

Lecture 9 Aggregate Demand and Aggregate Supply Analysis

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E3120 Intermediate Macroeconomics

November 10, 2021

The Road Ahead...

- ▶ Aggregate demand curve
- ▶ Aggregate supply curve
- ▶ Macroeconomic equilibrium
- ▶ Effects of demand shock
- ▶ Effects of supply shock
- ▶ Dynamic AD-AS model

Aggregate Demand Revisited

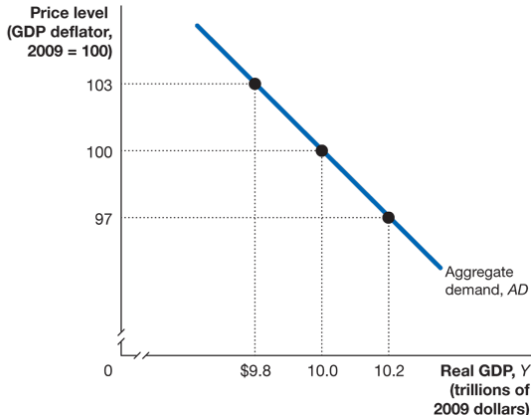
Goods market equilibrium

$$\underbrace{Y}_{\text{GDP}} = \underbrace{C + I + G + NX}_{\text{aggregate demand (AD)}}$$

- ▶ How AD depends on price level (P)
 - ▶ wealth effect: $P \uparrow \Rightarrow \text{real value of wealth} \downarrow \Rightarrow C \downarrow$
 - ▶ interest-rate effect: $P \uparrow$ with unchanged $M^s \Rightarrow i \uparrow \Rightarrow I \downarrow$
 - ▶ international-trade effect: $P \uparrow \Rightarrow \text{EX} \downarrow, \text{IM} \uparrow \Rightarrow NX \downarrow$
- ▶ Inverse relation b/w price level and real GDP (AD curve)

Aggregate Demand Curve Revisited

Price Level	Equilibrium Real GDP
97	\$10.2 trillion
100	10.0 trillion
103	9.8 trillion

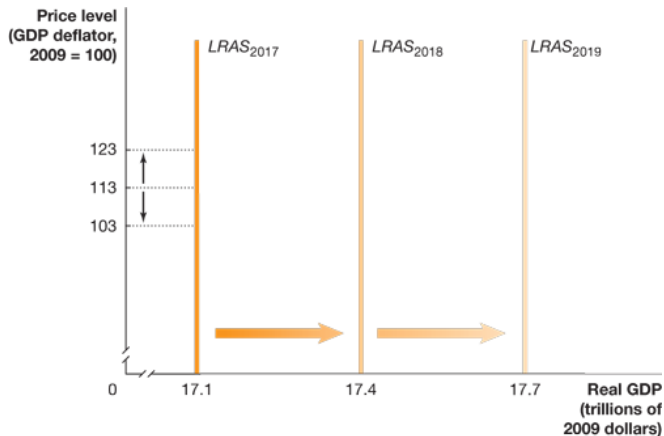


- Shifters of AD curve: monetary-fiscal policy, expectations of households/firms, foreign variables

Aggregate Supply

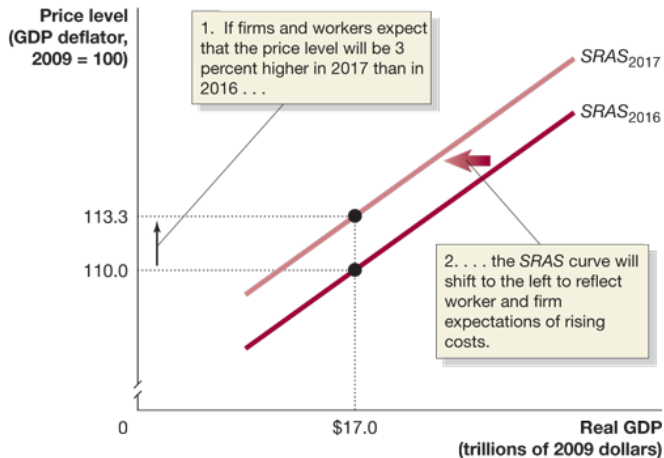
- ▶ Aggregate supply curve: relation b/w price level and quantity of products firms are willing and able to supply
- ▶ Long-run aggregate supply (LRAS) curve
 - ▶ long-run real GDP depends on number of workers, technology level, capital stock, etc.
 - ▶ none of above are affected by price level
- ▶ Short-run aggregate supply (SRAS) curve
 - ▶ contracts make some wages “sticky”
 - ▶ menu costs make some prices “sticky”
 - ▶ SRAS curve slopes upward

Long-Run Aggregate Supply Curve



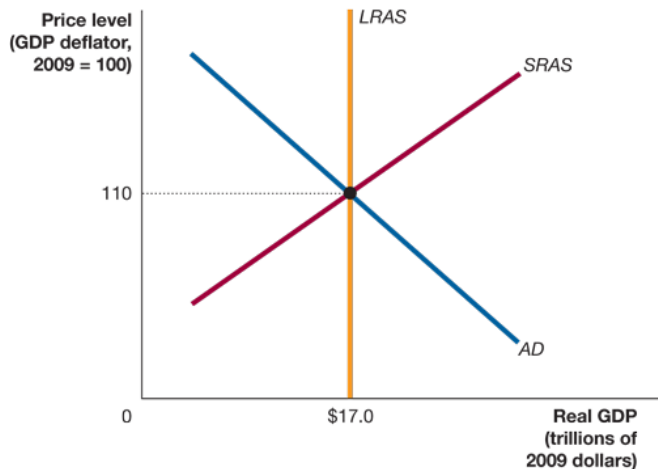
- LRAS curve occurs at potential/full-employment GDP, advancing each year

Short-Run Aggregate Supply Curve



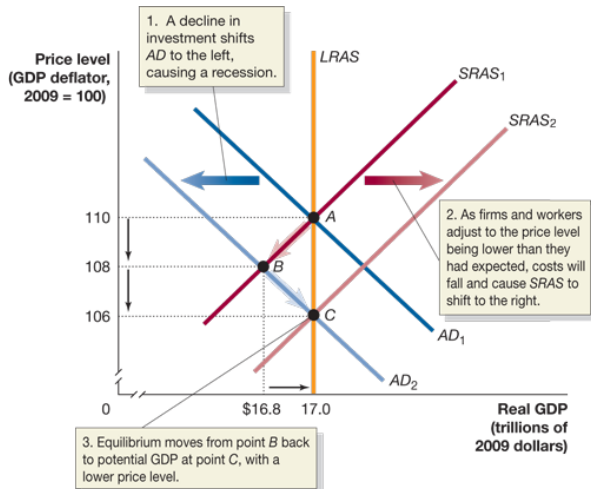
- Shifters of SRAS curve: labor, capital, technology, expectations of future price level, supply shock

Macroeconomic Equilibrium



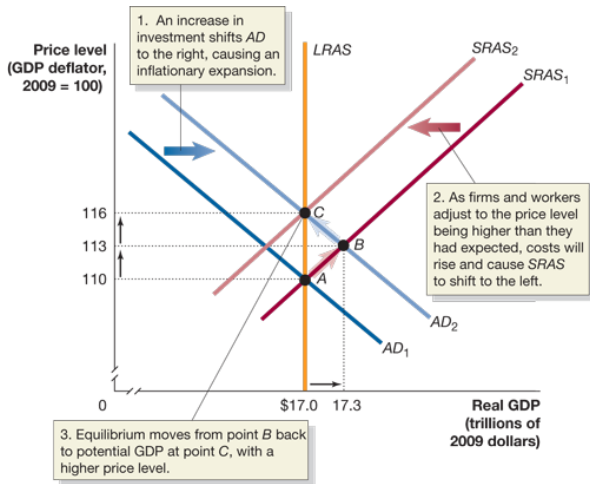
- ▶ Static AD-AS model: no inflation, no growth
- ▶ Long-run equilibrium: short-run equilibrium occurs at potential GDP

Effects of Decline in Aggregate Demand



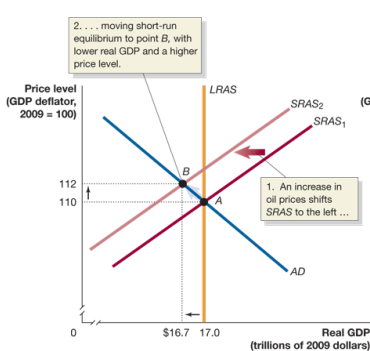
- ▶ Short-run: recession (monetary & fiscal policy?)
- ▶ Long-run: lower price level (automatic mechanism)

Effects of Increase in Aggregate Demand

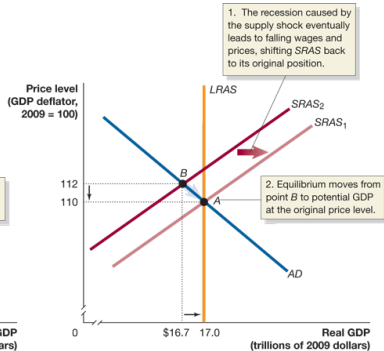


- ▶ Short-run: expansion (monetary & fiscal policy?)
- ▶ Long-run: higher price level (automatic mechanism)

Effects of Negative Supply Shock



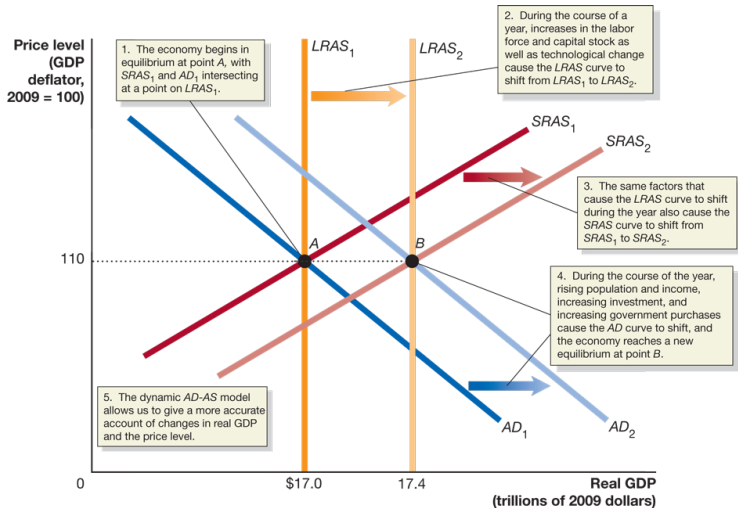
(a) A recession with a rising price level—the short-run effect of a supply shock



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

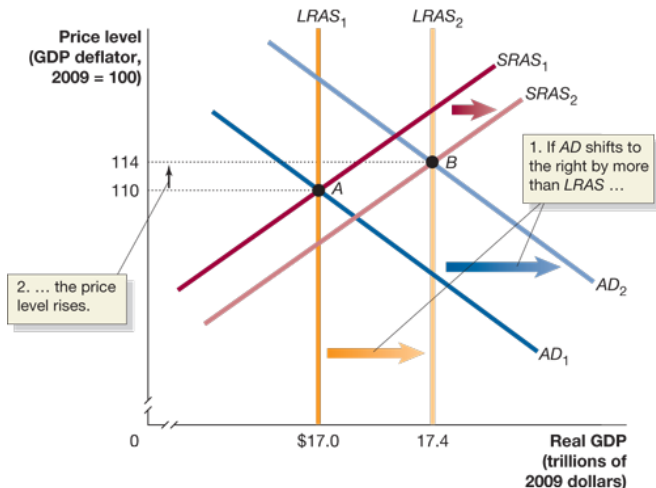
- ▶ Short-run: stagflation—mix of inflation and recession (monetary & fiscal policy?)
- ▶ Long-run: same price level (automatic mechanism)

Dynamic AD-AS Model



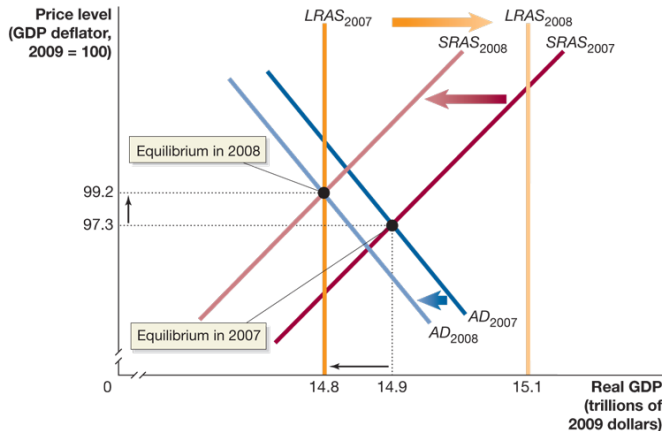
- Dynamic model allows for long-run growth

Dynamic AD-AS Model (Cont'd)



- Dynamic model allows for inflation

Recession of 2007-2009



- ▶ Financial crisis: housing bubble bursts \Rightarrow default on mortgage loan \Rightarrow credit crunch $\Rightarrow C \downarrow, I \downarrow \Rightarrow AD \leftarrow$
- ▶ (–) supply shock: rising oil prices $\Rightarrow SRAS \leftarrow$

Readings & Exercises

- ▶ Readings

- ▶ HO: chapter 13
- ▶ BJ: lecture 6

- ▶ Exercises

- ▶ HO: problem 1.5, 2.5, 2.9, 3.5, 3.10, 4.6 (in-class quiz), D13.1