

# CHAPTER 25

## Aggregate Demand and Supply Analysis

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## Monetarist View of AD

$$V = \frac{P \times Y}{M} = \frac{2000}{1000} = 2$$

### Modern Quantity Theory of Money

$$M \times V = P \times Y$$

**Implication:**  $M$  determines  $P \times Y$  if  $V$  unrelated to  $\Delta M$

### Deriving AD Curve

$$M = 1000, V = 2 \Rightarrow P \times Y = 2000$$

Point A:  $P = 2$      $Y = 1000$      $PY = 2 \times 1000$

Point B:  $P = 1$      $Y = 2000$      $PY = 1 \times 2000$

Point C:  $P = .5$      $Y = 4000$      $PY = .5 \times 4000$

**Conclusion:**  $P \downarrow, Y \uparrow$ , downward sloping AD

### Shift in AD Curve

$M \uparrow: P \times Y \uparrow$ , so at given  $P$ ,  $Y \uparrow \Rightarrow AD$  shifts right

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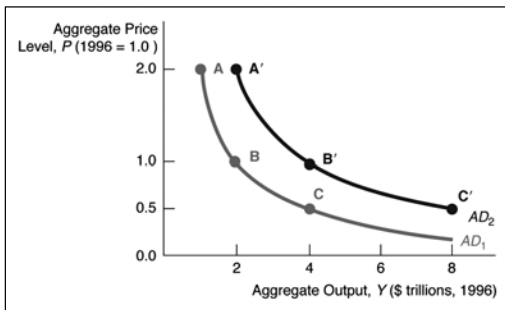
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## The AD Curve




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## Keynesian View of AD

$$Y^{ad} = C + I + G + NX$$

### Downward Sloping AD

$P \downarrow, M/P \uparrow, i \downarrow, I \uparrow, NX \uparrow, Y^{ad} \uparrow, Y \uparrow$

### Shift in AD

$M \uparrow, M/P \uparrow, i \downarrow, I \uparrow, NX \uparrow, Y^{ad} \uparrow, Y \uparrow$   
 $\Rightarrow AD$  shifts right

$C \uparrow$  or  $G \uparrow$  or  $T \downarrow$  or  $NX \uparrow: Y^{ad} \uparrow, Y \uparrow$   
 $\Rightarrow AD$  shifts right

### Complete Crowding Out

$G \uparrow$ , borrowing,  $i \uparrow \Rightarrow C \downarrow, I \downarrow, NX \downarrow \Rightarrow C + I + G + NX = Y^{ad}$   
 unchanged

*Partial crowding out*: private spending down, but not fully offsetting  $G \uparrow$

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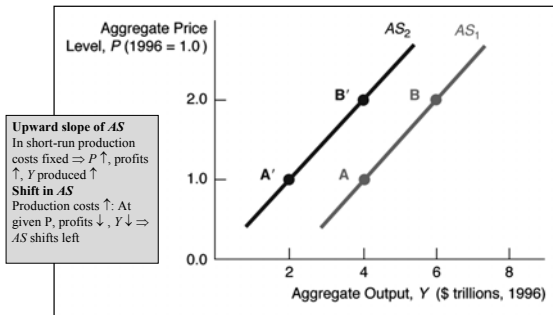
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## Aggregate Supply in Short Run



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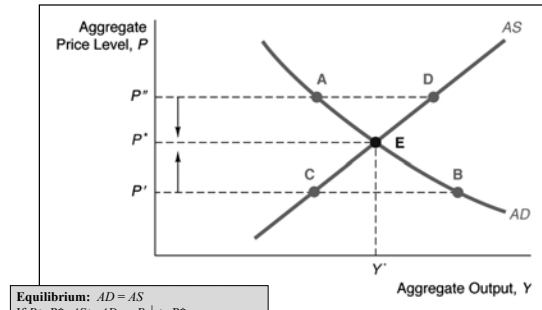
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## Equilibrium in Short Run



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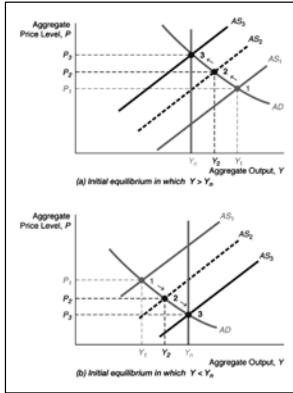
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# Equilibrium in Long Run

Panel (a):  $Y > Y_n$   
 Wages  $\uparrow$ : at given  $P$ , profits  $\downarrow$ ,  $Y$  produced  $\downarrow \Rightarrow AS$  shifts in until  $Y = Y_n$  at long-run  $AS$

Panel (b):  $Y < Y_n$   
 Wages  $\downarrow$ : at given  $P$ , profits  $\uparrow$ ,  $Y$  produced  $\uparrow \Rightarrow AS$  shifts out until  $Y = Y_n$  at long-run  $AS$

Activist sees movement to long-run  $AS$  (self-correcting mechanism) as slow; nonactivist sees as fast




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# Summary: Factors that Shift AD

Factor	Change	Shift to the Aggregate Demand Curve
Money supply $M$	$\uparrow$	
Government spending $G$	$\uparrow$	
Taxes $T$	$\uparrow$	
Net exports $NX$	$\uparrow$	
Consumer optimism $C$	$\uparrow$	
Business optimism $I$	$\uparrow$	

Note: Only increases ( $\uparrow$ ) in the factors are shown. The effect of decreases in the factors would be the opposite of those indicated in the "Shift" column. Also, the magnitudes may vary; the amount might be an important issue in other aggregate demand cases.

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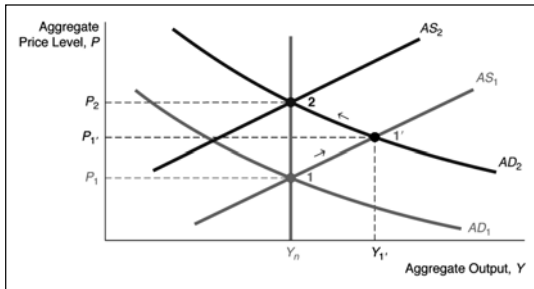
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# Effect of Shift in AD on Y



- $AD$  shifts right:  $Y \uparrow P \uparrow$  to point 1'
  - $Y > Y_n$ : wages  $\uparrow$ ,  $AS$  shifts in until reach point 2, where  $Y = Y_n$
- Conclusion:  $AD$  shifts right,  $Y \uparrow$  in short run only; in long run only  $P \uparrow$

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## Summary: Factors that Shift AS

**SUMMARY Table 2 Factors That Shift the Aggregate Supply Curve**

Factor	Shifts in the Aggregate Supply Curve	Factor	Shifts in the Aggregate Supply Curve
$Y > Y_n$		Wage push	
$Y < Y_n$		Positive supply shock	
Rise in expected price level		Negative supply shock	

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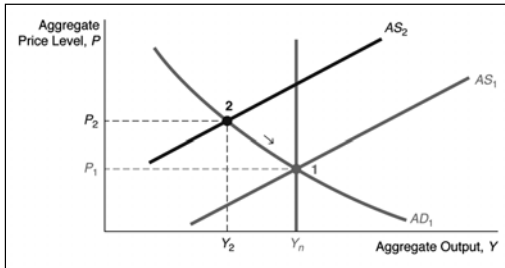
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## Effect of Shift in AS on $Y$



1. Negative supply shock: AS shifts in,  $Y \downarrow$ ,  $P \uparrow$  to point 2
  2.  $Y < Y_n$ ; wages  $\downarrow$ , AS shifts out until return to point 1
- Conclusion:** AS shifts in,  $Y \downarrow$ ,  $P \uparrow$  in short run, but in long run  $Y$  and  $P$  are unchanged

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## Shifts in Long-Run Supply

$Y_n$  grows over time, but is shown as fixed in AD/AS diagram

### Real Business Cycle Theory

1.  $Y_n$  fluctuates a lot due to aggregate supply (real) shocks
2. Shifts in AD small
3. Conclusion: Business cycles due to real shocks
4. Supports nonactivism

### Hysteresis

1. AD shifts in, natural rate of unemployment  $\uparrow$ ,  $Y_n$  shifts in
2. Unemployment stays high
3. Supports activism

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