



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

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

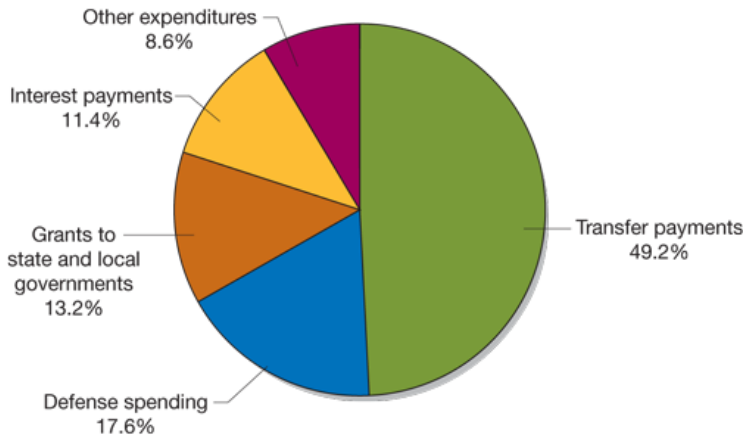
► Some remarks

- deficit (flow, $B_t - B_{t-1}$) v.s. debt (stock, B_t)
- evolution of debt-to-GDP ratio

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

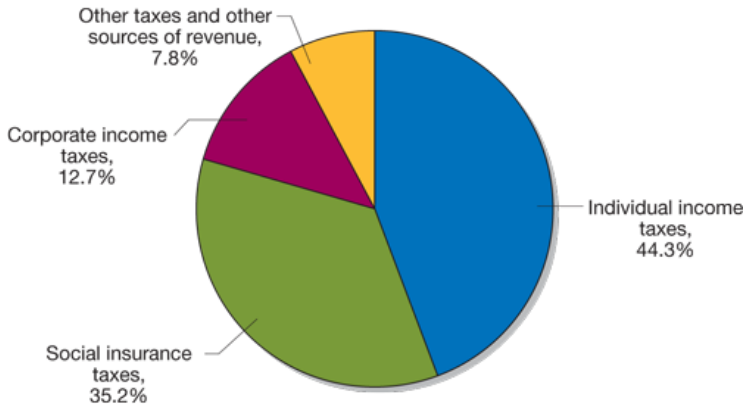
- Fiscal policy (changes in (G_t, T_t) to achieve macro objectives) v.s. automatic stabilizer

Federal Government Expenditures, 2016



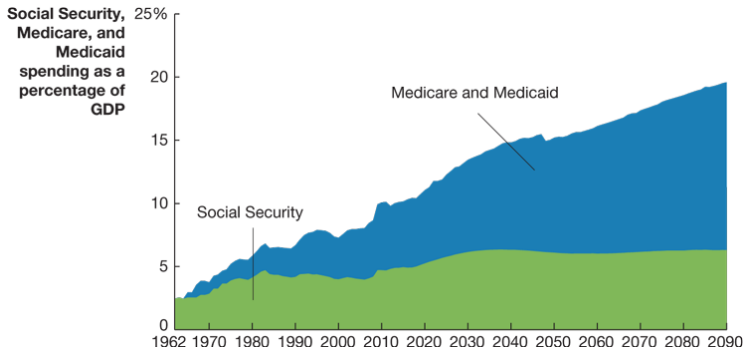
- ▶ Federal government purchases v.s. expenditures

Federal Government Revenue, 2016



- Social Security and Medicare programs funded by payroll taxes

Three Largest Transfer Programs

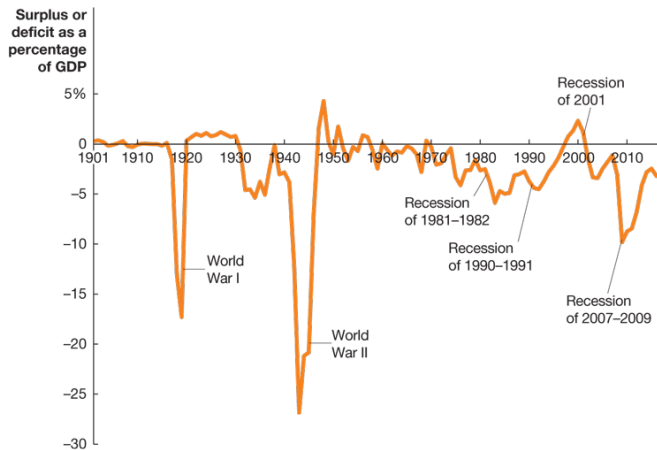


- ▶ Source: Congressional Budget Office (CBO)
- ▶ *Social Security*: payments to retired/disabled workers
- ▶ *Medicare*: health care coverage to people age 65+
- ▶ *Medicaid*: medical care to low-income people

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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

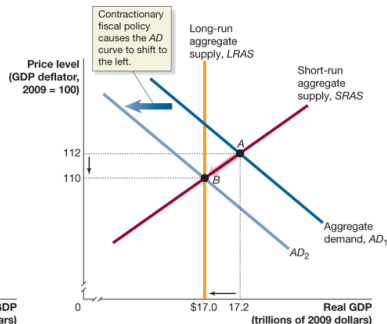
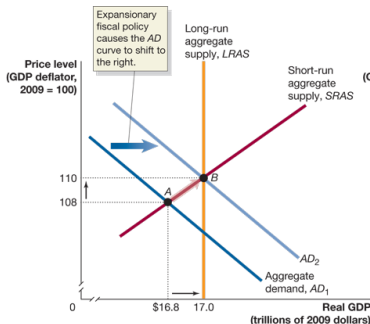


- ▶ Total value of U.S. Treasury bonds (source: Bureau of Census)
- ▶ Budget deficit (surplus) \Rightarrow debt \uparrow (\downarrow) \Rightarrow crowding-out effect
- ▶ High debt hinders long-run economic growth

The Road Ahead...

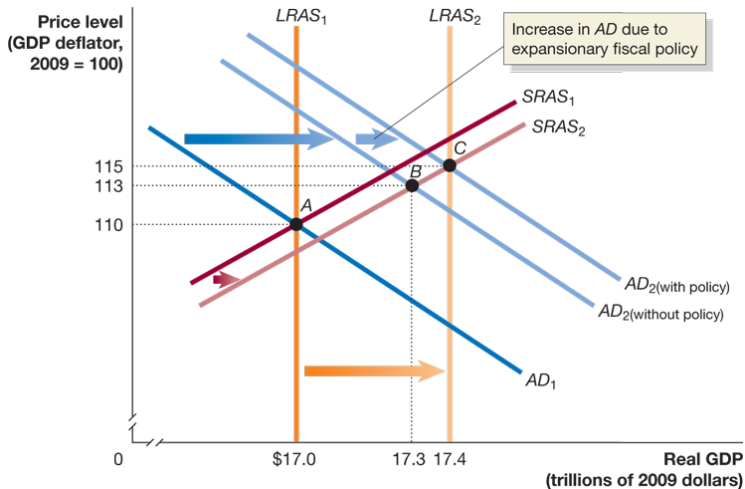
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Effects of Short-Run Fiscal Policy



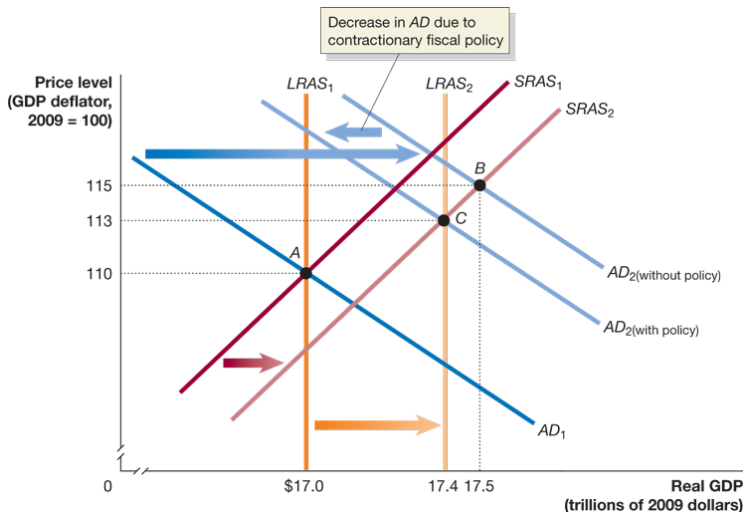
- Expansionary (contractionary) fiscal policy, e.g., President Obama's stimulus package
 - $G \uparrow (\downarrow), T \downarrow (\uparrow) \Rightarrow \$Y \uparrow (\downarrow) \Rightarrow M^d \uparrow (\downarrow) \Rightarrow i \uparrow (\downarrow)$
 - $i \uparrow (\downarrow) \Rightarrow$ crowding-out 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)

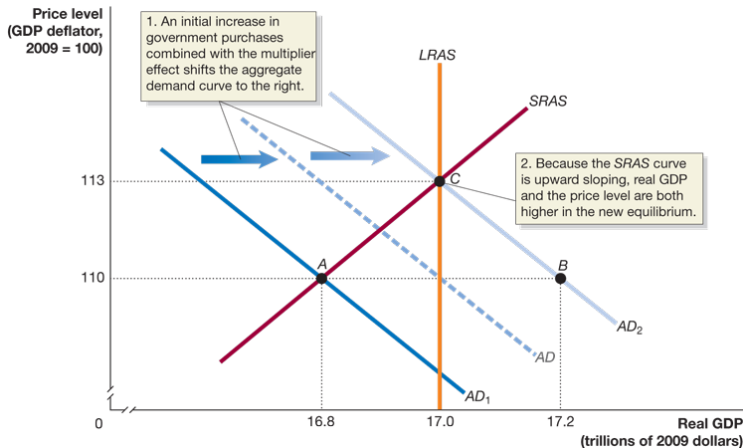


- Contractionary fiscal policy to fight inflation

The Road Ahead...

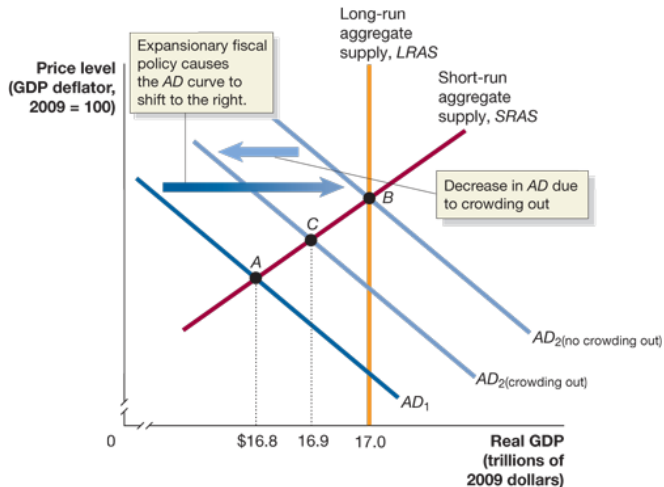
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Fiscal Multipliers



- ▶ 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

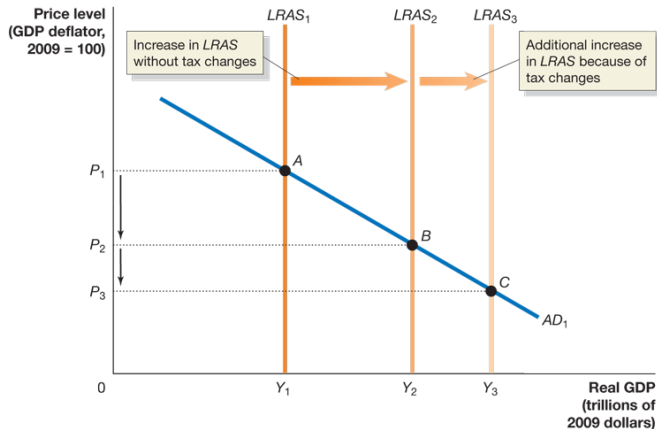


- ▶ $\$G \uparrow \Rightarrow \$Y \uparrow \Rightarrow M^d > M^s \Rightarrow i \uparrow \Rightarrow C \downarrow, I \downarrow, NX \downarrow$
- ▶ Short-run partial v.s. long-run complete crowding out

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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.