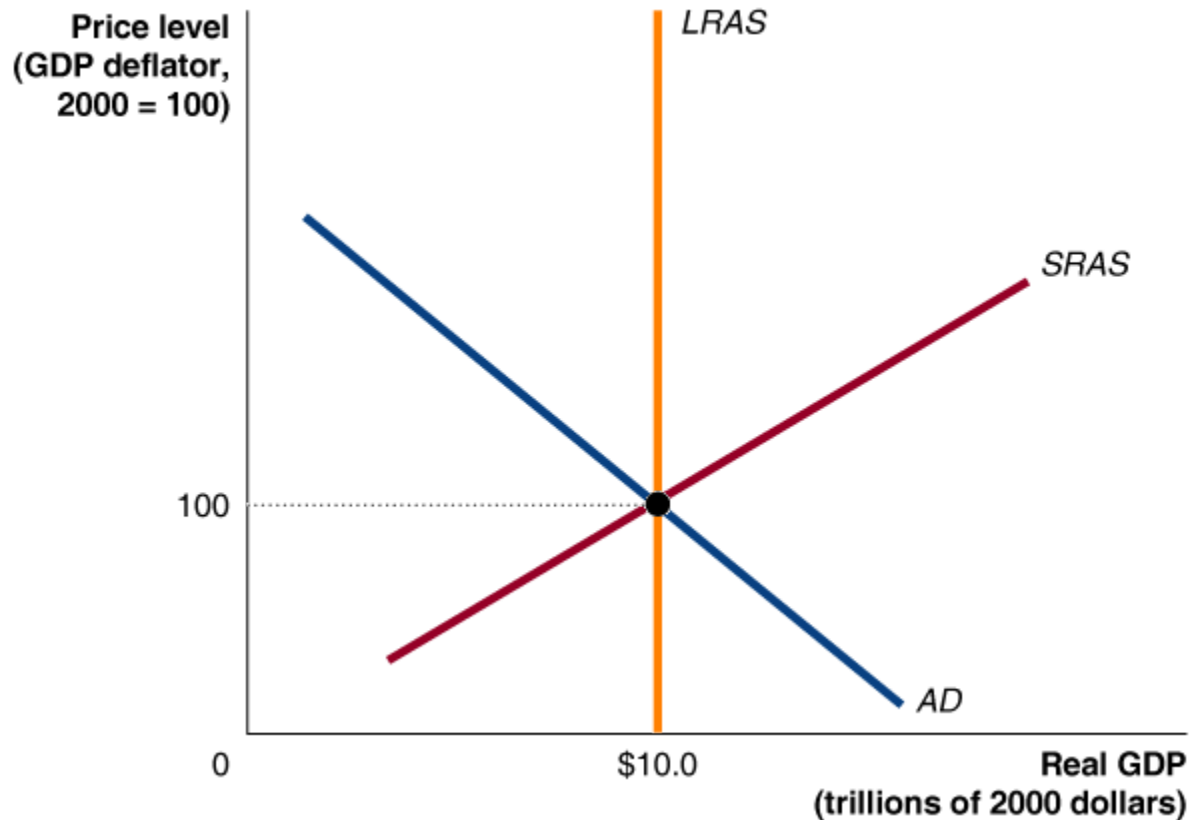
workers and firms increase wages and prices.

workers and firms increase wages and prices.

costs of producing output rise.

Macroeconomic Equilibrium in the Long Run and the Short Run

Long-Run
Macroeconomic
Equilibrium



Steps for Analyzing Changes in Equilibrium

1.	Decide whether the event shifts the supply curve or the demand curve (or perhaps both).
2.	Decide which direction the curve shifts.
3.	Use the supply-and-demand diagram to see how the shift changes equilibrium.

Macroeconomic Equilibrium in the Long Run and the Short Run

Recessions, Expansions, and Supply Shocks

Because the full analysis of the aggregate demand and aggregate supply model can be complicated, we begin with a simplified case, using two assumptions:

1. The economy has not been experiencing any inflation. The price level is currently 100, and workers and firms expect it to remain at 100 in the future.
2. The economy is not experiencing any long-run growth. Potential real GDP is \$10.0 trillion and will remain at that level in the future.

Recession

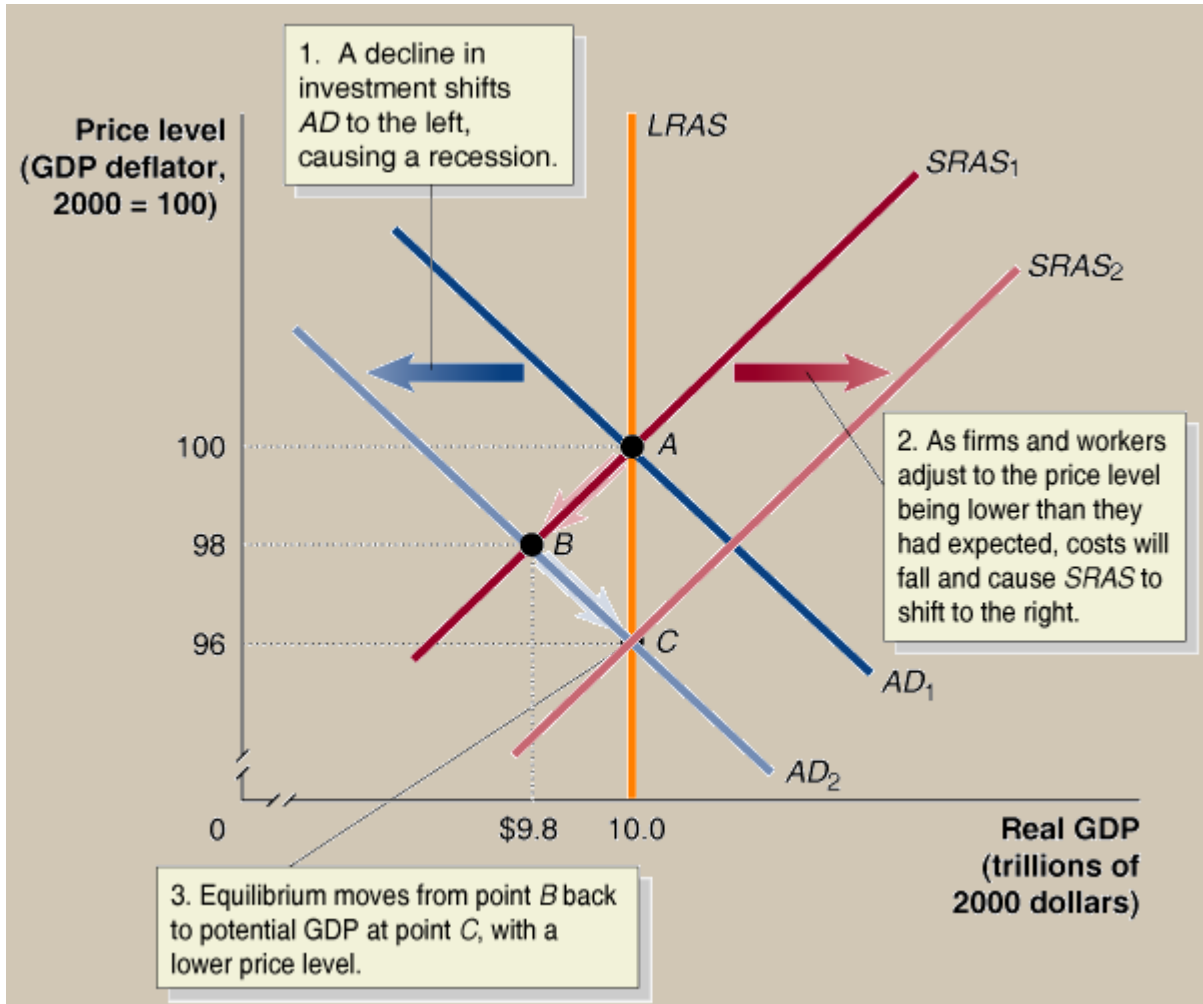
The Short-Run and Long-Run Effects of a Decrease in Aggregate Demand



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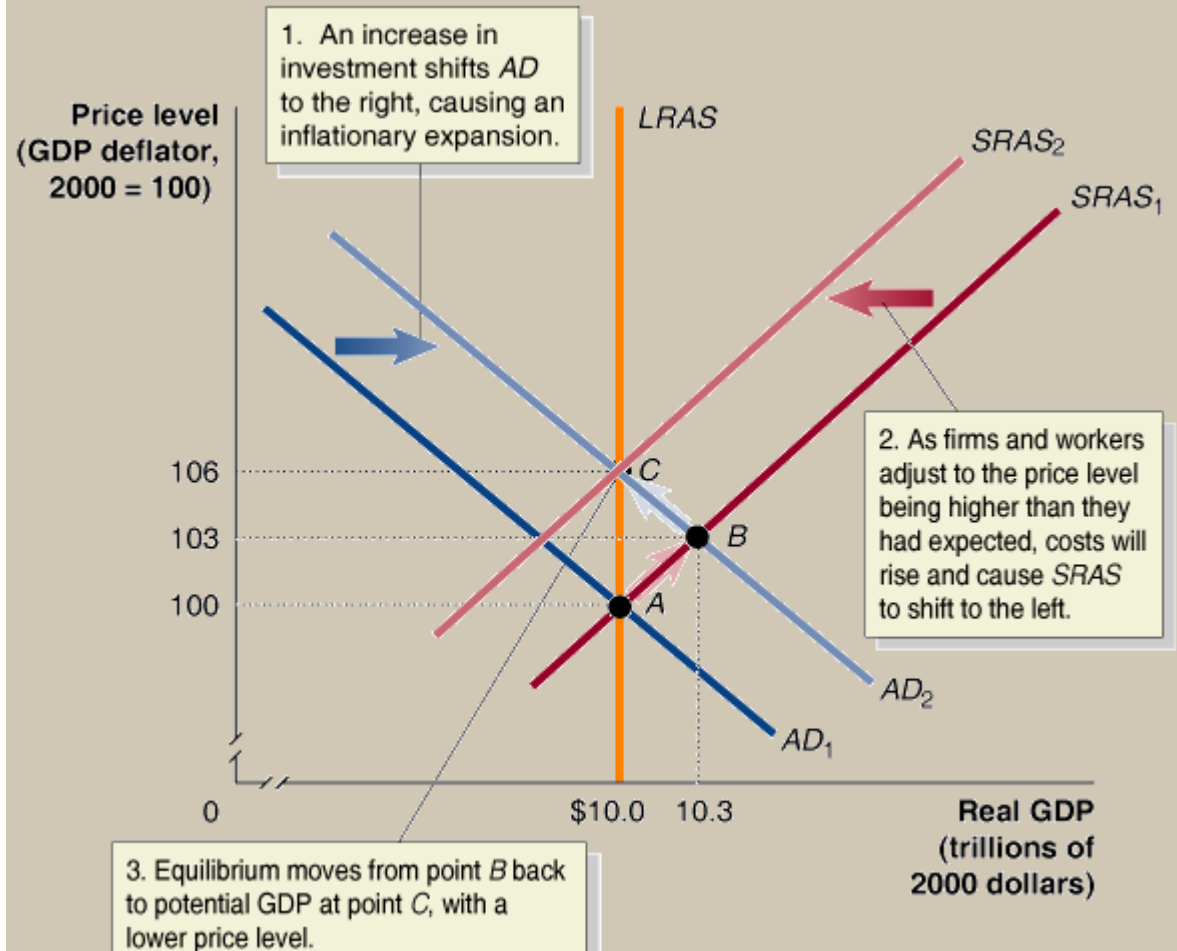
"The quarterly earnings don't look good.
We seem to be in a bit of a slump."



Expansion



The Short-Run and Long-run Effects of an Increase in Aggregate Demand

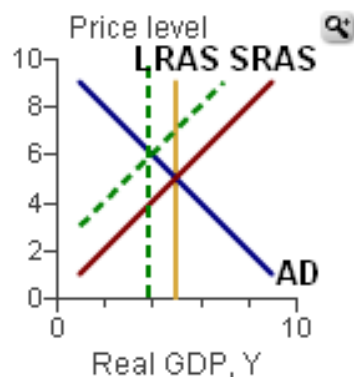




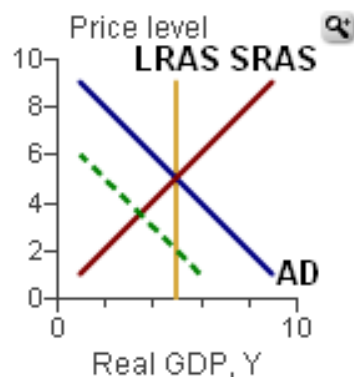
Application 3.4, [Related to *Making the Connection*] Suppose the [price of a barrel of oil increases](#) from \$50 to \$70.

Which of the following diagrams shows the effect of the increase in the price of oil? (Green dashed lines indicate change from the original equilibrium.)

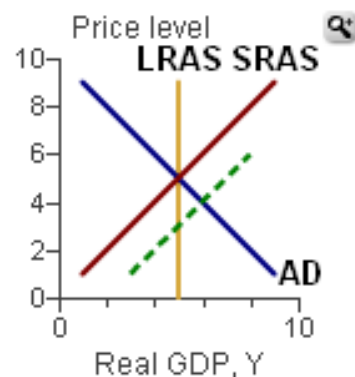
A.



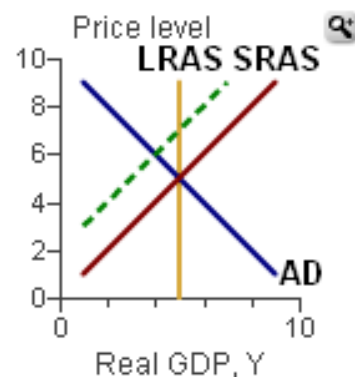
B.



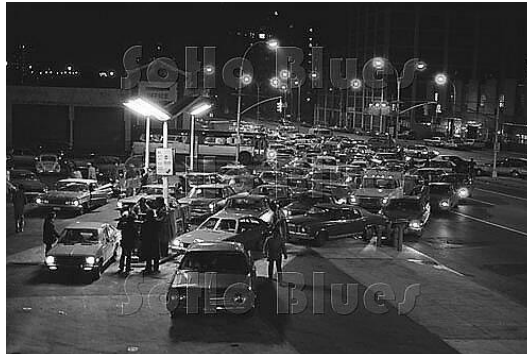
C.



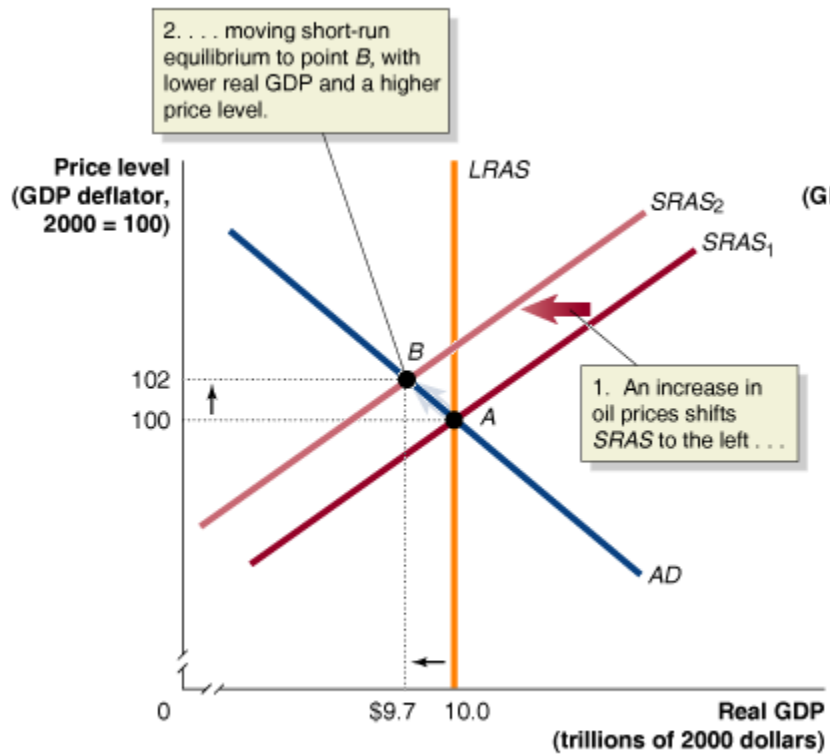
D.



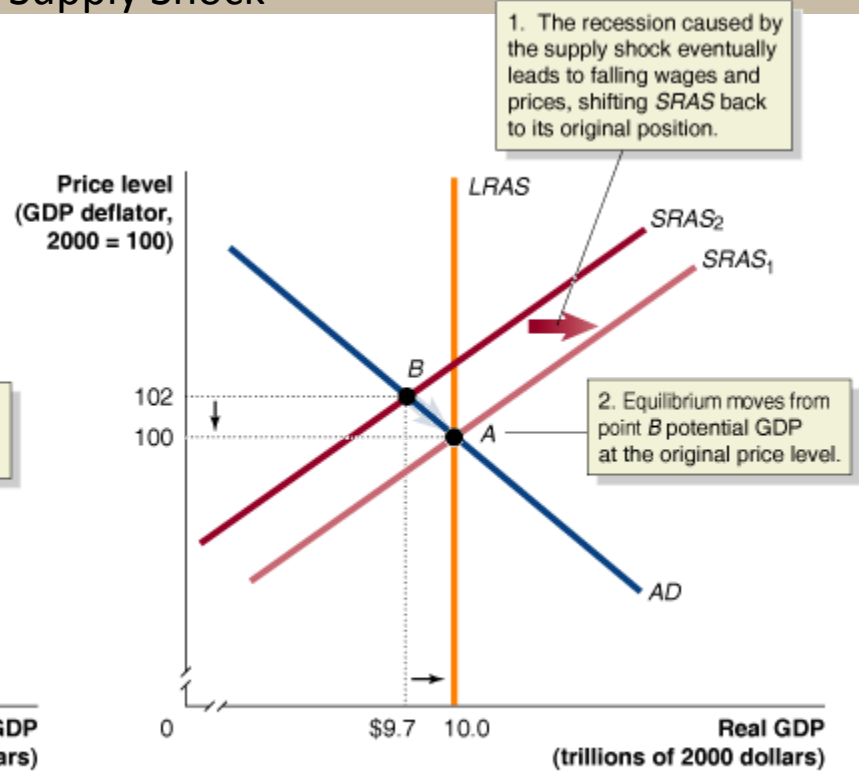
Stagflation: A combination of inflation and recession, usually resulting from a supply shock.



The Short-Run and Long-Run Effects of a Supply Shock



(a) A recession with a rising price level—the short-run effect of a supply shock



(b) Adjustment back to potential GDP—the long-run effect of a supply shock

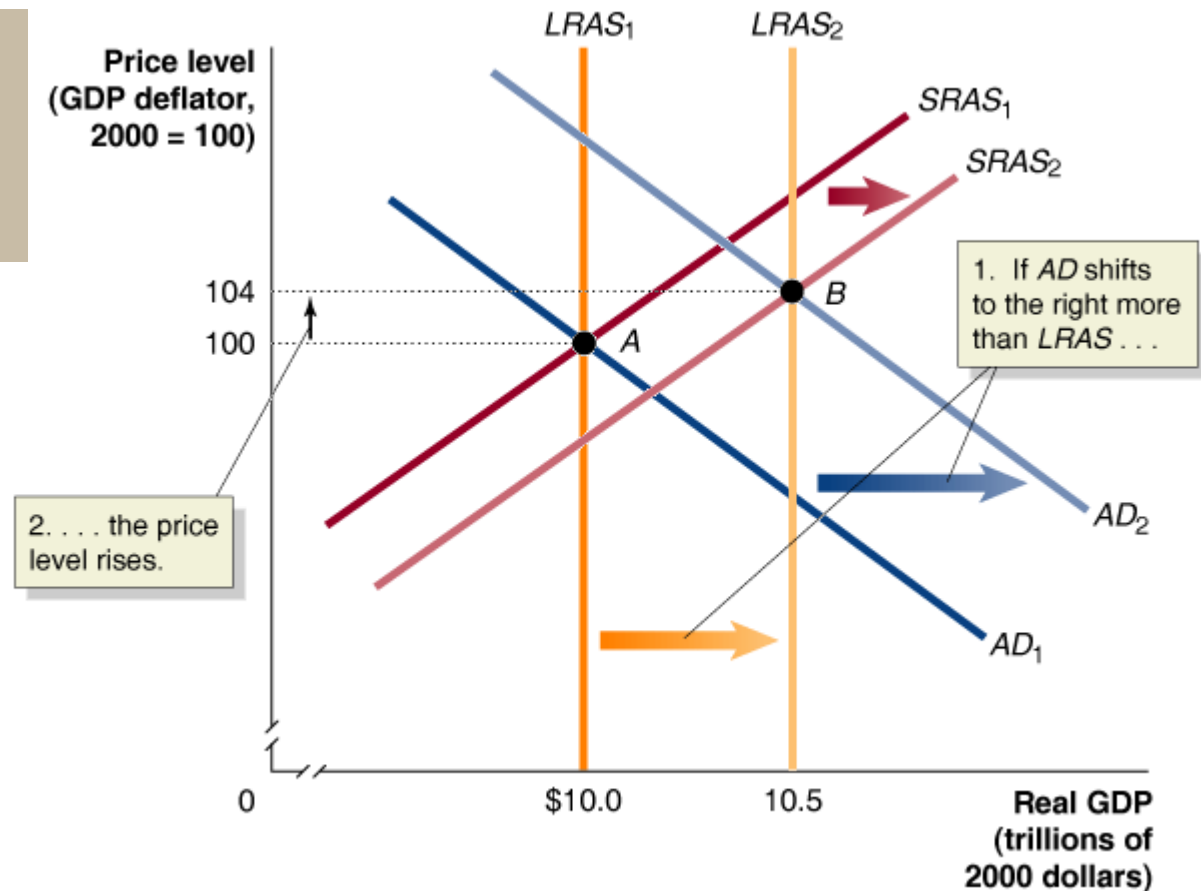
A Dynamic Aggregate Demand and Aggregate Supply Model

We can create a *dynamic aggregate demand and aggregate supply model* by making three changes to the basic model.

- Potential real GDP increases continually, shifting the long-run aggregate supply curve to the right.
- During most years, the aggregate demand curve will be shifting to the right.
- Except during periods when workers and firms expect high rates of inflation, the short-run aggregate supply curve will be shifting to the right.

What Is the Usual Cause of Inflation?

Using Dynamic Aggregate Demand and Aggregate Supply to Understand Inflation

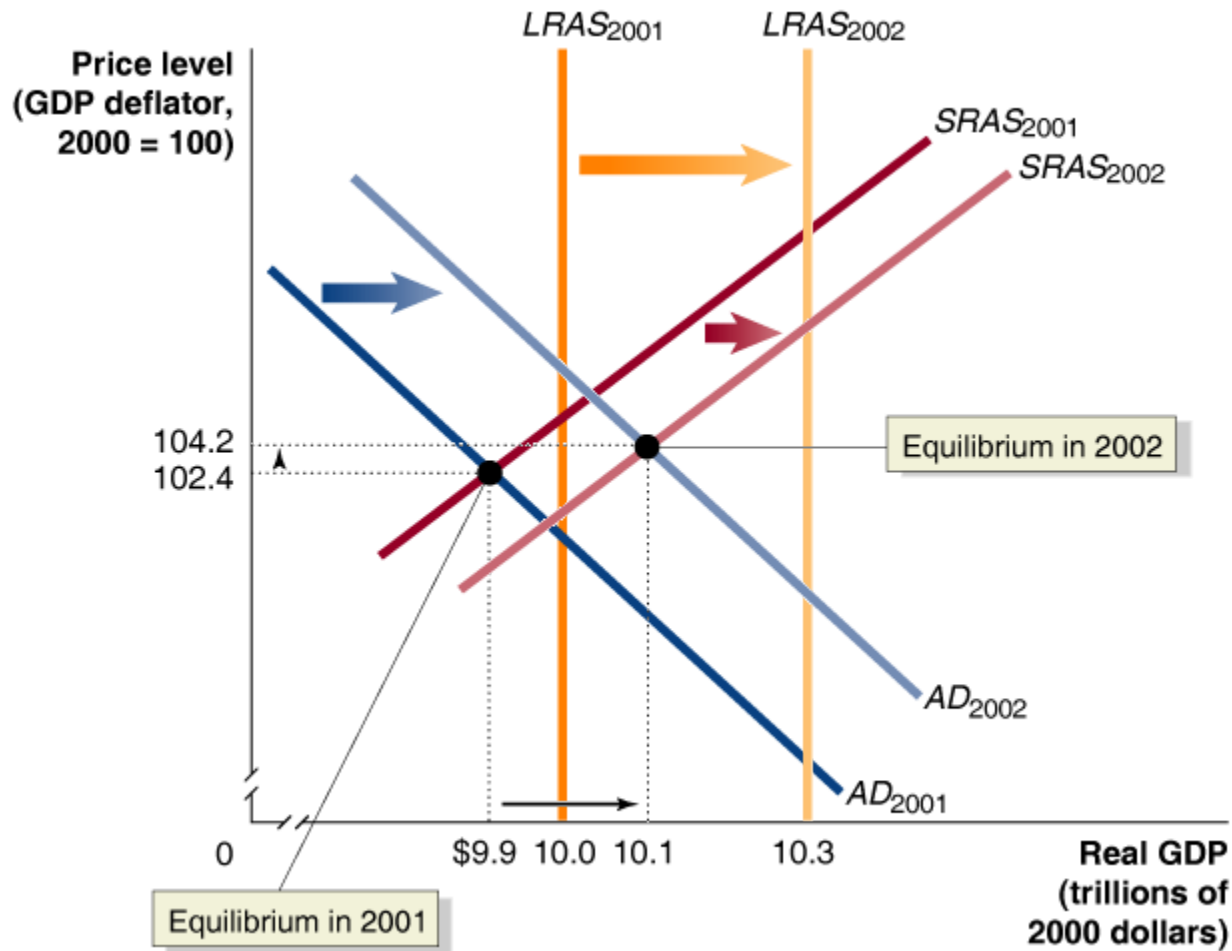


The Slow Recovery from the Recession of 2001

The recession of 2001 was caused by a decline in aggregate demand. Several factors contributed to this decline:

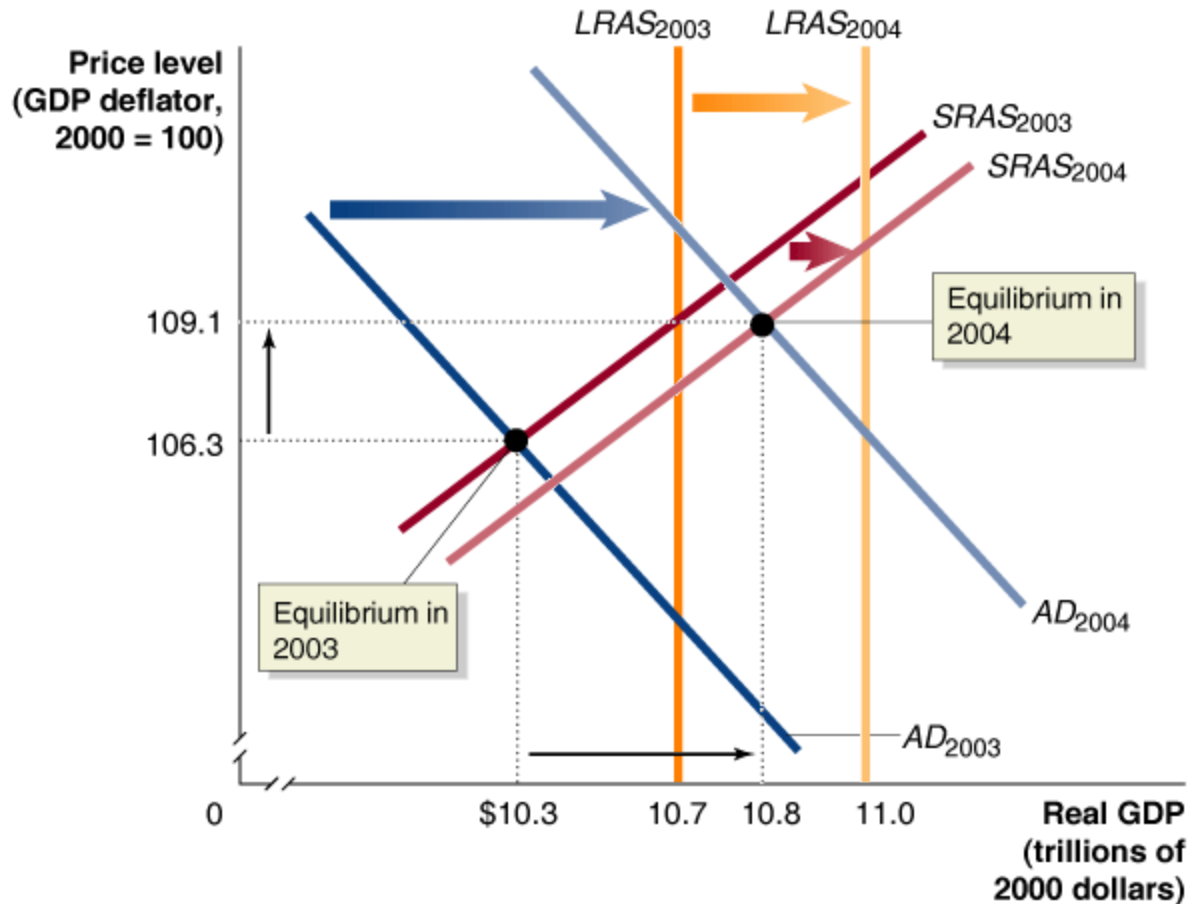
- *The end of the stock market “bubble.”*
- *Excessive investment in information technology.*
- *The terrorist attacks of September 11, 2001.*
- *The corporate accounting scandals.*

The Slow Recovery from the Recession of 2001



Using Dynamic Aggregate Demand and Aggregate Supply to Understand the Recovery from the 2001 Recession

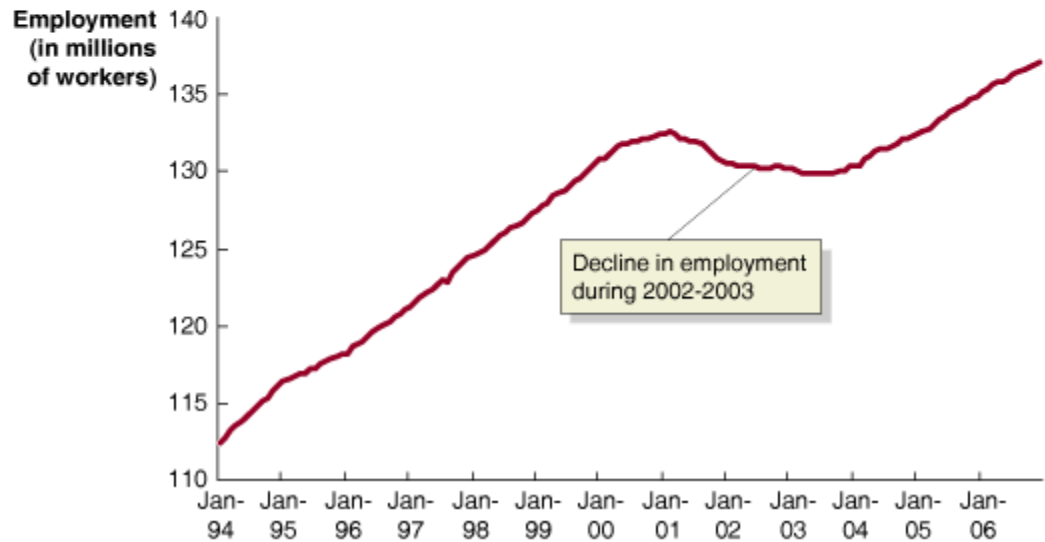
The More Rapid Recovery of 2003–2004



Using Dynamic Aggregate Demand and Aggregate Supply to Understand the More Rapid Recovery of 2003–2004

*Making
the
Connection*

•Does Rising Productivity Growth Reduce Employment?



The Economy in 2007: Continuing Expansion or Looming Recession?

In late 2007, economists were divided over whether the twin blows of higher oil prices and a declining housing sector would be sufficient to push the economy into a recession.

The majority of economists forecast that growth in real GDP would slow but that the economy would not tip into recession.

Solved Problem

Showing the Oil Shock of 1974–1975 on a Dynamic Aggregate Demand and Aggregate Supply Graph

	ACTUAL REAL GDP	POTENTIAL REAL GDP	PRICE LEVEL
1974	\$4.32 trillion	\$4.35 trillion	34.7
1975	\$4.31 trillion	\$4.50 trillion	38.0

