

## Lecture 9 Fiscal Policy

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Macroeconomics 201

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# The Road Ahead...

- ① What Is Fiscal Policy
- ② Budget Deficit and National Debt
- ③ Short-Run Fiscal Policy and Economic Activity
- ④ Fiscal Multipliers and Crowding Out
- ⑤ Long-Run Fiscal Policy and Economic Growth

# What Is Fiscal Policy?

## Government budget constraint

$$\underbrace{B_t - B_{t-1}}_{\text{deficits in year } t} = \underbrace{rB_{t-1}}_{\text{interest payments}} + \underbrace{G_t - T_t}_{\text{primary deficit}}$$
$$\Rightarrow B_t = (1 + r)B_{t-1} + G_t - T_t$$

### ► Some remarks

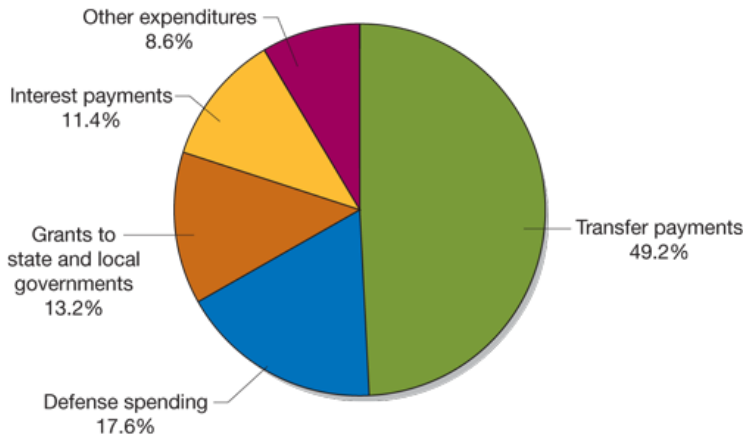
► deficit (flow,  $B_t - B_{t-1}$ ) v.s. debt (stock,  $B_t$ )

► evolution of debt-to-GDP ratio

$$\underbrace{\frac{B_t}{Y_t} - \frac{B_{t-1}}{Y_{t-1}}}_{\text{change in debt ratio}} = (r - g) \underbrace{\frac{B_{t-1}}{Y_{t-1}}}_{\text{initial debt ratio}} + \underbrace{\frac{G_t - T_t}{Y_t}}_{\text{primary deficit ratio}}$$

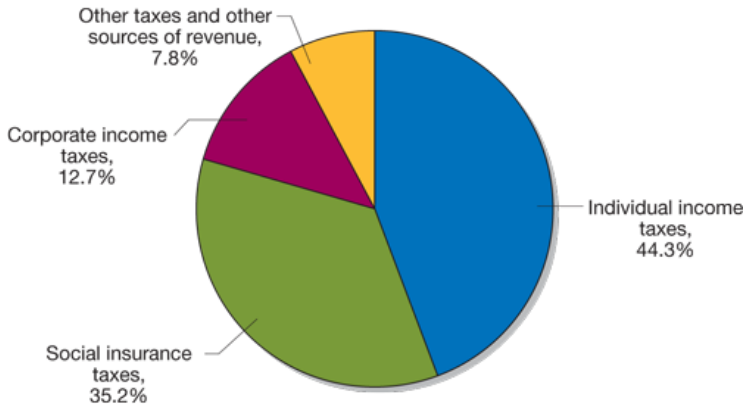
► Fiscal policy (changes in  $(G_t, T_t)$  to achieve macro objectives) v.s. automatic stabilizer

# Federal Government Expenditures, 2016



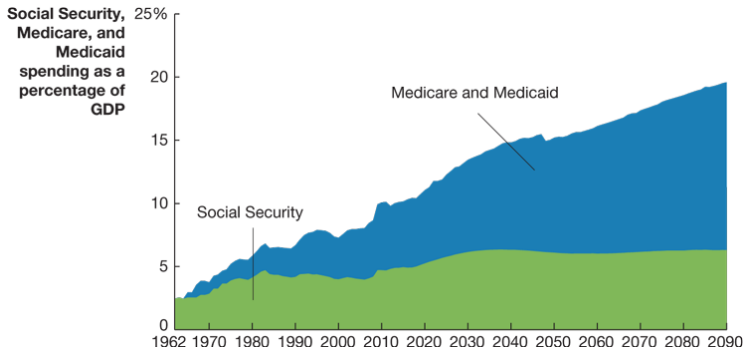
- ▶ Federal government purchases v.s. expenditures

# Federal Government Revenue, 2016



- Social Security and Medicare programs funded by payroll taxes

# Three Largest Transfer Programs

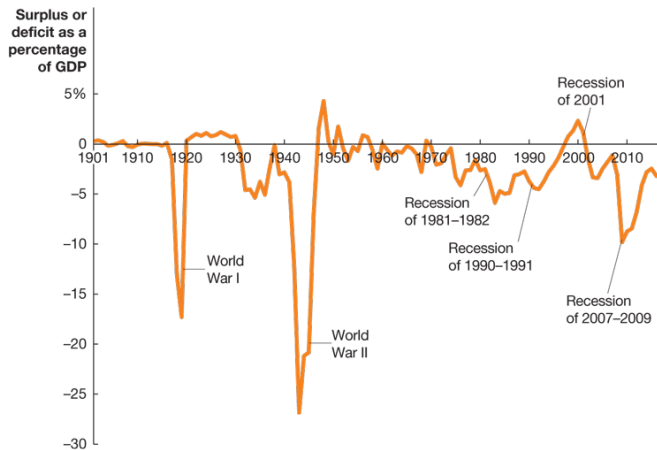


- ▶ Source: Congressional Budget Office (CBO)
- ▶ *Social Security*: payments to retired/disabled workers
- ▶ *Medicare*: health care coverage to people age 65+
- ▶ *Medicaid*: medical care to low-income people

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# Federal Budget Deficit



- ▶ Deficits rise during wartime and recessions (source: BEA)
- ▶ Actual deficit = cyclically adjusted (FP) + automatic stabilizer
- ▶ Should federal budget always be balanced?



# Federal Government Debt

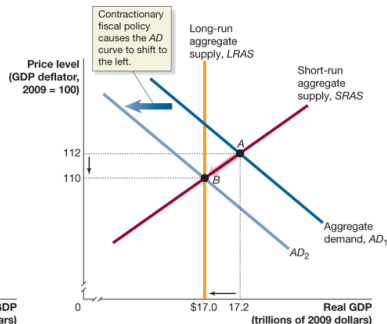
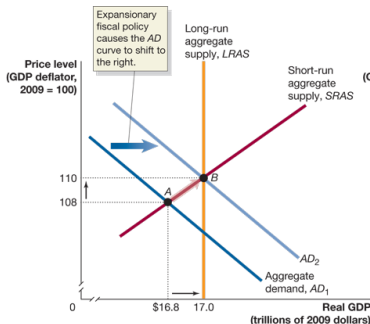


- ▶ Total value of U.S. Treasury bonds (source: Bureau of Census)
- ▶ Budget deficit (surplus)  $\Rightarrow$  debt  $\uparrow$  ( $\downarrow$ )  $\Rightarrow$  crowding-out effect
- ▶ High debt hinders long-run economic growth

# The Road Ahead...

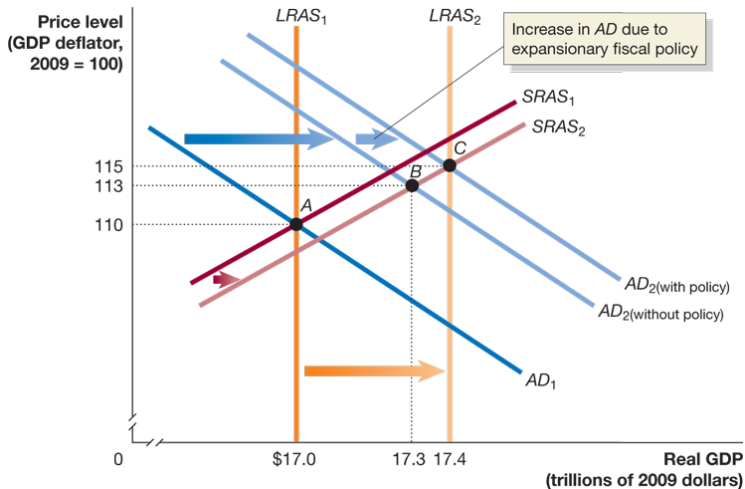
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# Effects of Short-Run Fiscal Policy



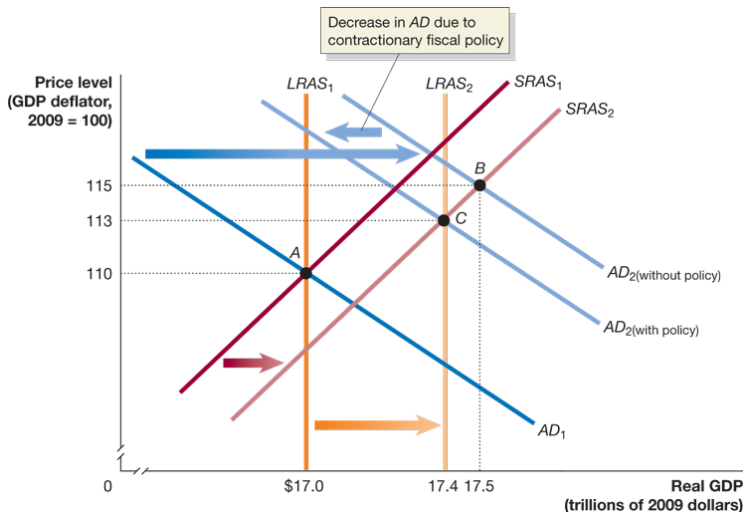
- Expansionary (contractionary) fiscal policy, e.g., President Obama's stimulus package
  - $G \uparrow (\downarrow), T \downarrow (\uparrow) \Rightarrow \$Y \uparrow (\downarrow) \Rightarrow M^d \uparrow (\downarrow) \Rightarrow i \uparrow (\downarrow)$
  - $i \uparrow (\downarrow) \Rightarrow$  crowding-out effect:  $C, I, NX \downarrow (\uparrow)$
- AD curve shifts to right (left)

# Effects of Short-Run Fiscal Policy (Cont'd)



- Expansionary fiscal policy to fight recession

# Effects of Short-Run Fiscal Policy (Cont'd)

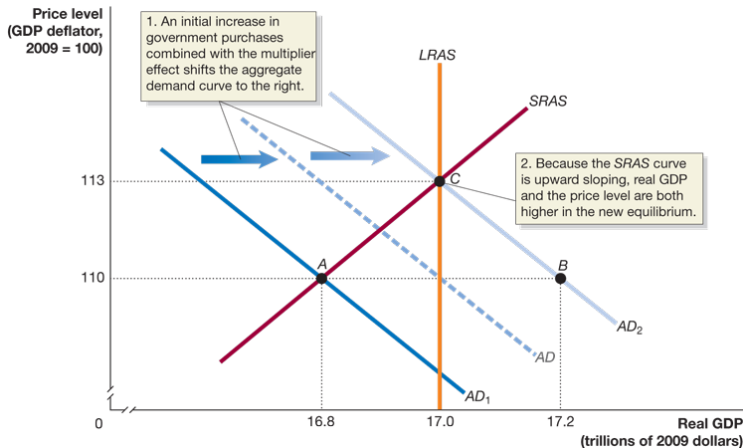


- Contractionary fiscal policy to fight inflation

# The Road Ahead...

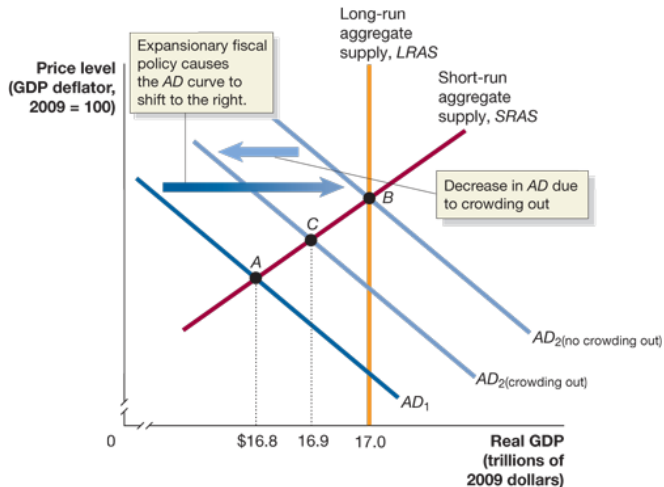
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# Fiscal Multipliers



- ▶ Given  $\Delta G = -\Delta T$  and constant  $P$ ,  $\Delta Y / \Delta G > -\Delta Y / \Delta T$
- ▶ Rising price level partly offsets multiplier effect

# Effects of Crowding Out



►  $\$G \uparrow \Rightarrow \$Y \uparrow \Rightarrow M^d > M^s \Rightarrow i \uparrow \Rightarrow C \downarrow, I \downarrow, NX \downarrow$

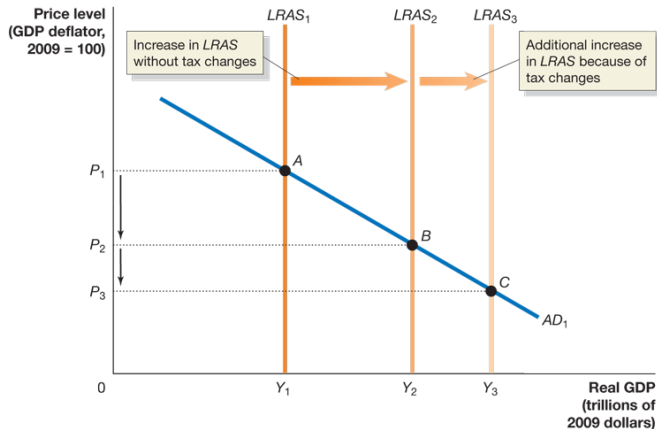
► Short-run partial v.s. long-run complete crowding out



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# Effects of Long-Run Fiscal Policy



- Effects of tax reduction (or simplification), e.g., President Trump's tax reform:  $T \downarrow \Rightarrow N \uparrow, S = I \uparrow, K \uparrow \Rightarrow g_Y \uparrow$
- LRAS curve shifts to right

# Readings & Exercises

- ▶ Readings

- ▶ HO: chapter 16

- ▶ BJ: lecture 19 (supplementary)

- ▶ Exercises

- ▶ HO: problem 1.5, 2.4, 2.5, 3.5, 4.6, D16.2

- ▶ Derive evolution of debt-to-GDP ratio from government budget constraint and explain how to reduce it.