

# Spending, taxes, and the budget deficit

## Chapter 13

# Outline

- Government budgets
- Fluctuations in the deficit: purchases, transfers and taxes
- The effects of the government deficit

# 13.1 GOVERNMENT BUDGETS

- Because the United States has a federal system of government, we need to distinguish between the different types of government: federal, state, and local
- Federal government purchases are about 38 percent of total government purchases, and state and local purchases are about 62 percent.

# The Federal Government Budget and Deficit

- The federal government budget summarizes all three of the types of effects on aggregate demand: purchases, transfers, and taxes.
  - Purchases of goods and services and transfers are lumped together as government **outlays**.

# State and Local Government Budgets

- A major development in the 1980s and 1990s was a shift in responsibility away from the federal government to the local level, especially state governments.
- If this decentralization process continues, state and local governments will play an increasingly important role in the economy in the future.

## 13.2 FLUCTUATIONS IN THE DEFICIT: PURCHASES, TRANSFERS, AND TAXES

- From the point of view of macroeconomic *fluctuations*, what matters most about the government budget deficit is not its average level, but the way the budget responds to conditions in the economy.
  - How large is this response?
  - How do the fluctuations in the government deficit compare with the fluctuations in the economy as a whole?

## 13.2 FLUCTUATIONS IN THE DEFICIT: PURCHASES, TRANSFERS, AND TAXES

- In Chapter 7, we wrote tax receipts  $T$  as a constant proportion of income  $Y$ :
  - $T = tY$
  - Where  $t$  is the constant tax rate. It is incorrect to treat the tax rate  $t$  as a constant.
    - tax rate  $t$  actually falls when income  $Y$  falls and rises when income rises.
    - Note that the effect of such countercyclical movements in taxes and transfers is to reduce the multiplier of the IS-LM model.

## 13.3 THE EFFECTS OF THE GOVERNMENT DEFICIT

- Why is the government deficit so controversial and mysterious?
  - The deficit is just a summary statistic that reflects the behavior of many other variables.
  - The budget deficit is simply the difference between government *expenditure* (purchases and transfers) and *receipts*.
  - Deficits must be financed by issuing *bonds* or *money* to the public.

# Cyclical versus Structural Deficits

- The government budget deficit always goes deep in the red during recessions.
  - Expenditures rise and receipts fall during a recession.
  - Automatic stabilizers exacerbate the swing of the deficit during a recession.

# Cyclical versus Structural Deficits

- Economists have developed the concept of the **full-employment deficit** to adjust for cyclical effects.
  - The full-employment deficit is the deficit that would occur if the economy were at full employment.
  - The full-employment deficit takes out the cyclical effects on the deficit by estimating reaction functions for expenditures and receipts and calculating what expenditures and receipts would occur at potential GDP and full employment.

# Cyclical versus Structural Deficits

- The **structural deficit** is the same thing as the full-employment deficit, and the **cyclical deficit** is the difference between the actual deficit and the structural deficit.

# Have Deficits Been Related to Interest Rates in Recent U.S. History?

- The relation between the deficit and interest rates is one of the most important issues with respect to the government's role in aggregate demand.

# Have Deficits Been Related to Interest Rates in Recent U.S. History?

- Over short-run periods and for much of the last 40 years, it appears that the real interest rate falls when the government budget goes into the red.
  - Deficits do not appear to cause high real interest rates.
  - Before jumping to conclusions, recall the previous discussion, which pointed to the cyclical behavior of the deficit.

# Have Deficits Been Related to Interest Rates in Recent U.S. History?

- Evidence indicates a positive relation between the budget deficit and interest rates during the 1982–90 period.
  - Real interest rates were higher than normal rates and the budget deficit reached a high-water mark as well.
  - Perhaps the very large deficits—and prospects for future deficits—raised interest rates.
  - But real interest rates fell in 1991 and 1992, even though deficits continued.

# The Deficit and the Explosion of Government Debt

- When the government runs a deficit, it must borrow from the public.
- Most of the debt consists of interest-bearing bonds, but part is non-interest-bearing money.

# The Deficit and the Explosion of Government Debt

- Debt at the start of next year
  - = Debt at the start of this year
  - + Purchases this year
  - + Transfers this year
  - + Interest on the debt this year
  - - Receipts this year

# The Deficit and the Explosion of Government Debt

- Using the notation  $D$  for debt,  $G$  for purchases,  $F$  for transfers,  $T$  for receipts, and  $R$  for the interest rate, we can write:

$$D_{t+1} = D_t + G_t + F_t + RD_t - T_t$$

- **Intertemporal government budget constraint** faced by government officials. It corresponds exactly to the intertemporal budget constraint for the households in our analysis of forward-looking consumption.

# Economic Significance of the National Debt

- The federal debt is an important element in the political process for making spending decisions.
- Economists are divided on the question of the economic significance of the national debt.

# Ricardian Equivalence

- Ricardian equivalence holds if consumption is independent of the timing of taxation.
- When the government defers taxation by building up debt (as it did in the 1980s and 1990s), consumption is just the same as it would have been with the same amount of government spending financed by current taxes.

# Ricardian Equivalence

- Government budget deficits with forward-looking consumers.
- Government spending financed by borrowing.
- Consumers anticipate future tax increase to pay for the deficits.
- Consumption does not increase
- Interest rates do not increase
- Investment does not decrease

# Ricardian Equivalence

- Two assumptions are critical to Ricardian equivalence.
  - First, families think about the future when they make consumption plans.
    - The forward-looking theory of consumption, based on the idea of rational expectations and rational behavior, supports this assumption.
  - Second, families look as far into the future as the taxes will be levied.