Economics 302
Intermediate Macroeconomic Theory and Policy
(Fall 2010)

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Lecture 11

Wednesday, October 13, 2010

Outline

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

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
  - In 2003, federal government purchases were 38 percent of total government purchases, and state and local purchases were 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.**

TABLE 13.1 THE 2003 BUDGET OF THE UNITED STATES GOVERNMENT (BILLIONS OF DOLLARS DURING THE CALENDAR YEAR)

RECEIPTS	1876
Individual income taxes	809
Corporate income taxes	196
Social security taxes	759
Other taxes and receipts	112
OUTLAYS	2259
Purchases	
National defense	453
Other purchases	212
Transfer payments	989
Grants to local governments	351
Interest on the debt	195
Subsidies less enterprise profits	59
DEFICIT	383

SOURCE: Bureau of Economic Analysis, *National Income and Product Accounts,* Second Quarter 2004.

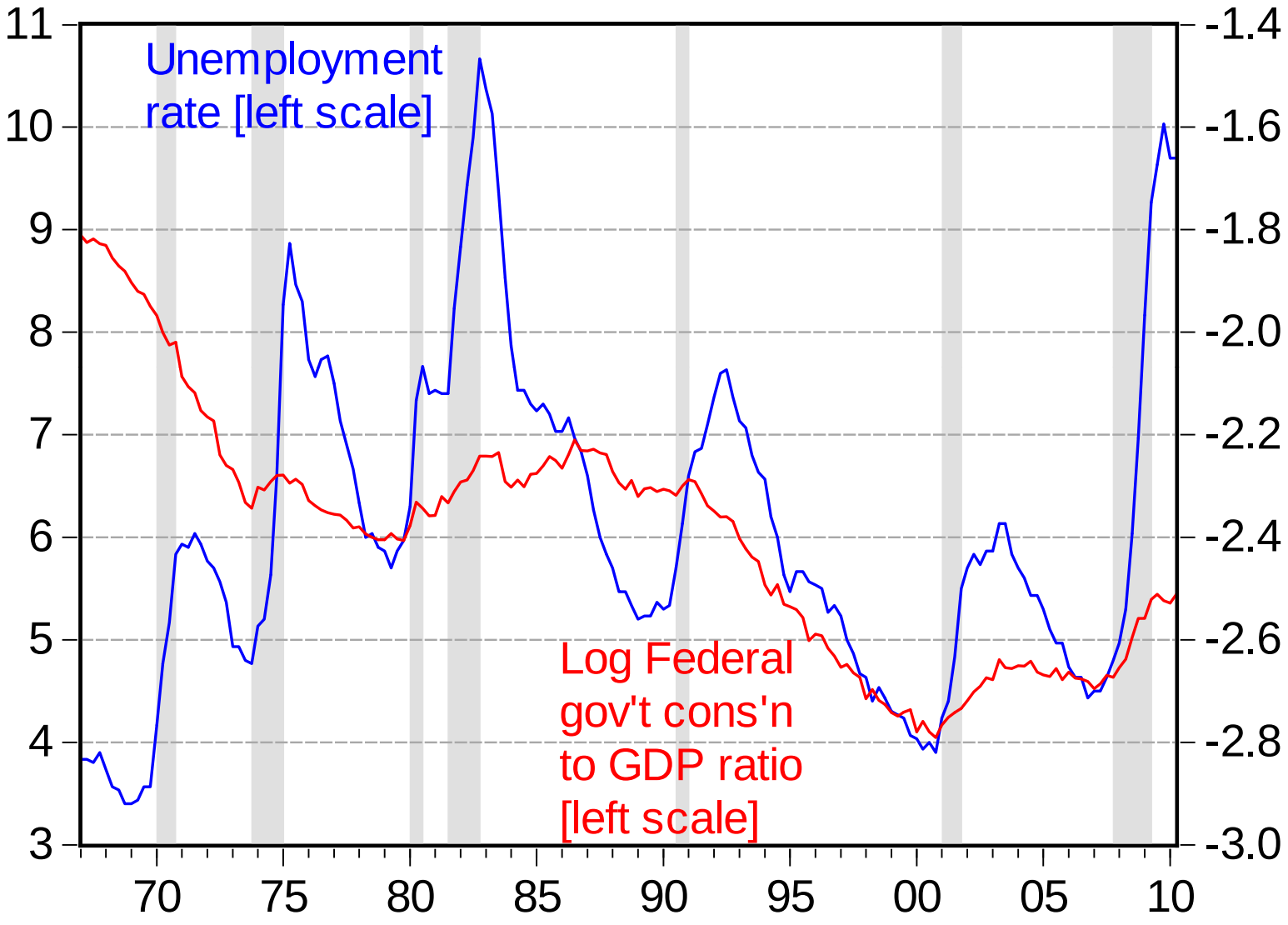
State and Local Government Budgets

- 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.

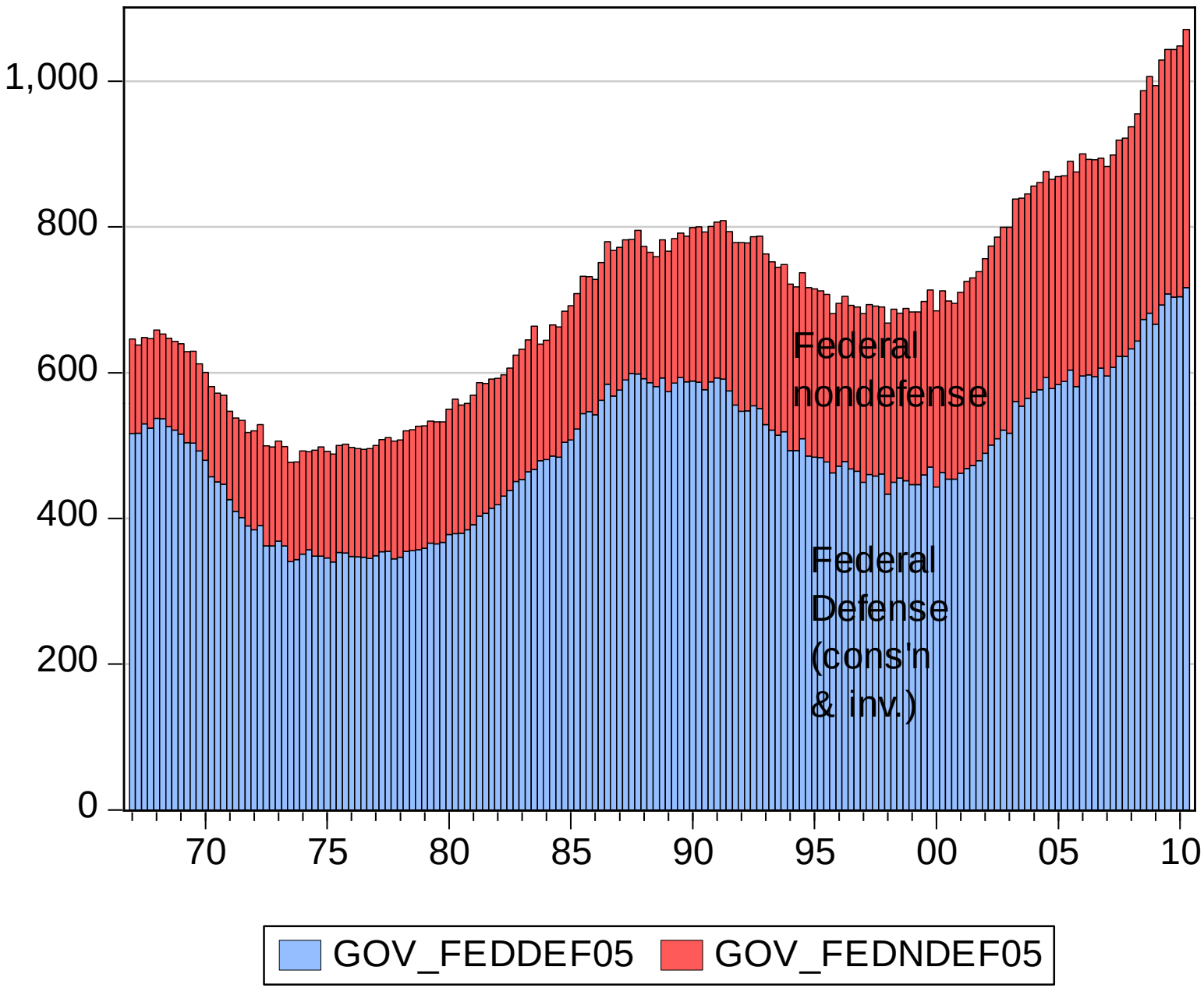
13.2 FLUCTUATIONS IN THE DEFICIT: PURCHASES, TRANSFERS, AND TAXES

- 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?

Updated Figure 13-1



Source: BEA 2010Q2 2nd release, and BLS, September 2010 release


1,000
800
600
400
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85
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Federal nondefense
Federal Defense (cons'n & inv.)
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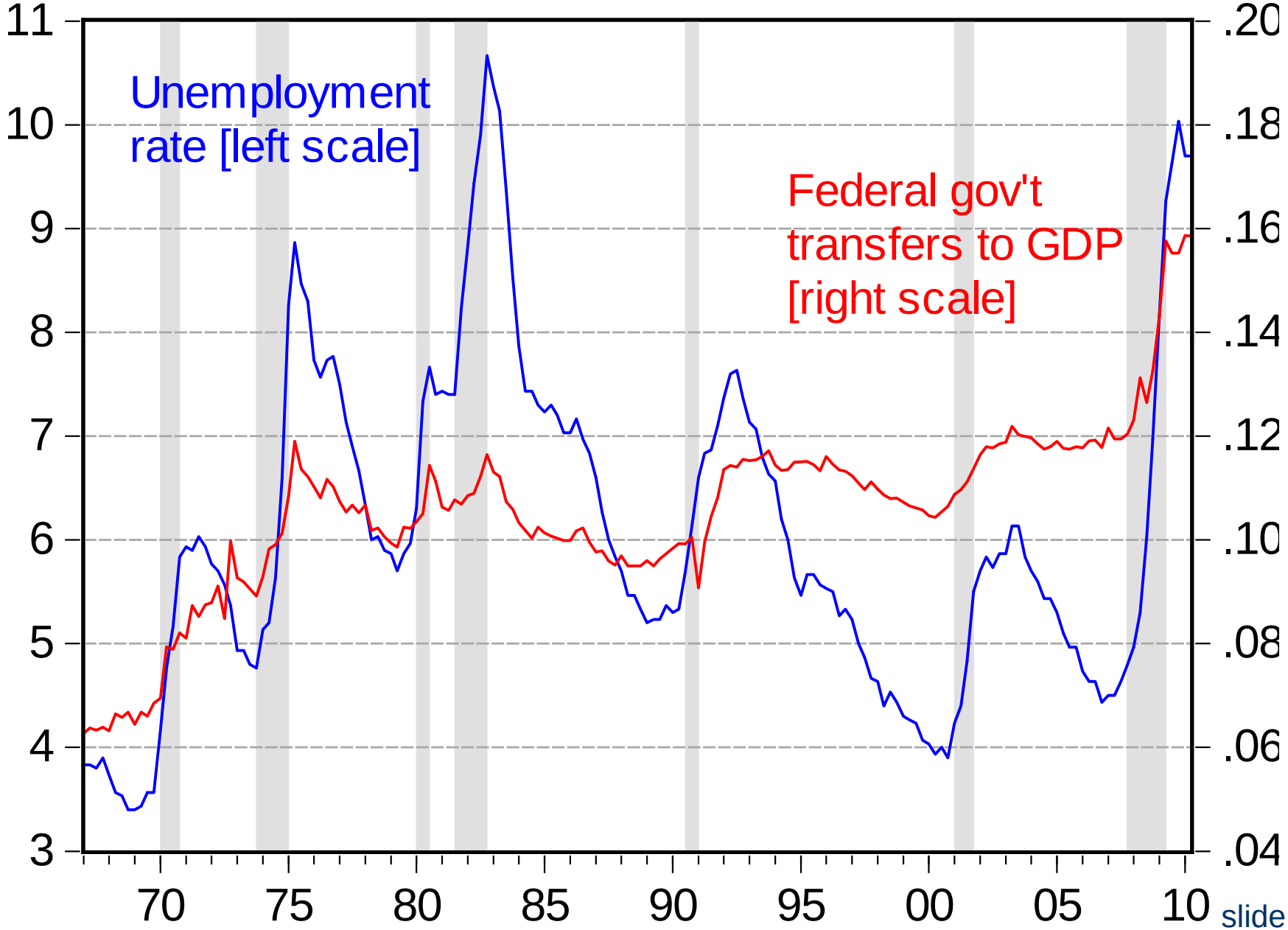
GOV_FEDNDEF05

Updated Figure 13-2



Updated Figure 13-3

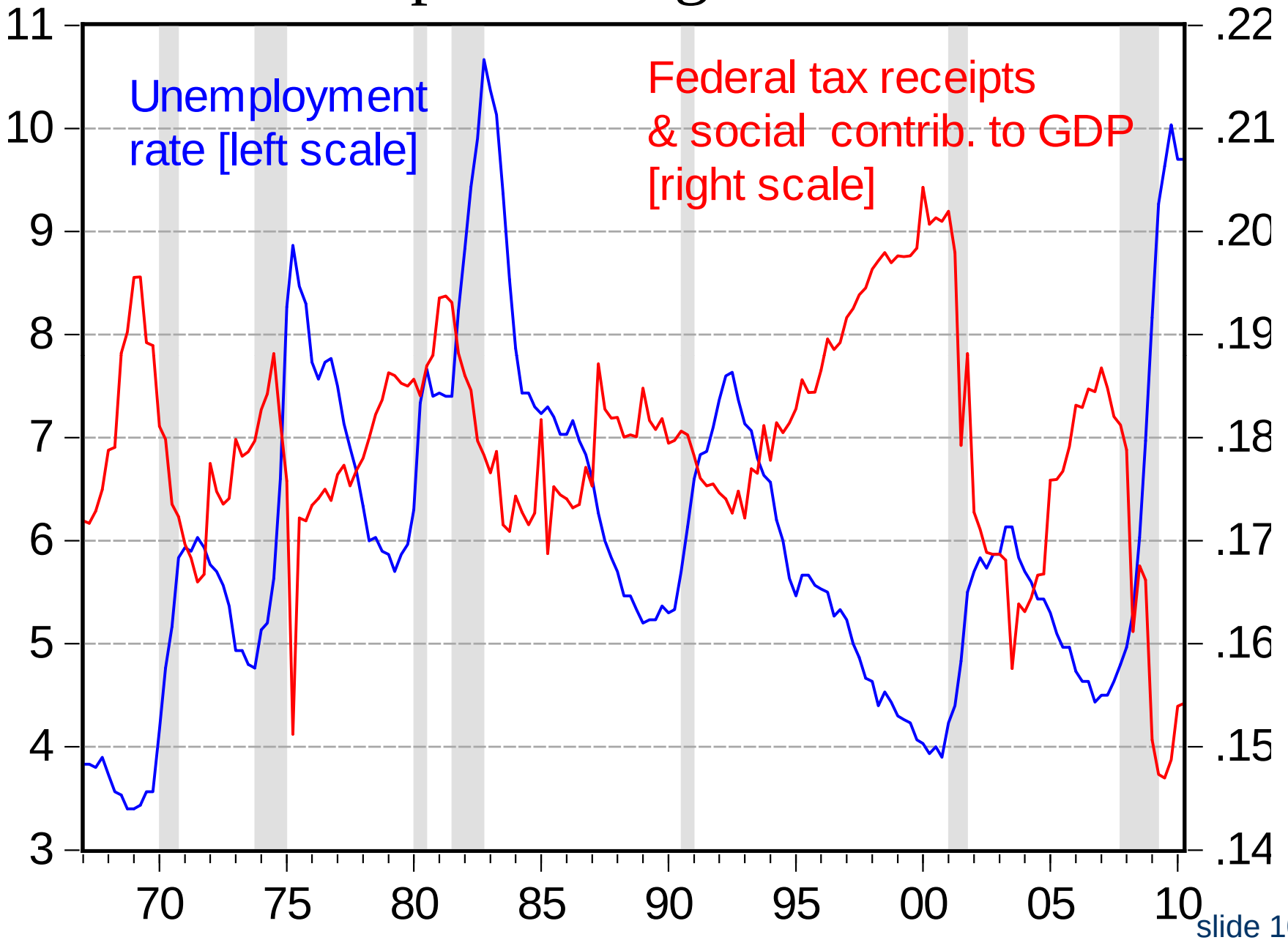


TABLE 13.4 DISCRETIONARY STABILIZATION MEASURES: WAYS THE FEDERAL GOVERNMENT CAN AFFECT DEMAND THROUGH FISCAL POLICY

MEASURE	DESCRIPTION
Temporary income tax change	A temporary cut in personal income taxes stimulates consumption and offsets a recession; a temporary surcharge discourages consumption and cools off a boom.
Investment tax credit	A subsidy to investment through the tax system stimulates investment for the period when the credit is in effect and discourages investment before it takes effect and after it is removed.
Home purchase credit	A subsidy for home purchases by individuals has the same effect as an investment credit but on residential investment.
Public works	An increase or speedup in highway construction and other government purchases adds directly to demand.

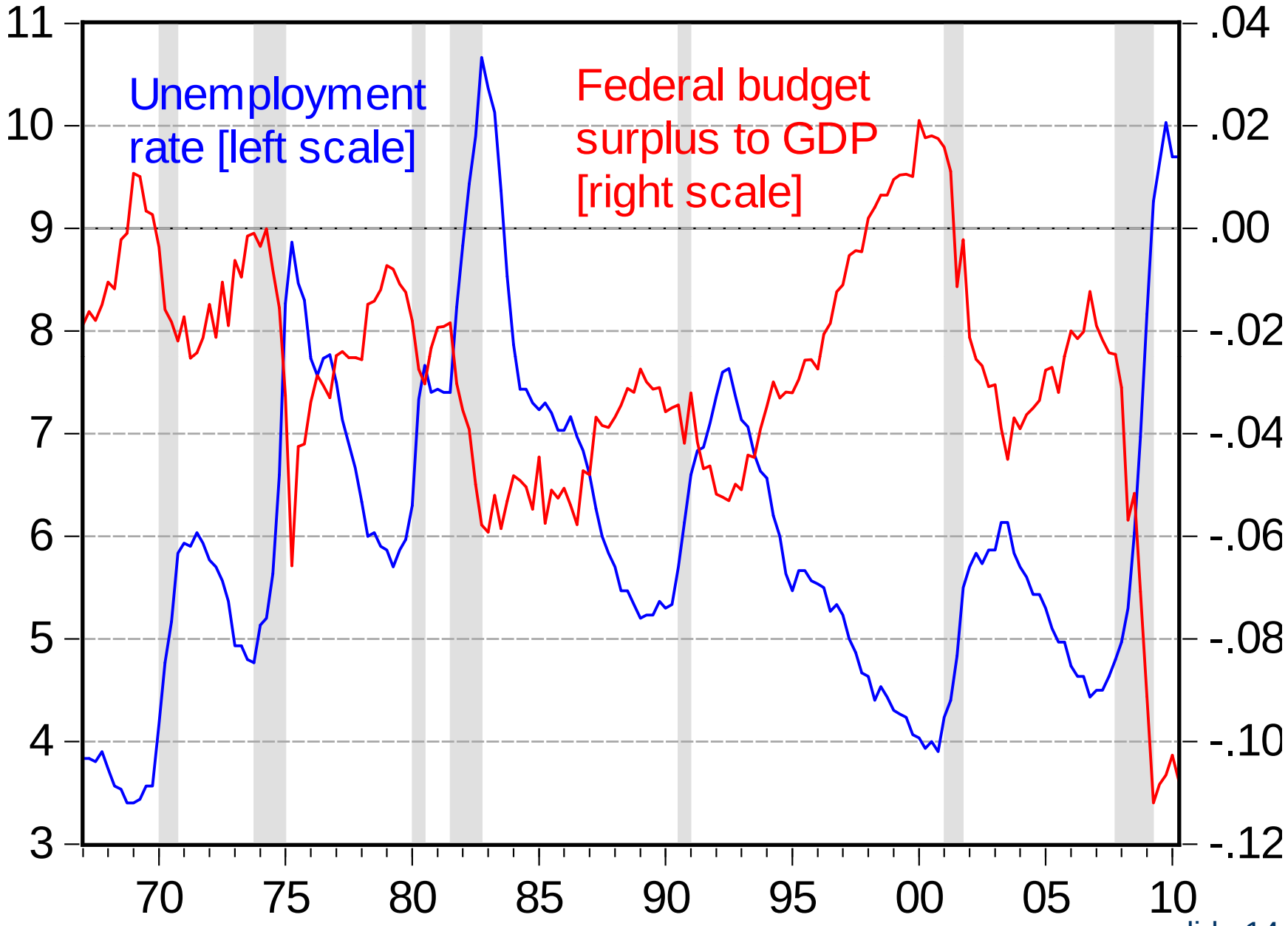
13.2 FLUCTUATIONS IN THE DEFICIT: PURCHASES, TRANSFERS, AND TAXES

- In Chapter 7, we wrote tax receipts *T* as a constant proportion of income *Y*:
  - $T = TA_0 + tY$
  - 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 pubic.

Updated Figure 13-4



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.

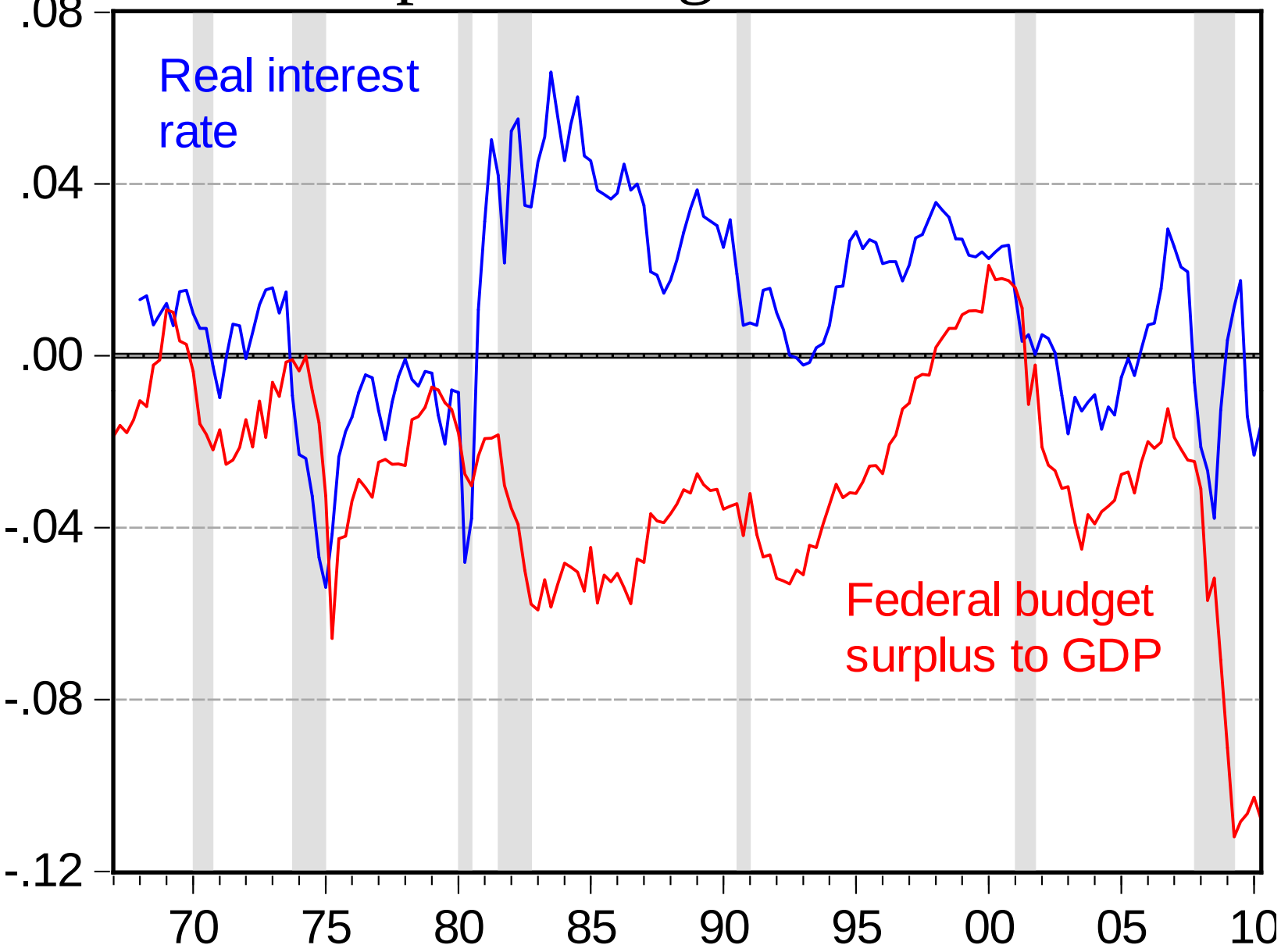
Have Deficits Been Related to Interest Rates in Recent U.S. History?

- 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.

Updated Figure 13-5

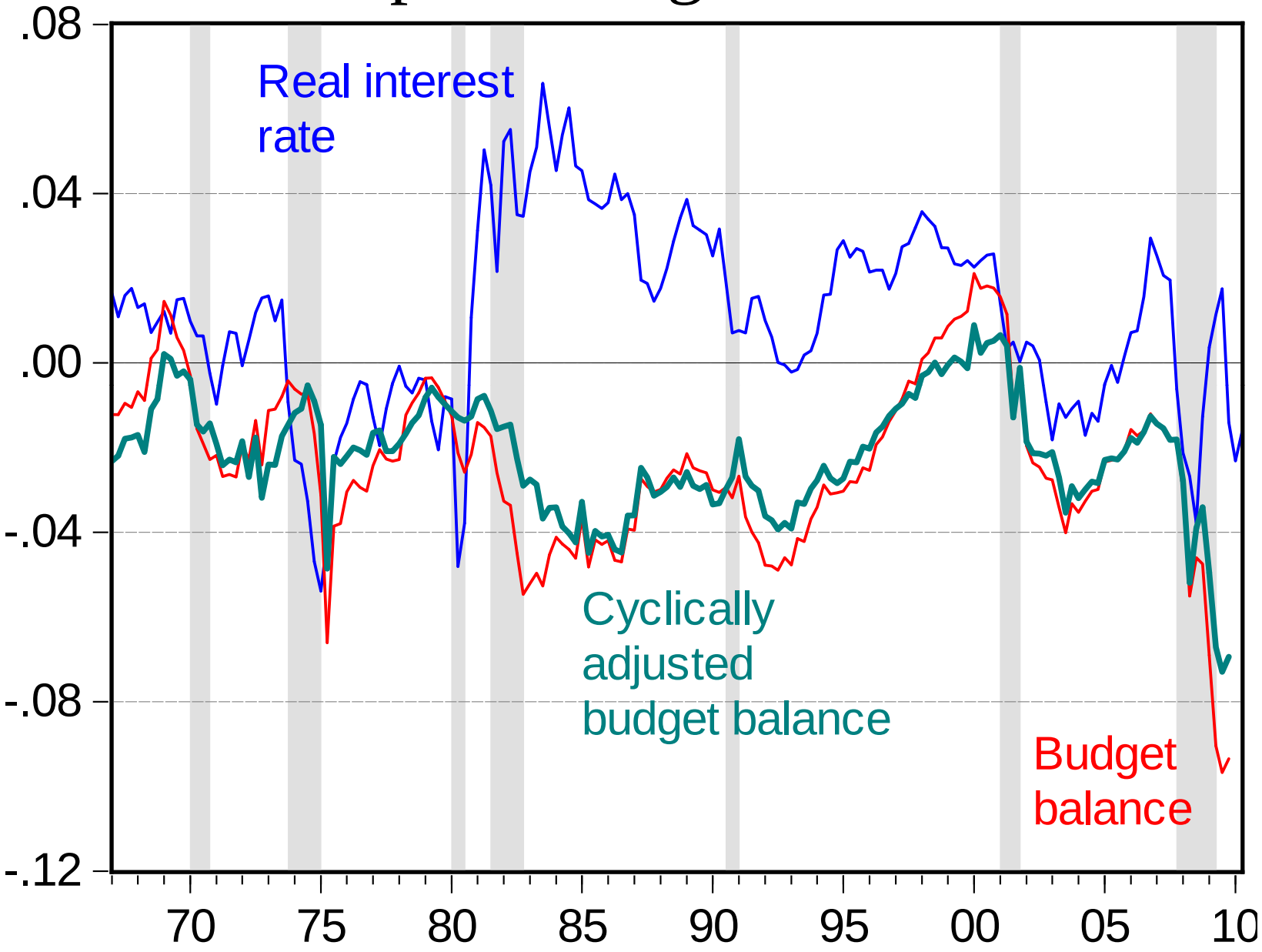


Real interest rate: 3 mo. T-bill minus lagged one year CPI inflation. Sources: BLS.

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.

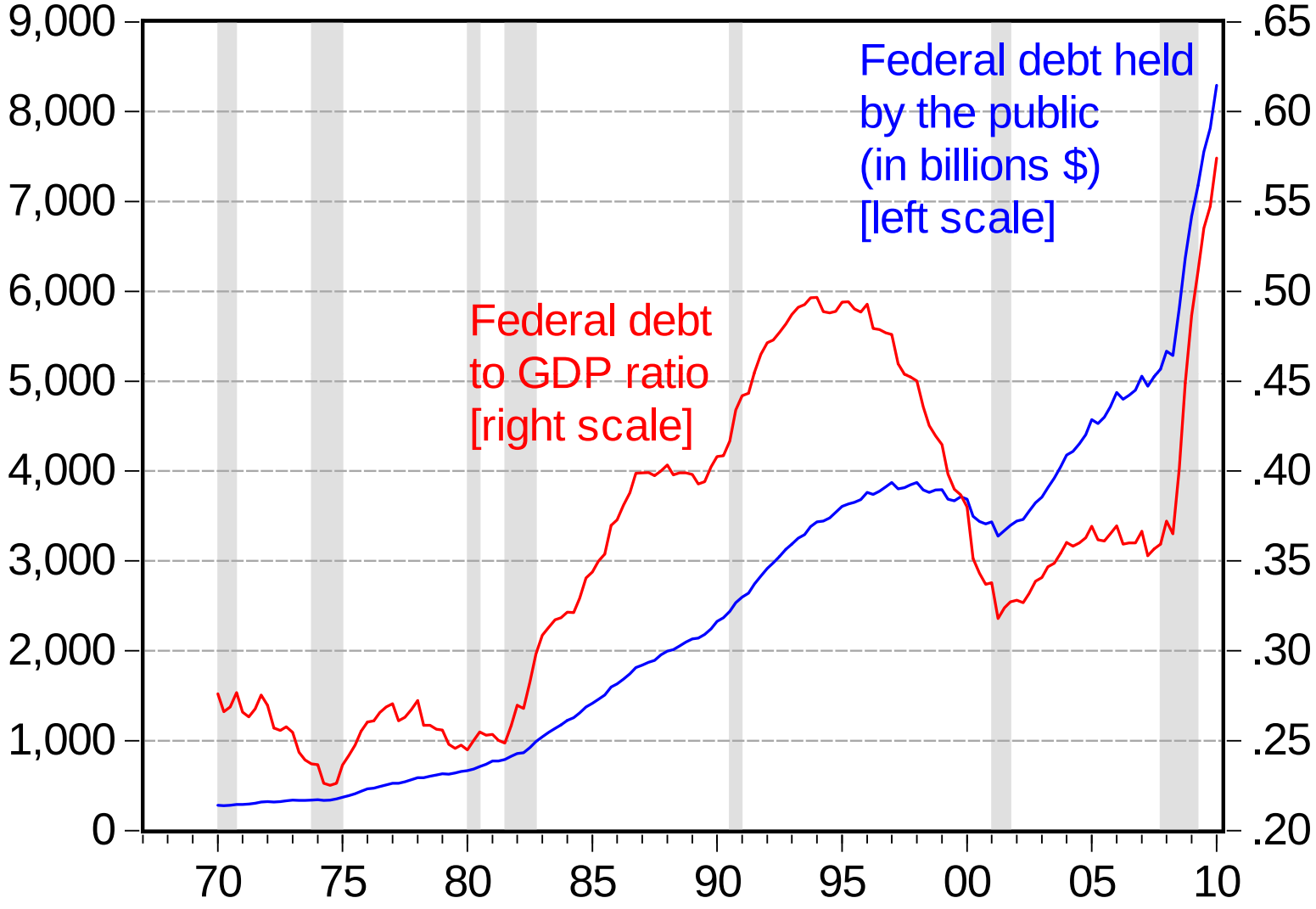
Updated Figure 13-5



Real interest rate: 3 mo. T-bill minus lagged one year CPI inflation. Sources: Fed, CBO.

- 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.

Updated Figure 13-6



- 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

- 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.

- 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 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

- 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.

- Fiscal policy can shift the IS curve in two ways.
  - First, government purchases of goods and services *G* enters spending directly.
  - Second, policies on taxes and transfers can influence consumption.

- Fiscal policy also influences the *slope* of the IS curve.
  - The automatic stabilizers operating through taxes and transfers reduce the multiplier.
  - Because of the automatic stabilizers, an increase in interest rates along the IS curve brings about a smaller decline in consumption and GDP.
  - The IS curve is steeper as a result of the automatic stabilizers.